

Xueyu Jin

---

---

---

---

# Information Sharing in the Era of Social Media

---

---

---

---

---



JYVÄSKYLÄ STUDIES IN COMPUTING 242

Xueyu Jin

# Information Sharing in the Era of Social Media

Esitetään Jyväskylän yliopiston informaatioteknologian tiedekunnan suostumuksella  
julkisesti tarkastettavaksi yliopiston Agora-rakennuksen auditoriossa 2  
heinäkuun 25. päivänä 2016 kello 12.

Academic dissertation to be publicly discussed, by permission of  
the Faculty of Information Technology of the University of Jyväskylä,  
in building Agora, Auditorium 2, on July 25, 2016 at 12 o'clock noon.



UNIVERSITY OF JYVÄSKYLÄ

JYVÄSKYLÄ 2016

# Information Sharing in the Era of Social Media

JYVÄSKYLÄ STUDIES IN COMPUTING 242

Xueyu Jin

Information Sharing  
in the Era of Social Media



UNIVERSITY OF JYVÄSKYLÄ

JYVÄSKYLÄ 2016

Editors

Marja-Leena Rantalainen

Department of Mathematical Information Technology, University of Jyväskylä

Pekka Olsbo, Ville Korhonen

Publishing Unit, University Library of Jyväskylä

URN:ISBN:978-951-39-6711-6

ISBN978-951-39-6711-6 (PDF)

ISBN 978-951-39-6710-9 (nid.)

ISSN 1456-5390

Copyright © 2016, by University of Jyväskylä

Jyväskylä University Printing House, Jyväskylä 2016

## ABSTRACT

Jin, Xueyu

Information Sharing in the Era of Social Media

Jyväskylä: University of Jyväskylä, 2016, 109 p.

(Jyväskylä Studies in Computing

ISSN 1456-5390; 242)

ISBN 978-951-39-6710-9 (nid.)

ISBN 978-951-39-6711-6 (PDF)

Social media has become ubiquitous in just a few years. Their success depends on users' willingness to continue investing their time and attention in this media and share their knowledge with each other in the absence of formal contract. This thesis attempts to examine social media users' information sharing activities with three essays. Specifically, this thesis investigates 1 Why do social networking sites (SNS) users have online information privacy? 2 What are the antecedents of blog users' online information privacy concerns? and 3 Why virtual team members want to sharing knowledge among each other in social media platform?

To answer these questions, we conducted three studies. Specifically, in study 1, we integrated value-based and cognate-based perspective together to explain the emergence of SNSs users' privacy concerns in a more comprehensive way. Drawing on the psychological ownership theory, we found that people have online privacy concerns in the context of SNSs once they can develop a feeling of psychological ownership toward the virtual properties on the platform. We also identified and tested an empirical model with three routes that can help people to develop their psychological ownerships and therefore lead to privacy concerns on SNSs. In study 2, we presented a multi-faceted model to investigate the factors that can influence the information privacy concerns of bloggers. We found that, previous privacy experience appeared to significantly influence the information privacy concerns of bloggers positively. The website privacy statement was found not to significantly affect the information privacy concerns of bloggers. Finally, the results show that the perceived strength of social ties between bloggers and their readers significantly influences the information privacy concerns of bloggers. In study 3, consistent with previous studies in offline context, we proved that teamwork quality can also influence a virtual team's performance. Further, we identified two moderators, leader-member exchange and perceived organization support, for the relationship between teamwork quality and team and individual's success.

Keywords: information sharing, social media, privacy concern, knowledge management, social tie, LMX

**Author** Xueyu Jin  
Department of Computer Science and Information Systems  
University of Jyväskylä  
Finland

**Supervisors** Prof. Mikko Siponen  
Department of Computer Science and Information Systems  
University of Jyväskylä  
Finland

**Reviewers** Prof. Paul Pavlou  
Department of Management Information Systems  
Temple University  
USA

Dr. Robert Crossler  
Department of Business Information Systems  
Mississippi State University  
USA

**Opponent** Prof. Jeff Smith  
Department of Decision Sciences and Management Information  
Systems  
Miami University  
USA

## ACKNOWLEDGEMENTS

I would like to express my appreciation to my supervisor Prof. Mikko Siponen for providing guidance and support throughout my PhD study. I would also like to thank my thesis opponent Prof. Jeff Smith and thesis reviewer Prof. Paul A. Pavlou for their valuable opinions and suggestions to my thesis. I am thankful to colleagues and friends who has helped me during my PhD study.

I also want to especially thank my husband, Nan Zhang, who is always there to encourage and support me during my entire PhD study. I am also very grateful to my parents who always love and support me unconditionally. Last but not least, I thank my little daughter who makes me braver to conquer difficulties.

Jyväskylä 12.6.2016  
Xueyu Jin



## FIGURES

FIGURE 1	Research Model of Study 1 .....	15
FIGURE 2	Research Model of Study 2 .....	17
FIGURE 3	Research Model of Study 3 .....	21
FIGURE 4	Research Model .....	35
FIGURE 5	PLS Results .....	45
FIGURE 6	Research Model .....	55
FIGURE 7	PLS Results .....	62
FIGURE 8	Research Model .....	70
FIGURE 9	PLS Results .....	80

## TABLES

TABLE 1	Information Privacy Concerns Literature Review .....	26
TABLE 2	Review of Empirical Research on Psychological Ownership .....	32
TABLE 3	Scale Development Procedure .....	40
TABLE 4	Scales .....	41
TABLE 5	Sample Demographics .....	42
TABLE 6	Summary Statistics and Inter-Construct Correlations .....	43
TABLE 7	Measurement Model Results .....	44
TABLE 8	Loadings and Crossloadings .....	44
TABLE 9	Heterotrait-Monotrait Ratio (HTMT) Results .....	45
TABLE 10	Scales .....	59
TABLE 11	Descriptive Statistics .....	61
TABLE 12	Correlation Matrix for the Principal .....	61
TABLE 13	Loadings and Crossloadings .....	61
TABLE 14	Heterotrait-Monotrait Ratio (HTMT) Results .....	62
TABLE 15	Scales .....	71
TABLE 16	Descriptive Statistics .....	75
TABLE 17	Correlation Matrix for Principal Constructs .....	76
TABLE 18	Loadings and Crossloadings .....	77
TABLE 19	Heterotrait-Monotrait Ratio (HTMT) Results .....	80
TABLE 20	Bootstrap Analysis results .....	81

# CONTENTS

ABSTRACT

ACKNOWLEDGEMENTS

FIGURES AND TABLES

CONTENTS

1	INTRODUCTION .....	11
1.1	Study 1 This is Mine: Social Networking Sites Users' Information Privacy Concerns .....	13
1.1.1	Motivations .....	13
1.1.2	Research Model .....	15
1.1.3	Contributions .....	15
1.2	Study 2 Information Sharing on Blogs.....	16
1.2.1	Motivations .....	16
1.2.2	Research Model .....	17
1.2.3	Contributions .....	18
1.3	Study 3 Why Sharing Information in a Virtual Team? A Study on Project -Based Virtual Team.....	18
1.3.1	Motivations .....	18
1.3.2	Research Model .....	20
1.3.3	Contributions .....	21
1.4	Publication Status .....	21
1.5	Conclusions .....	22
2	STUDY 1 THIS IS MINE: SOCIAL NETWORKING SITES USERS' PRIVACY CONCERNS .....	23
2.1	Introduction.....	23
2.2	Theoretical Background.....	25
2.2.1	Concept of Privacy .....	25
2.2.2	Concept of Psychological Ownership .....	30
2.3	Research Model and Hypotheses .....	35
2.3.1	Psychological Ownership and Privacy .....	35
2.3.2	Antecedents of Psychological Ownership on SNSs .....	36
2.3.2.1	Perceived Autonomy .....	37
2.3.2.2	Perceived Similarity .....	37
2.3.2.3	Perceived Investment.....	38
2.4	Methodology .....	39
2.4.1	Scale Development.....	39
2.4.2	Study Context and Sample .....	42
2.5	Results .....	42
2.5.1	Measurement Model.....	42
2.5.2	SEM Results .....	45
2.6	Implications for Research and Practice.....	46
2.6.1	Theoretical Contributions .....	46

2.6.2	Practical Contributions.....	47
2.7	Conclusions .....	47
3	INFORMATION SHARING ON BLOGS .....	48
3.1	Introduction.....	48
3.2	Theoretical Background.....	50
3.2.1	Information Privacy.....	50
3.2.2	Multidimensional Development Theory (MDT) .....	52
3.3	Hypothesis Development .....	54
3.3.1	Environmental Dimension.....	55
3.3.2	Self-ego Dimension.....	55
3.3.3	Interpersonal Dimension .....	56
3.4	Methodology .....	58
3.4.1	Study .....	58
3.4.2	Scales.....	58
3.5	Results .....	60
3.5.1	Measurement Model.....	60
3.5.2	SEM Results .....	62
3.6	Implications for Research and Practice.....	63
3.6.1	Theoretical Contributions .....	63
3.6.2	Practical Contributions.....	63
3.7	Conclusions .....	64
4	WHY SHARING INFORMATION IN A VIRTUALTEAM? A STUDY ON PROJECT -BASED IS TEAM LEARNING .....	65
4.1	Introduction.....	65
4.2	Theoretical Background and Hypotheses Development .....	67
4.2.1	Teamwork Quality .....	67
4.2.2	Leader-Member Exchange .....	68
4.2.3	Perceived Organizational Support .....	69
4.3	Methodology .....	70
4.3.1	Study .....	70
4.3.2	Scales.....	71
4.4	Results .....	74
4.4.1	Measurement Model.....	75
4.4.2	SEM Results .....	80
4.5	Implications for Research and Practice.....	81
4.5.1	Theoretical Contributions .....	81
4.5.2	Practical Contributions.....	82
4.6	Conclusions .....	82
5	CONCLUSION .....	83
	YHTEENVETO (FINNISH SUMMARY).....	85
	REFERENCES.....	86
	APPENDIX .....	101

# 1 INTRODUCTION

Kaplan and Haenlein (2010, p.61) define social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content.” Social media enabled by scalable Internet communication techniques become a ubiquitously accessible information sharing platform in just a few years. We have been witnessing a continuous explosion of explosive diffusion of the websites such as Facebook, YouTube, LinkedIn and Twitter. Social media applications have been applied to almost everything online that is new, cutting edge, and gaining momentum. In general, it is used by the users to conduct online information sharing among individuals’ interactive dialogues.

One of the most significant benefits offered by these information sharing platforms enabled by social media applications is the rich amount of knowledge base to resolve problems at home or in work place. Therefore, the importance of social media not only lies in its role as a new kind of entertainment, but also in its role as a new information sharing and dissemination platform. Virtual communities embedded in the social media platforms play an important role in providing knowledge to their members. The ways people have activities in virtual communities will gradually reshape the landscape of the whole society, just as the telephone and television did in the history in both home and organization contexts. On the one hand, in the home context, many social media users are participating in virtual community activities to obtain knowledge that they need. On the other hand, in the organization context, the emergence of social media tools, including organization social networking sites, organization wikis, and microblogs, continues a long trend of making workplace communication more efficient.

Individual users’ information sharing activities are important for sustainability development of social media applications. Then, the question is how to encourage people to share more information in the social media platforms. In a virtual community embedded in the social media platform, individual members are the core of the information sharing process. To leverage each individual’s power, online community’s members are expected to offer information or

knowledge to other peers within the community so that other peers can gain knowledge and benefit from participating in online activities. By this way, online community can have a better chance to retain the current users and maintain the data traffic of the website. Consequently, social media users' online knowledge-sharing behavior is the most essential activity for maintaining and developing the virtual communities. For these reasons, understanding people's motivations of information sharing behaviors in the context of social media is very important for both the vendors of social media applications and the organizations that are using social media tools.

There are a variety of challenges during the information sharing process in social media platforms. On the one hand, for the vendors of social media platforms, when people freely express about their lives and thoughts on the social media platforms such as Facebook, information privacy and data security emerge as a serious concern of individual users. More innovative and effective privacy policies and data protection mechanism are needed to protect individuals' personal or public information shared in social media platforms. Further, in order to make profit from social media services, the vendors need new strategies to encourage their users' information sharing activities by mitigating their users' privacy concerns. On the other hand, for organizations, social media such as organizational wikis have been used more and more widely to facilitate innovations among virtual teams within the organization. As a result, power may shift from the top managers to the ordinary employees who have the real knowledge, and as a result, the structure of the company may need to change to fit the new knowledge sharing and management process with the use of organizational wikis. More and more teams within an organization become working distantly and therefore become virtual team. In order to make the communications on social media platform more efficient for those virtual team members, managers need to know the reasons why their employees want to share knowledge with their virtual team members who they may not have chance to meet physically via such platforms.

Despite the importance of information sharing in social media platforms, however, theoretical development of knowledge management in social media is still at an early stage (Majchrzak 2009, see the literature review in Appendix A). Against this backdrop, this thesis attempts to examine social media users' motivation of information sharing activities in both home and organization contexts. We will focus on why people do or do not want to share information online from different perspectives. Specifically, we will introduce psychological ownership theory, social network theory, and social exchange theory to the current phenomena. Specifically, this thesis addresses three key research questions. Each of them will investigate the current phenomena from different perspectives, e.g. individual perception, interpersonal relationships, and trust fostering in virtual team. The research questions answered in this thesis are as follows:

1. Why do social networking sites (SNS) users have online information privacy?

2. What are the antecedents of blog users' online information privacy concerns?
3. Why virtual team members want to sharing knowledge among each other in social media platform?

## **1.1 Study 1 This is Mine: Social Networking Sites Users' Information Privacy Concerns**

### **1.1.1 Motivations**

During the past decade, we have witnessed the rapid diffusion of social networking sites (SNSs). Websites like Facebook, LinkedIn, and Twitter, to name a few, are experiencing explosive diffusion all around the world. With more than 1 billion active users, Facebook has become the third largest "country" in the world. Five of the Top Ten websites<sup>1</sup> in the world are SNSs. On the one hand, people are enjoying the convenience of SNSs in terms of maintaining and developing interpersonal relationships, enhancing business transparency, and creating new business opportunities. On the other hand, by making it easy to share valuable contents, the Internet technology has also made the life of ordinary SNSs users more "transparent". While we learn things about the people in our world via SNSs, they learn about us via the same channel as well. For example, from our peers' profile pages on Facebook, we know when they leave town and how long they will be gone. We know if they come into money. We see pictures of their kids, their families, their cars, their vacations, and their homes. We learn about their vulnerabilities as well. We learn about their drinking and drug use, and even crimes. All of these sharing on SNSs may help create close interpersonal relationships among peers, but it also destroys the focal user's privacy on SNSs. Individual users' online privacy is endangered.

The lack of control of the dissemination of personal information mentioned earlier will lead to serious problems in reality. Many people besides friends and acquaintances are interested in the information people post on their profile pages on SNSs. Identity thieves, scam artists, debt collectors, stalkers, and 3<sup>rd</sup> party apps vendors looking for a market advantage use SNSs to gather information about the individual users. Not to mention that the vendors operating SNSs are themselves collecting a variety of data about their users, both to personalize the services for the users and to sell to advertisers. Overall, while the users enjoy the opportunity to share and learn, their online privacy is endangered, which, time and again, has drawn the attentions of the government and the SNS vendors.

In order to protect SNSs users' online privacy and therefore encourage them to share more, we need to understand what the privacy is in the context of SNS first. The concept of privacy is complex. There are various approaches to

---

<sup>1</sup> <http://www.alexa.com/topsites>

describe the concept of privacy in different disciplines. The definitional approaches can be broadly classified as either value-based or cognate-based (Smith et al. 2011). On the one hand, the value-based definition views privacy as a human right integral to society's moral value system. On the other hand, instead of seeking a clear boundary between private and public, psychologists and cognitive scientists are interested in producing a cognate-based conceptualization of general privacy related to the individual's mind, perceptions, and cognition rather than to an absolute moral value or norm (e.g. Hong and Thong 2013, Malhortra et al. 2004, Smith et al. 1996, Westin 1967).

We would like to argue, both approaches have its advantages and disadvantages. On the one hand, as for the value-based definitional approach, due to the complexity of the actual contents of privacy in different contexts, it is actually hard to identify a clear boundary between the private and public areas based on a formal rule. For example, the United States courts have stopped seeking a definition of general privacy following the Younger Committee Report (1972), which concluded that general privacy could not be satisfactorily defined (Smith et al. 2011). We would like to argue that, one of the problems of the value-based stream in privacy research is that the value that people used to establish the boundary between the private and public areas is mostly psychological or informal rather than a formal rule in reality. On the other hand, as for the cognate-based definitional approach, we would like to say that the problem is that the scope of privacy depends on each individual's own perception. Thus, it is hard to provide sufficient privacy protections or support if we do not know how people define private space and public areas in general.

To fill these gaps mentioned above, in this study, we would like to combine these two perspectives (value-based and cognate-based) together. Specifically, similar to value-based definitional approach, we will identify the boundary between the private and public areas. However, following the cognate-based definitional approach, we would like to argue that the construction of the boundary is related to people's minds, perceptions, and cognitions. In other words, we agree with researchers in the value-based stream that there is a boundary between the private and public areas. However, going along with the cognate-based research, we will identify the boundary based on individuals' cognitions rather on an existing formal rule or social norm.

In general, drawing on psychological ownership theory we identify a psychological boundary that separate private spaces from public domain and therefore define an individual user's online privacy. Further, we also want to investigate the antecedents of SNSs users' privacy concerns. Therefore, in this study, we try to answer the following research questions:

1. Why do SNSs users have online privacy?
2. What are the antecedents of SNSs users' online privacy concerns?

### 1.1.2 Research Model

In the context of SNSs, although users can not own the virtual territory formally, they can, however, develop a feeling of emotional attachment to the virtual properties on the platforms. In a typical SNS, such as Facebook, users' virtual properties include online profile pages, personal web blog pages, photos, etc. The feeling of psychological ownership toward these virtual properties then helps the individual to construct a psychological personal boundary in the virtual world to separate the private space from the public space. Once the individuals develop a feeling of psychological ownership toward their virtual properties on SNSs (e.g. profile page, personal page, front page, etc.), they may treat the virtual territory or properties within the territory as private and therefore, generate the concerns of potential violations of privacy.

Drawing on psychological ownership theory, our research model, as shown in Figure 1, states four hypotheses. The model shows that SNSs users have high level of online privacy concerns due to the high level of psychological ownership toward their virtual belongings. SNSs users may develop the feeling of psychological ownership via three independent routes, namely perceived autonomy in the virtual territory, perceived similarity between the online and offline identity, and perceived investment on the virtual territory.

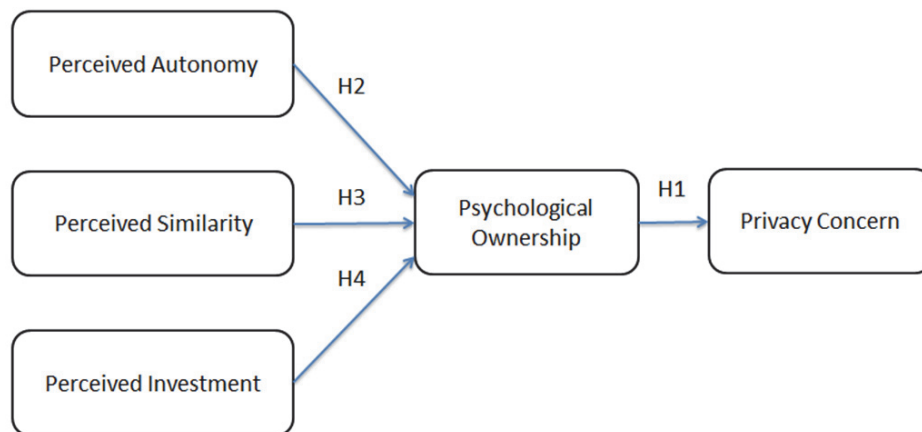


FIGURE 1 Research Model of Study 1

### 1.1.3 Contributions

In this study, we try to integrate value-based and cognate-based perspective together to explain the emergence of SNSs users' privacy concerns. Specifically, drawing on the psychological ownership theory, we argue that people have online privacy concerns in the context of SNSs once they can develop a feeling of psychological ownership toward the virtual properties on the platform. We also identified and tested an empirical model with three routes that can help people to develop their psychological ownerships and therefore lead to privacy



concerns on SNSs. In conclusion, our paper enriches our understanding of users' privacy concerns in the context of SNSs.

## 1.2 Study 2 Information Sharing on Blogs

### 1.2.1 Motivations

Different from traditional electronic commerce (e-commerce) platform, the interactions on social media platforms are mainly interpersonal. Social networking sites (SNSs) such as Facebook and MySpace allow people to build or join online communities embedded in a SNS to communicate and exchange personal information with others with similar interests, identities, and activity participations. Very often, we can observe that the personal information that users are sharing with their audience is sensitive and private. For example, bloggers write online diaries in a digital format that can be easily copied, transmitted, and integrated through the Internet, which seems contradictory to the fact that most people who write a paper diary would keep it secret from others. The question posed here is what is it that makes the users of blog share information that potentially threatens their privacy? To put it in another way, we would like to know the antecedents of Bloggers' information privacy concerns.

Although concerns about information privacy have been well studied and cited as one of the major barriers to the success of e-commerce websites (Dinev and Hart 2006, Hoffman et al. 1999), it is not possible to simply apply the findings in the e-commerce context directly to the context of social networking sites. E-commerce websites and social networking sites have fundamentally different attributes. An e-commerce website is typically set up to facilitate monetary transactions between a merchant and the service users. In contrast, a SNS such as Facebook help users create an individual area in which they can share information without any economic benefit to the users. In the context of e-commerce, users are required to provide factual information (e.g., addresses, demographics, credit card information, etc.) when purchasing products online, which is done in a passive manner. In contrast, users of SNSs voluntarily share information with others, and actively provide substantial information on their habits, family, and preferences to readers. For example, Twitter users share commute times and coffee temperatures, Tumblr users (Tumblers) share memes galore, and Instagramites share a wealth of doctored photographs. Information about individuals and interactions between them are much more in-depth than what a simple business transaction would entail. Research on information privacy in relation to e-commerce focuses on static information, such as name, address, and occupation. However, SNSs users intentionally or unintentionally disclose both static and dynamic information, such as their daily activities. The focus of privacy concerns could also be different. Online consumers on e-commerce websites seek to protect their privacy from merchants alone, whereas the information privacy concerns of SNSs users relate to a vast audience that is both

known and unknown. Thus, an investigation of individuals' information privacy concerns when sharing information on SNSs is timely and necessary.

### 1.2.2 Research Model

The objective of this study is to identify the important determinants of information privacy concerns in the context of blogs, which are a typical kind of social networking website. A conceptual model is developed to capture the sociological factors that influence bloggers' information privacy concerns based on social network theory and the multidimensional theory of privacy. To narrow the scope of this research, we focus on ordinary bloggers who write diary-like blogs and their concerns about protecting their privacy in relation to their readers.

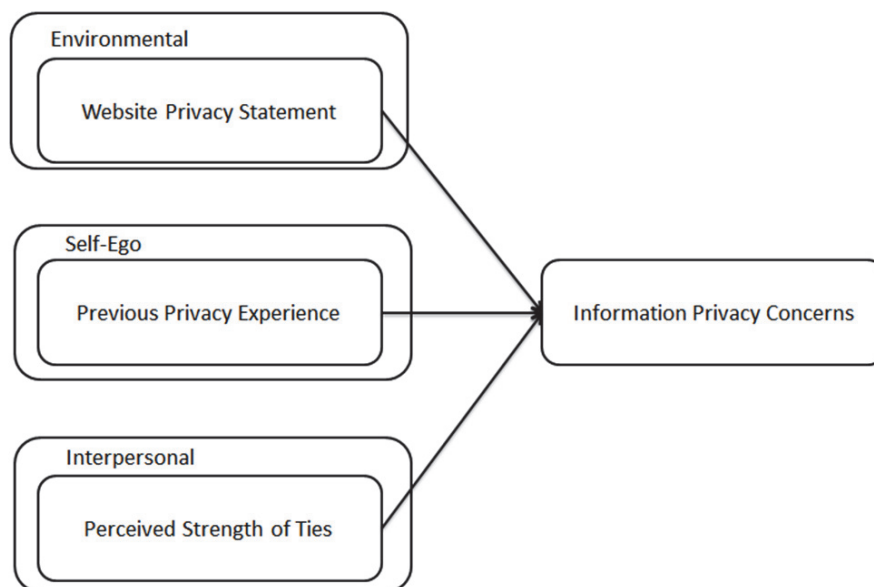


FIGURE 2 Research Model of Study 2

Based on the multidimensional development theory (MDT), the model proposed here includes environmental factors, self-ego factors, and interpersonal factors as important predictors of the information privacy concerns of bloggers. Specifically, we would like to emphasize that the interpersonal factors are the most crucial in the current context. In line with the social network theory, we introduce perceived strength of social ties as the interpersonal factor to the research model. Figure 2 illustrate the research model which contains three hypotheses. Specifically, we would like to argue that website privacy statement will negatively influence bloggers' information privacy concern. Previous privacy experiences and perceived strength of social ties will positively influence blogger's information privacy concerns.

### 1.2.3 Contributions

In this study, we present a multi-faceted model to investigate the factors that can influence the information privacy concerns of bloggers when they post entries onto their blogs.

We have included environmental factors, self-ego factors, and interpersonal factors as important predictors of the information privacy concerns in our research model. The self-ego factor – previous privacy experience – appeared to significantly influence the information privacy concerns of bloggers positively. Although previous studies have not found a significant relationship between previous privacy experience and information privacy concerns in other contexts (Culnan and Armstrong 1999), the previous privacy experience of bloggers is likely to be an important factor determining their concerns about information privacy. The environmental factor – website privacy statement – was found not to significantly affect the information privacy concerns of bloggers. This result indicates that the presence of a privacy statement on blog websites does not ease bloggers' information privacy concerns. A possible explanation for this is that as SNSs are considered to be value creation platforms for users and bloggers to disseminate information about themselves at their own will, they may neglect the role of the website itself and do not think website privacy statements are important. Finally, the study shows that the perceived strength of social ties between bloggers and their readers significantly influences the information privacy concerns of bloggers. Bloggers seem to be more willing to share sensitive information with “strangers”, yet among these “strangers” it is likely that there are acquaintances or even readers with close relationships to the blogger. This misperception of the strength of social ties with online readers explains why there have been so many cases of privacy invasions due to blogging.

## 1.3 Study 3 Why Sharing Information in a Virtual Team? A Study on Project-Based Virtual Team

### 1.3.1 Motivations

In today's rapidly changing business environment, an organization's ability to create and share knowledge is important for establishing and sustaining competitive advantage (Teece et al. 1997). Teams within the organization are the key building blocks of today's knowledge-based organization (Leonard and Sensiper 1998). However, such teams pose a particular challenge for knowledge coordination, as knowledge is distributed across team members (Cannon Bowers et al. 1993, Faraj and Sproull 2000, Moreland 1999). In the knowledge-based view of the firm (Grant 1991, 1996, Spender 1996, Teece 2000), knowledge is the foundation of a firm's competitive advantage and, ultimately, the primary driver of a firm's value. Inherently, however, knowledge resides within individuals (Nonaka and Konno 1998) and, more specifically, in the employees

who create, recognize, archive, access, and apply knowledge in carrying out their tasks. Consequently, the movement of knowledge across individual and organizational boundaries, into and from repositories, and into organizational routines and practices is ultimately dependent on employees' knowledge-sharing behaviors. When knowledge sharing is limited across an organization, the likelihood increases that knowledge gaps will arise, and these gaps are likely to produce less-than-desirable work outcomes (Baird and Henderson 2001).

Among other factors, Teamwork Quality (TWQ) was proved to be an important antecedent of team project success (Hoegl and Gemuenden 2001). Previous studies suggested that information sharing activities can enhance TWQ. However, depending on the work environment and organizational culture, there are also other possible moderators, which could influence the relationship between TWQ and team performance. Trust, for example, can be one of them. Trust among members of virtual teams is an important influential factor on team project's success (Powell et al. 2004). Team members need to have confidence that information shared within the team is accurate and that team member providing the information is competent (Tjosvold 1984). Specifically, under the organization context, there are two types of trust, conditional trust and unconditional trust (Jones and George 1998). While conditional trust mainly depends on favorable attitude toward the outcome of the behavior, unconditional trust mainly depends on shared values and common emotional bonds among the team members. Previous studies suggested that people with high unconditional trust tend to have more communications with each other and therefore enhance the efficiency of work flow (Citera et al. 1995). As a result, the development of a shared understanding of the project is integral to team members' successful agreement (Gray 1989). In other words, although the presence of conditional trust allows a team to work toward a common goal, the existence of unconditional trust can fundamentally change the quality of the exchange relationship and convert a group of people into a team with commitment. It is even more important for the members in a virtual team who lack of face-to-face communications.

With the introduction of social media tools, including social networking sites, blogs, wikis, and microblogs into the organization environment, teams are increasingly becoming "virtual," in that they are often geographically dispersed and communicate via computer mediated tools (Jarvenpaa and Leidner 1999). As a result, how to facilitate knowledge sharing within virtual team members is an important issue for modern organizations to improve their efficacy.

Recent studies suggest that knowledge coordination in virtual teams is problematic due to temporal and spatial separation among team members and the use of computers as the primary means of communication (Cramton 2001, Griffith and Neale 2001, Hollingshead 1998b). Organizations rely on mobilizing more diverse sets of unevenly distributed knowledge resources through virtual teams, and effective knowledge sharing between members is more difficult in virtual teams than in traditional forms of organization.

Therefore, the purpose of this paper is to establish the relationship between TWQ and team and personal success first. Then we will identify factors that can enhance the construction of unconditional trust within the virtual team and therefore moderate the relationships between TWQ and team and personal success. Based on the findings of this research, we can provide strategies for organizations to improve the virtual team's performance.

### **1.3.2 Research Model**

The performance of a team in an organization is affected by the quality of teamwork (TWQ). Hoegl and Gemuenden (2001) develop six teamwork facets to measure the quality of interactions among team members: communications, coordination, balance of member contributions, mutual support, efforts, and cohesion. Based on social exchange theory and previous literature, we identified two factors, Leader-Member Exchange (LMX) and Perceived Organizational Support (POS) as the moderators of the relationships between TWQ and team performance. The Leader-Member Exchange (LMX) that was originally derived from the model of leadership called Vertical Dyad Linkage (VDL) to establish a leadership theory (Dansereau et al. 1975) that commonly measures the quality of relationships between a team leader and his or her subordinates.

A good LMX can help to foster organizational citizenship based on the commitment and trust among the team members. Because high level of trust, interaction, support, and rewards characterize higher-quality of LMX, there would be a perceived obligation on the part of subordinates to reciprocate this higher-quality relationship (Dienesch and Liden 1986). As a result, the behavior of team members will be guided by the common goal of the team. POS refers to global beliefs held by employees regarding the extent to which their organizations value their contributions and care about their well-being (Farh et al. 2007). Referring to Blau's study (1964), the perceived organizational support would be influenced by the frequency, extremity, and judged sincerity of statements of praise and approval from the organization. It implied that employees would expect an organization to provide greater reward to match their effort toward organizational goals. This expectancy can develop positive emotional bond to the organization and therefore enhance the relationship between TWQ and performance.

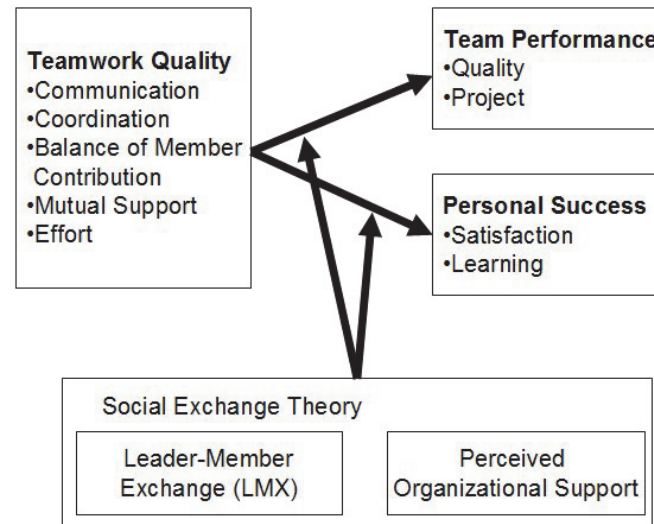


FIGURE 3 Research Model of Study 3

### 1.3.3 Contributions

This study proved that TWQ can also influence a virtual team's performance. Further, the study identified two moderators, LMX and POS, for the relationship between TWQ and team and individual's success. Specifically, LMX moderated the association between TWQ and individual success while POS moderated the one between TWQ and team performance. The results had higher generalization since the students were asked to conduct real-world projects rather than a course project during data collection process.

## 1.4 Publication Status

A conference version of the first study has been published in the IFIP Dewald Roode Information Security Workshop IFIP WG8.11/11.13, June 16-17, 2014, Newcastle, U.K.

A conference version the second study has been published in the 8th International Conference on Electronic Business (IECB), September 30-October 3, 2008, Hawaii, USA.

A conference version of the third study has been published in the 11th International DSI and the 16th APDSI Joint Meeting, July 12 - 16, 2011, Taipei, Taiwan.

## 1.5 Conclusions

The thesis tried to investigate the information sharing activities in social media in different contexts from different perspectives. Specifically, in the first study, we investigated the SNSs users' privacy concern from individual perspective by introducing psychological ownership theory to identify the personal boundary that people used to define private space. In this second study, we proposed that bloggers' privacy concern were influenced by their perceptions of the strength of social ties. When the perceived strength of social tie is weaker, the blogger will have fewer concerns on the disclosure of personal information. In study 3, we investigated the information sharing in virtual team and identified two moderators that can enhance the relationship between information sharing and team and personal success.

In the following chapters, the three research questions mentioned earlier will be addressed by three essays separately in Chapter 2, Chapter 3, and Chapter 4. Each chapter constitutes an independent study. Finally, I conclude the thesis with a general discussion of the findings in Chapter 5.

## 2 STUDY 1 THIS IS MINE: SOCIAL NETWORKING SITES USERS' PRIVACY CONCERNS

### 2.1 Introduction

During the past decade, we have witnessed the rapid diffusion of social networking sites (SNSs). For example, with more than 1.4 billion active users, Facebook has become the third largest “country” in the world. Further, five of the Top ten websites<sup>2</sup> in the world are SNSs. Websites like Facebook, LinkedIn, Google+ and Twitter, to name a few, are experiencing explosive diffusion all around the world. As SNSs become ubiquitous, better understanding about users’ privacy issues becomes critical. On one hand, SNSs users are enjoying the convenience of the modern Internet technology in terms of developing and maintaining interpersonal relationships, enhancing business transparency, and creating new business models. On the other hand, by making it easy to share valuable and sensitive contents, the technology has also made the life of ordinary Internet users more “transparent”. SNSs users’ online privacy is endangered.

While we learn things about the people in our world via SNSs, they learn about us via the same channel as well. For example, Facebook, the most popular SNS with over 1.4 billion active users as of March 2015, encourages its users to use their real identity information and upload their personal information on their profile pages. A typical Facebook profile page includes birthdays, addresses, telephone numbers, and more intimate details such as interests, hobbies, relationship status, and sexual preference of the owner. It is common that, from our peers’ profile pages on Facebook, we know when they leave town and how long they will be gone. We know if they come into money. We see pictures of their kids, their families, their cars, their vacations, and their homes. We learn about their vulnerabilities. We learn about their drinking and drug use, and

---

<sup>2</sup> <http://www.alexa.com/topsites>



even crimes. All of this sharing may help create closer relationships among each other, but it also destroys SNSs users' online information privacy potentially.

The lack of control of the dissemination of the personal information mentioned earlier will lead to serious problems, especially when one's circumstances change. For example, though one's swimsuit-clad body is appropriate on the beach, one's vacation photos may damage the respect he or she has worked hard to earn from superiors, subordinates, and peers at the office who view them on Facebook. Too much published information presents obstacles for an SNS user when a spouse sues for divorce or a rival seeks an edge for a promotion at work. Criminals trawl SNSs constantly, looking for vulnerabilities and vacations, pinpointing easy targets. Clearly, many people besides friends and acquaintances are interested in the information people share on their profile pages. Identity thieves, scam artists, debt collectors, stalkers, and 3rd party app vendors looking for a market advantage use SNSs to gather information about the users. Not to mention that the vendors operating SNSs are themselves collecting a variety of data about their users, both to personalize the services for the users and to sell to advertisers. Overall, while the SNSs users enjoy the opportunity to share and learn, their online privacy is endangered, which, time and again, has drawn the attention of the government and the SNS vendors.

However, due to the complexity of privacy concept, it is hard to know how individuals define their privacy in the virtual world. Debates about people's online privacy issues have been ongoing. For example, the debate between Europe-vs-Facebook and Facebook has been last for several years without clear solution yet. On one side, some argue that the norm about sharing personal information is changing and people are becoming more open with their personal life. For example, Mark Zuckerberg, CEO of Facebook, said: "People have really gotten comfortable not only sharing more information and different kinds, but more openly and with more people. That social norm is just something that has evolved over time." Pete Cashmore, CEO of Mashable shared a similar opinion and said: "Privacy is dead." On the other side, some researchers still believe that online privacy is as important as offline privacy. They argue that to undermine people's online privacy is to deprive people of freedom and liberty. Danah Boyd, a senior researcher at Microsoft Research said: "People should – and do – care deeply about online privacy." While there is no doubt that people and society will adapt eventually to the technology environment, understanding and protecting Internet users' privacy is still critical for the government and the firms.

The debates are partially due to the unclear concept of SNSs users' online privacy. SNSs users, SNSs vendors, and government have different understandings toward the current issue. Without an understanding of psychological profile of SNSs users' privacy concerns, techniques and legal solutions for privacy protection could be misguided or inconsequential. In other words, it is hard to develop an efficient online privacy protection solution without knowing how SNSs users define what is private and what is public. Therefore, in this study,

drawing on the psychological ownership theory, we would like to answer the research questions:

1. Why do SNSs users have online privacy?
2. What are the antecedents of SNSs users' online privacy concerns?

Drawing on psychological ownership theory, we identify the individual's psychological boundary between private and public area. Specifically, we first define what the individual's online privacy is and then identify the antecedents of the individual's online privacy concerns. We empirically validate our model with the data collected from Sina Weibo, one of the largest SNSs in China. The study provides a new perspective to systematically investigate privacy issues in the context of SNSs. The results are also expected to help SNSs vendors to develop more efficient functions to protect users' online privacy as well.

In the following chapter, we present the theoretical background. The research model and hypotheses are developed in Chapter 2.3. Chapter 2.4 describes our empirical studies and Chapter 2.5 presents the results. Chapter 2.6 concludes.

## **2.2 Theoretical Background**

### **2.2.1 Concept of Privacy**

The idea of privacy is intuitive. However, despite years of discussions among researchers, there is no agreement on the definition of "privacy" in general (Joinson and Carina 2007; Yao et al. 2007). One of the possible reasons for this ambiguity in the literature is the complexity of the concept of privacy. There are various approaches to define the concept of privacy in different disciplines. The definitional approaches can be broadly classified as either value-based or cognate-based (Smith et al. 2011). On one hand, the value-based definition views privacy as a human right integral to society's moral value system. The boundary that separates the private area from the public is subsequently established based on these existing moral values or formal rules (e.g. Bennett 1995; Marx 2001; Nissenbaum 1998; Rosen 2000). On the other hand, instead of seeking a clear boundary between private and public, psychologists and cognitive scientists are interested in producing a cognate-based conceptualization of general privacy related to the individual's mind, perceptions, and cognition rather than to an absolute moral value or norm (e.g. Hong and Thong 2013; Malhortra et al. 2004; Smith et al. 1996; Westin 1967). Table 1 provides a summary of previous empirical privacy studies.

TABLE 1 Information Privacy Concerns Literature Review

Studies	Context	Demographic Information of the Sample						Scales
		Size	Country	Type	Age <sup>^</sup>	Exp.*	Gender#	
Alge et al. (2006)	Corporate	489	US	Student	41.6		30.0/70.0	Other
Anderson and Agarwal (2011)	e-Health	1089	US	Users	N/A	14.6	56.7/51.0	Dinev and Hart (2006)
Bellman et al. (2004)	e-Commerce	335	US International	Users	32.7	2.0	37.0/63.0	CFIP
Buchanan et al. (2007)	e-Commerce	1122	UK	Students	43.9		57.0/43.0	IUIPC
Cases et al. (2010)	e-Commerce	330	N/A	Users				Other
Castaneda et al. (2007)	e-Commerce	400	Spain	Users			39.0/61.0	Smith et al. (1992)
Chen and Rea (2004)	e-Commerce	92	US	Students	23.0		27.2/72.8	other
Culnan (1993)	e-Commerce	126	US	Students				Smith et al. (1992)
Dinev and Hart (2004)	e-Commerce	369	US	Student			53.4/46.6	CFIP
Dinev and Hart (2006)	e-Commerce	369	US	Users	N/A		53.4/46.6	Dinev and Hart (2006)
Earp et al. (2005)	e-Commerce	407	US				31.4/66.8	Other
Eastlick et al. (2006)	e-Commerce	477	US	Users			69.8/30.2	Other

Harris et al. (2003)	e-Commerce	120	US Belgium	Students	21.0		53.0/47.0	Other
Herath et al. (2012)	e-Commerce	134	US	Students	21.0		51.0/49.0	GIPC
Hong and Thong (2013)	e-Government e-Commerce	887	HK	Users	25.1	N/A	58.0/40.0	IPC
Jiang et al. (2013)	Online chat rooms	251	Singapore	Students	22.5		51.0/49.0	IUIPC
Kehr et al. (2015)	App	414	US	Users	31.2			IUIPC
Keith et al. (2015)	LBS	509	US	Students	21.8		45.0/55.0	Other
Kim (2008)	e-Commerce	445	US	Students	21.1		42.3/57.7	Other
Korgaonkar and Wolin (1999)	e-Commerce	401	US	Users			47.0/53.0	Other
Liu et al. (2005)	e-Commerce	212	US	Student			47.2/52.8	Other
Lowry et al. (2011)	Instant Mes- sage	484	US	Students	22.0		47.8/50.0	CFIP
Malhotra et al. (2004)	e-Commerce	449	US	Student	35.0	4.5	46.0/54.0	IUIPC
Metzger (2007)	e-Commerce	213	US	Students	19.5	5.3		Other
Milberg et al. (1995)	e-Commerce	706	International	Professionals			36.0/74.0	Smith et al. (1994)
Pavlou et al. (2007)	e-Commerce	521	US		40.0		55.0/45.0	GIPC

Rose (2006)	e-Commerce	459	NZ	Users			54.0/46.0	CFIP
Sheehan and Hoy (2000)	e-Commerce	889	US	Users			29.6/70.4	Other
Sheng et al. (2008)	e-Commerce	100	US	Students		9.4	37.0/63.0	GIPC
Smith et al. (1996)	e-Commerce	270	US	Students Professionals				CFIP
Son and Kim (2008)	e-Commerce	523	US	Users	41.0	7.0	53.0/47.0	Dinev and Hart (2006)
Stewart and Segars (2002)	e-Commerce	355	US	Users				CFIP
Van Slyke et al. (2006)	e-Commerce	713	N/A	Users	23.5		52.0/48.0	CFIP
Xu et al. (2011)	e-Commerce	823	US	Students			44.3/55.7	Dinev and Hart (2006)
Zviran (2008)	e-Commerce	217	Israel	Students				Others

Notes: ^ Mean; \* Internet experiences in years; # percentage Female/Male;

Both approaches have its advantages and disadvantages. As for the value-based stream, it is the first approach that had been used in the literature in privacy research (Smith et al. 2011). Subsequent researches were trying to identify different boundaries between individual and public. However, due to the complexity of the actual contents of privacy, it is hard to identify a clear boundary between the private and public area based on a formal rule or social norm. Some studies suggested that value-based definition is lack of rigor in defining the boundaries (Nissenbaum 1998). Therefore, we would like to argue that, one of the problems of the value-based stream is that the value that people use to establish the boundary between the private and public area is mostly psychological or informal rather than a formal rule in reality.

As for the cognate-based research, Westin (1967) first introduced the notion of state in the general privacy concept: "voluntary and temporary withdrawal of a person from the general society" (p. 7). Psychologists and cognitive scientists then became interested in producing a cognate-based conceptualization of general privacy-related to the individual's mind, perceptions, and cognition rather than to an absolute moral value or norm (Smith et al. 2011). However, it is hard to provide sufficient privacy protections or support in reality if we do not know how people define private and public in general. In other words, cognate-based definition is lack of relevance.

To fill the gaps mentioned above, in this study, we would like to combine these two definitional perspectives (value-based and cognate-based) together. Specifically, we will identify the boundary between the private and public areas. The construction of the boundary is related to people's minds, perceptions, and cognitions. In other words, we agree with researchers in the value-based stream that there is a boundary between the private and public area. However, going along with the cognate-based research, we will identify the boundary based on individuals' cognitions rather an existing formal rule.

From the social psychology perspective, the boundary between private and public area reflects an individual's effort to differentiate the self from the social environment. People have the needs to be unique in their social lives. The boundary regulation therefore defines the self as an individual by stating who the self is, what belongs to the self, what the self will do, and how close others can get to the self. In other words, the personal boundary helps people create their individualities in their social lives. Therefore, the existing of the personal boundary regulation is the prerequisite of privacy. We would like to argue that people have privacy if and only if when they can define and regulate a personal boundary between the private and public area.

When people are having more and more online social activities, their social networks are moving to online environment. In this case, people also need online privacy to protect their online individualities. Very similar to the offline social networks, SNS is a platform facilitated by Internet technologies focusing on building and reflecting social networks or social relations among people. When people are moving to their online social networks, they need to build up their online identities or individualities as well. Online personal boundary de-

defines SNSs users' identities and individuality in the virtual world. Therefore, whether SNSs users can have online privacy or not will depend on if they can create and then regulate the personal boundary to separate themselves from the public in the online virtual world. In other words, by creating and controlling such a personal boundary, SNSs users can claim the ownership toward their virtual belongings. However, different from the offline world, the ownership here is actually psychological instead of physical. Therefore, we would like to introduce psychological ownership theory to investigate SNSs users' privacy issues.

### 2.2.2 Concept of Psychological Ownership

McDougall (1923, p.75) states that "impulse to collect various objects is displayed by almost all human beings, and seems to be due to a true instinct." Similarly, Sartre (1969) argues that "to have" is one of the most important categories of human existence. The feeling of ownership has positive effects on human beings. The growth of possessions produces a positive and uplifting effect (Formanek 1991), whereas the loss of possessions leads to "shrinkage of our personality, a partial conversion of ourselves to nothingness" (James 1890). Thus, at the center of psychological ownership theory is the notion that people have an innate need to possess (Burk 1900; Porteous 1976).

The psychology of possession suggests that legal or formal ownership is not necessary in feeling "ownership" towards an object. Rather, psychological ownership can exist even in the absence of formal ownership (e.g., employees may feel that the organization is "theirs"). Pierce et al. (2003) define psychological ownership as "the state where an individual feels as though the ownership of the target or a piece of that target is 'theirs'". Similarly to the formal ownership, the growth of psychological ownership also produces a positive and uplifting effect, whereas the loss of psychological possessions also leads to "shrinkage of our personality, a partial conversion of ourselves to nothingness" (James 1890, p.178).

Previous studies suggested that psychological ownership is an important individual-level predictor of people's motives, attitudes, and behaviors in both work and home context (e.g. Dutton and Dukerich 1991, Sutton and Callahan 1987). For example, Van Dyne and Pierce (2004) found that the feeling of psychological ownership of employees could lead to positive attitude toward their jobs. Mayhew et al. (2007) found that the feeling of psychological ownership can enhance employees' job satisfaction and organizational commitment. Barki et al. (2008) found that psychological ownership of an information system was a significant mediator of the influence of perceived usefulness and perceived ease of use of the system on users' participations on the system. Fuchs et al. (2010) found that empowered customers would experience higher levels of psychological ownership of the underlying final products than non-empowered customers. Peck and Shu (2009) indicated that perceived psychological ownership can be increased with either mere touch or with imagery encouraging touch. Shu and Peck (2011) found that the perceived loss of psychological ownership has

negative effects on consumers' willingness to trade in e-commerce platforms. Chang et al. (2012) identified that psychological ownership can make consumers feel brand ownership and then express altruistic spirit of the brand. (See Table 2 for details of these studies).

As a relatively new theory, psychological ownership theory provided us a new perspective to investigate human's behavior in SNS context as well. The positive effects from the feeling of ownership may remain in the new context, e.g. it is arguable that the feeling of ownership will have positive effects on customer satisfactions, intention to use, positive word-of-mouth, and willingness-to-pay in the virtual world. However, some negative effects and dysfunctional outcomes of psychological ownership may also emerge in the current context. For example, due to the high degree of psychological ownership, people may select to close the private territory and have less intention to share their belongings with others.

In the context of SNSs, although users can not own the website formally, they can develop a feeling of emotional attachment to the virtual properties on the platforms. In other words, users can develop a psychological ownership toward their virtual belongings in SNS platforms. The virtual properties include user generated contents such as profile page, entries, blogs, and photos, etc. The user then may feel that the virtual territory that is formed by those virtual belongings in SNS platform is his or her private property psychologically. Once the individuals have such kind of feeling toward their virtual territories on SNS platforms, they may treat the virtual territory as private and therefore, generates the concerns of potential violations of the private territory.



TABLE 2 Review of Empirical Research on Psychological Ownership

Study	Research Questions	Key Constructs	Main Findings	Sample Items
Van Dyne and Pierce 2004	What are the relationships between psychological ownership for the organization and employee work attitudes?	Organizational commitment, Psychological ownership, Affective commitment, Job satisfaction	Results demonstrated positive links between psychological ownership for the organization and employee attitudes (organizational commitment, job satisfaction, organization-based self-esteem), and work behavior (performance and organizational citizenship).	This is MY organization. I sense that this organization is OUR company. I feel a very high degree of personal ownership for this organization.
Pierce et al. 2004	To identify extent to which individuals experience of control over their job and work environment is positively associated with feelings of ownership for their job and the organization.	Psychological ownership, Perceived control, Work environment structure	The authors found that experienced control mediates the relationship between three sources of work environment structure – technology, autonomy, and participative decision making – and psychological ownership of the job and the organization.	This is MY organization. I sense that this is MY company. That idea was MINE.
Mayhew et al. 2007	What are the consequences of psychological ownership?	Org. commitment, Psychological ownership, Job satisfaction	Psychological ownership predicted job satisfaction and organizational commitment and mediated the	This is MY organization. This is MY job.

			relationship between autonomy and these work attitudes.	
Barki et al. 2008	How psychological ownership of IT can influence IT implementation and IT acceptance?	Psychological ownership, Perceived ease of use, Perceived usefulness	Psychological ownership of IT was a significant mediator of the influence of user participation on perceived usefulness and perceived ease of use	When I think about it, I see a part of myself in the new system. I feel the new system belongs to all the doctors in my clinic. I feel a high level of ownership toward the new system.
Chi and Han 2008	Whether formal ownership leads to psychological ownership for the organization through distributive and procedural justice perceptions?	Distributive justice, Procedural justice, Psychological ownership	Employee participation in profit sharing, decision making, and access to business information were all positively related to psychological ownership.	This is MY organization. I sense that this organization is OUR company.
Avey et al. 2009	How ownership relates to individual outcomes such as work attitudes and performance?	Psychological Ownership, Organizational citizenship behavior, Organizational commitment	Having the employees who feel like owners of the organization is beneficial in terms of better work attitudes such as commitment, intentions to stay with the organization, and job satisfaction.	I am confident in my ability to contribute to my organization's success. I feel I belong in this organization. I feel being a member in this organization helps define who I am.
McIntyre et al. 2009	To identify the key individual difference concepts that explain why different	Psychological ownership, Internal locus of control, Individualism	Locus of control and individualism were important individual difference con-	This organization does not allow me to control my own destiny.

	individuals perceive different levels of psychological ownership of their organizations		concepts that explain the underlying motives of psychological ownership.	I consider myself an extension of this organization. I feel as safe and secure in my work space as I do at home.
Anderson and Agarwal 2010	What are the factors influencing a home computer user's security behavior?	Subjective norm, Descriptive norm, Attitude, Psychological ownership	The level of psychological ownership an individual feels toward the target of the protection strongly influenced his/her security behavior.	The Internet is my network and my data. I feel a high degree of personal ownership for the Internet. I sense that the Internet is mine.
Fuchs et al. 2010	What are the psychological consequences for customers who are empowered to select the products a company should market?	Empowerment, Psychological ownership	Empowered customers (who participate in the new product selection process) would experience higher levels of psychological ownership of the underlying final products than non-empowered customers	Although I do not legally own these T-shirts yet, I have the feeling that they are 'my' T-shirts. The selected T-shirts incorporate a part of myself. I feel that these products belong to me. I feel a strong sense of closeness with these products.

## 2.3 Research Model and Hypotheses

Our research model, as shown in Figure 4, states four hypotheses. The model shows that SNSs users have higher level of online privacy due to the higher level of psychological ownership toward their virtual belongings on SNS platforms. Then, SNSs users may develop the feeling of psychological ownership via three independent routes, namely perceived autonomy in the virtual territory, perceived similarity between the online and offline identity, and perceived investment on the virtual territory. In the following section, we discuss each of them separately.

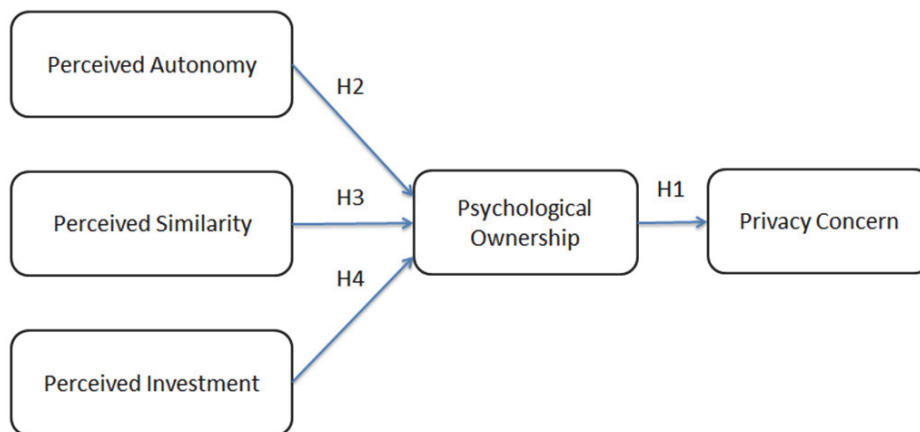


FIGURE 4 Research Model

### 2.3.1 Psychological Ownership and Privacy

From previous studies we have learned that there are a myriad of positive and constructive behaviors associated with feelings of psychological ownership, e.g. citizenship, personal sacrifice, responsibility, commitment, low turnover intention, etc. However, the feeling of psychological ownership may also have a dark side. Previous studies suggested that individual value attribution is expected to depend on a reference point set by internal or external entities, with changes in the reference point entailing valuation shifts (Kahneman and Tversky 1984). Changes in ownership of an object, for example, shift reference points from “not mine” to “mine”, typically entailing higher risk perceptions (Duxbury and Summers 2004, Kahneman 2003) as well as more risk-averse choices and decisions (e.g. Thaler et al. 1997) when requested to give up (or share) that object. The process of the development of the feeling of ownership is the process of setting such a reference point. Once a target become “mine”, the concern of losing it also emerges at the same time. Much like the overly possessive child, individuals may be unwilling to share the target with others or they may feel a need to retain exclusive control over it and therefore have high

concerns on the potential loss of the target. Such concerns, in turn, will likely impede the sharing of the object. It is assumed that the fear of losing a psychologically important piece of the self may result in deviant behavior such as hiding. In addition, fear of loss such possessions may result in deviant reactionary behaviors such as behaviors that attempt to prevent others from attaching to the target that people feel is theirs (Harper 1990). Similarly, Brown et al. (2005) suggest that isolation is one of the consequent behaviors of the feeling of psychological ownership. The reason underlying is that feelings of ownership may result in individuals' intention to seek less interaction with others, as they are preoccupied with their strong feeling of ownership. For example, people may send "keep out" signals to others to avoid unauthorized access of the personal territory. Thus, high level of psychological ownership increases people's concerns on the potential loss of the target subject. When faced with a loss of control over what is perceived as theirs, individuals may come to feel a personal loss as well as frustration and stress (Bartunek 1993). Individuals with stronger psychological ownership of a target are known to exhibit not only a higher valuation of the target (Reb and Connolly 2007), but also a stronger emotional attachment and control need (e.g. Pierce et al. 2004). Strong feelings of ownership should thus be associated with high degree of privacy concerns (Culnan and Bies 2003, Westin 1967).

Similarly, in the virtual world, the feeling of psychological ownership toward the virtual belongings on SNS platforms will also lead to the concerns of potential threats of the ownership. People are afraid to lose the psychological attachment on the virtual belongings. The feeling may be even stronger when the respective data contained some form of sensitive information about the individual. We thus expect that an individual with a higher degree of psychological ownership toward the virtual belongings on SNS platforms will tend to have higher privacy concerns.

- H1 The higher an individual's feeling of psychological ownership toward the virtual belongings on SNSs, the greater privacy concerns the individual has.

### 2.3.2 Antecedents of Psychological Ownership on SNSs

When the relationship between psychological ownership and privacy concerns has been established, we would like to go a step further to identify the antecedents of psychological ownership. Pierce et al. (2001, 2003) theorizes that there are three major experiences through which psychological ownership can emerge. They reasoned that with the exercise of control over the target, through coming to know the target intimately, and or the investment of the self into the target, a sense of psychological ownership develops (Pierce and Jussila 2010). In the context of SNSs, we would like to argue that the perceived autonomy in the virtual territory, the perceived similarity between the online and offline identity, and the perceived investments in the virtual territory are the reflections of three routes mentioned above in the offline world.

### 2.3.2.1 Perceived Autonomy

Perceived control of the target object is a key characteristic of the phenomenon of psychological ownership. Rudmin and Berry (1987) found that ownership basically means the perceived ability to use and to control the use of the objects freely. Perceived control exercised over an object eventually gives rise to feelings of ownership toward that object (Csikszentmihalyi and Rochberg-Halton 1981, Dixon and Street 1957, Sartre 1969, Tuan 1980, 1984, White 1959). Much like parts of the body, objects that can be controlled become regarded as part of the self (McClelland 1951), and the greater the amount of control the more the object is experienced as part of the self (Ellwood 1927, Furby 1978, Prelinger 1959).

Previous studies suggested that the individual could exercise the control over perceived autonomy of the environment. For example, jobs that provide greater autonomy imply higher levels of control and, thus, increase the likelihood that the feelings of psychological ownership toward the job environment will emerge (Hackman and Oldham 1980). In the virtual world, SNS allows inhabitants to choose behaviors more freely than in their social or professional contexts in the real life (Kaplan and Haenlein 2010). Specifically, in the context of SNS, the core concept of the control is to what extent the individual perceive he or she can self-determine what the virtual space looks like, what to share in the virtual space, and who can access to the virtual space on SNS platforms. If people perceive that they can personalize the virtual space freely, post any information they like, and self-determine who can access the posted information in the virtual territory, they can feel a high level of control over the virtual space. The more of these decisions about the behaviors on SNSs people perceived they can make, the more perceived autonomy they have over their own directions and functioning and consequently, the more feelings of ownership attached to the virtual space on SNS platforms. Thus, we would like to argue that:

- H2 The higher level of autonomy perceived by the individual, the higher level of psychological ownership the individual may have toward the virtual properties on SNSs.

### 2.3.2.2 Perceived Similarity

Beaglehole (1932) argues that through intimate knowledge of an object, a fusion of the self with the object takes place. We tend to prefer our own possessions to others, even others of a similar kind (Beggan 1992, Nuttin 1987) because “we know them better, realize them more intimately, feel them more deeply” (translated by James 1890, p.326). Thus, people can feel that something is theirs by virtue of being associated and familiar with it. Through such an association we acquire information about the object and come to know it intimately (Beggan and Brown 1994, Rudmin and Berry 1987). The more information and the better the knowledge the individuals have about an object, the stronger the emotional relationship between the self and the object and, hence, the stronger the feelings of ownership toward it. Perceived familiarity is a critical condition,

of which one is aware through intellectual perception (Pierce et al. 2003). It reflects an individual's awareness, thoughts, and beliefs regarding the ownership of the target.

In the context of SNS, technology enables users to connect virtually with others by creating online profiles, adding online friends, creating and sharing contents, and having online conversations (Kaplan and Haenlein 2010). With social interactions moved onto the Internet, people develop a virtual identity online. Online profiles are symbolic representations of the virtual selves and can tell others who the person is, what she/he does, and who or what she/he might become (Bryant and Akeman 2009, Golder and Donath 2004, Ma and Agarwal 2007, Smith et al. 2000). Therefore, the perceived familiarity of the target object is therefore reflected on the perceived similarity between the virtual identity and the real identity. SNSs users do not always share real identity information online. Some users may use SNSs as a public place to gather information only. Therefore, there may be discrepancy between an SNS user's online and offline identity. ). The more contents about the real self are shared on SNSs, the more similarities between the individual's online identity and offline identity. Thus, the individual may treat the online identity as a real part of the self and therefore increase the feeling psychological ownership toward the virtual properties on SNSs. When there is a high level of similarity between the individual's online and offline identity, the perceived familiarity of the target object, virtual territory in SNS, is high. Thus, it is easier for the individual to develop a feeling of psychological ownership. Thus, we would like to argue that:

- H3 The higher degree of similarity between the individual's online and offline identity, the higher level of psychological ownership the individual may have toward the virtual properties on SNSs.

### 2.3.2.3 Perceived Investment

Locke (1690) argues that we own our labor and, therefore, we often feel we own that which we create, shape, or produce. Similarly, Marx (1976) reasons that through our labor we invest our psychic energy into the products that we create; as a result, these products become representations of the self, much like our words, thoughts, and emotions. Hence, individuals own the objects they have created in much the same way they own themselves (Durkheim 1957). The investment of the self into objects causes the self to become one with the object and to develop feelings of ownership toward that object (Csikszentmihalyi and Rochberg-Halton 1981).

The investment of the self comes in many forms (Pierce et al. 2001). In the context of SNSs, users created an online identity by sharing their personal values and opinions. Specifically, the online identities are formed by the sharing of the personal opinions, thoughts, ideas, activities, pictures, videos, or music. The sharing of the offline or real identity information allows individuals to see their reflections in the target and feel they own efforts in its existence (Pierce et al. 2003). Users invest time, energy, and emotion in the virtual territory when

they are creating user generated contents. They need time and energy to draft the post, reply the comments, delete unwanted advertisement, and communicate with other peers. The more effort the users spend in the virtual territory, the easier they develop an emotional attachment on the virtual territory. Thus, we would like to argue that:

- H4 The higher level of investment perceived by the individual, the higher level of psychological ownership the individual may have toward the virtual properties on SNSs.

## 2.4 Methodology

### 2.4.1 Scale Development

We verify our theory by both qualitative (interviews, focus group studies, and content analysis) and quantitative (survey) methods. In the scale development, we followed a multi-stage iterative procedure recommended by MacKenzie et al. (2011) that synthesizes prior scale development literature (e.g. Agarwal and Karahanna 2000, DeVellis 2011, Straub 1989, Straub et al. 2004). The procedure integrated several methodological strategies for construct and scale development and validation and has been adopted in recent scale development studies (e.g., Hoehle and Venkatesh 2015).

Although previous studies have provided several examples of the possible routes to the psychological ownership in offline work place, to our knowledge, no empirical study has been done to test the theory in online context. Further, the routes to the psychological ownership in the online world may or may not be the same as it in the offline world. Therefore, it is necessary to conduct interviews and focus group studies among SNSs users to have a preliminary idea on what does psychological ownership mean in the context of SNSs. Specifically, as suggests by the original theory, there are three routes that can lead to the feeling of psychological ownership in offline world, namely, the control of the target, the knowledge of the target and the invest of the self to the target. The original definition and content of these routs may not make sense in the context of SNS. We may need to redefine them or identify new routes in the new context based on the results of qualitative studies.

Based on the results of the qualitative studies, we develop new instruments to measure the routes to ownership constructs. We use a multi-stage iterative procedure following the approach proposed by Mackenzie et al. (2011). Mackenzie et al. (2011) developed a systematic process to develop scales for new constructs. The process including ten steps, namely, Develop a Conceptual Definition of the Construct, Generate Items to Represent the Construct, Assess the Content Validity of the Items, Formally Specify the Measurement Model, Collect Data to Conduct Pretest, Scale Purification and Refinement, Gather Data from New Sample and Reexamine Scale Properties,



Assess Scale Validity, Cross-Validate the Scale, and Develop Norms for the Scale. We use this process to guarantee the quality of our new scales.

As for the main study, we use a survey for data collection. Answering the call for a more diverse sample frame in privacy research (Bélanger and Crossler, 2011), we use online survey to collect data. The main data collection was implemented on the SurveyMonkey platform. Participants were recruited from China. The participants were randomly selected from the SNSs users. We used Sina Weibo, one of the largest SNSs in China as our target SNS platform. The procedure is summarized in Table 3.

TABLE 3 Scale Development Procedure

Steps	Procedures
Develop a Conceptual Definition of the Construct	<ul style="list-style-type: none"> <li>• We have conducted a comprehensive literature review of previous theoretical and empirical research on psychological ownership theory to examine how the focal construct has been used in prior research.</li> <li>• We specified the nature of the construct's conceptual domain: Entity = Users of Social Media; General property = the feeling or perception of the users of Social Media.</li> <li>• Based on the literature review and interviews with the users of social media, we identified three psychological roots that will influence the emergence of psychological ownership in social media. All of them are unidimensional constructs that are stable over time.</li> <li>• We modified the definitions to fit the current context.</li> </ul>
Generate Items to Represent the Construct	Based on the literature review and interviews, we generated a preliminary items list for the three psychological routes to the psychological ownership in Social Media.
Assess the Content Validity of the Items	<p>We used two types of sorting technology to assess the content validity for the items.</p> <ul style="list-style-type: none"> <li>• First, we provided construct definitions to the raters. Then, the raters used 3 likert-scale to evaluate to what extent the items fit the definition: 1 Not at all, 2 To some extent, and 3 To a great extent. The problematic items are revised.</li> <li>• Second, we randomized the items and asked raters to sort items into the three construct categories. Then we calculated the qualitative assessment of convergent and discriminant validity of the items via Cohen's Kappa.</li> </ul>
Formally Specify the Measurement Model	All the three psychological routes are reflective constructs.

Collect Data to Conduct Pretest	We have conducted a pilot study with 43 SNSs users in China.
Scale Purification and Refinement	Based on the results of the pilot study. We evaluated the goodness of fit of the measurement model, assessed the validity of the set of indicators at the construct level, assessed reliability of the set of indicators at the construct level, evaluated individual indicator validity and reliability, and then, eliminated problematic indicators.
Gather Data from New Sample and Reexamine Scale Properties	We conducted another pilot study in Finland.
Assess Scale Validity	We used the nomological network (the research model) to assess the scale validity.

All research constructs are measured using multi-item scales (see Table 4). All constructs are reflective. Specifically, scales for privacy concern are adapted from Malhotra et al. (2004) and Smith et al. (1996). Scales for psychological ownership are adapted from Van Dyne and Pierce (2004). All items are revised to fit the context of SNSs. Seven-point scales, anchored with “1 = strongly disagree” and “7 = strongly agree”, are used.

TABLE 4 Scales

Construct	Items
Psychological Ownership (PO)	1 I feel my profile space on Weibo is MINE. 2 I feel a very high degree of personal ownership for my profile space on Weibo. 3 I feel like my profile space on Weibo is my personal property.
Privacy Concern (PC)	1 I am concerned that the information I share on Weibo could be misused. 2 I am concerned that a person can find private information about me on Weibo. 3 I am concerned about sharing information on Weibo, because of what others might do with it.
Perceived Autonomy (PA)	1 I feel I can decide who can access my posts on Weibo 2 I feel I can post what I would like to share in my profile space on Weibo. 3 I feel I can decide the layout of my profile page on Weibo.
Perceived Similarity (PS)	1 I feel the contents I post on my Weibo profile space can reflect my values in reality. 2 I feel the opinions I share on my Weibo profile space are very similar to the opinions I have in offline world. 3 I feel the posts on my Weibo profile space can reflect my real identity.

Perceived Investment (PI)	<p>1 I feel I spent a lot of time in maintaining my Weibo profile space.</p> <p>2 I feel I spent a lot of effort on the post in my Weibo profile space.</p> <p>3 I feel I spent a lot of energy to reply the comments of the posts in my Weibo profile space.</p>
---------------------------	---

#### 2.4.2 Study Context and Sample

The approach we take in empirically testing our proposed theoretical constructs and research model is an online survey among SNSs users in China. Given our research interest in SNS and the popularity of websites, we choose Sina Weibo as the target SNS. Sina Weibo is a Chinese microblogging website. Akin to a hybrid of Twitter and Facebook, it is one of the most popular sites in China with more than 600 million users by the end of 2013. The Alexa rank is the 15<sup>th</sup> in August, 2015. In general, our participants have intensive use of the website and a good knowledge about the website. The data was collected in two waves to avoid common method bias problem. Our final sample size is 126.

TABLE 5 Sample Demographics

Demographics		Mean	S.D.
Gender	Male 35.71%	1.64	0.48
	Female 64.29%		
Age		35.67	4.65
Internet Experience		14.07	3.28
Microblogging Experiences		3.93	1.45

## 2.5 Results

We used structural equation modeling in SmartPLS 3.1.6 (Ringle et al. 2014) using a bootstrap resampling procedure of 5000 subsamples (Hair et al. 2011) to estimate both the measurement model and the structural model. PLS-SEM is particularly suitable for analyzing complex models such as ours (Hair et al. 2011, Henseler et al. 2014b). PLS is more flexible and more appropriate for exploratory study aiming at finding new theory or extending current literature to new context (Gefen et al. 2000). Considering the newness of our theoretical development we selected PLS for data analysis.

### 2.5.1 Measurement Model

Table 6 shows results of the measurement model and Table 7 presents summary statistics. For all constructs, we assessed internal consistency and convergent validity by examining item loading, average variance extracted (AVE),

Composite Reliability, and Cronbach's Alpha. Our measurement model has passed various tests for validity and reliability as described by Hair et al. (2010, 2011, 2012). Convergent validity is established for a construct if the average variance extracted (AVE) is above 0.5 (Fornell and Larcker 1981); all constructs surpass this criterion (Table 4). Further, all items have a loading above 0.707 (Table 5) on their respective constructs (Table 7). Scale reliability was assessed through composite reliability and Cronbach's Alpha (Table 7); and both were higher than 0.7 for each of our constructs. Support for discriminant validity was provided by the fact that (a) all items loaded higher on their respective constructs than on the other constructs and the cross-loading differences were much higher than the suggested threshold of 0.1 (Gefen and Straub 2005); (b) the correlation matrix in Table 6 shows that, for each pair of constructs, the absolute value of their correlation is below the square root of AVE of each construct, (Fornell and Larcker 1981); and (c) the heterotrait-monotrait ratio of correlations (HTMT)6 results in Table 9 show that none of the HTMT criteria are greater than 0.85 (Henseler et al. 2014a). This additional analysis offered complementary support for discriminant validity. Together the above results suggest good measurement properties.

TABLE 6 Summary Statistics and Inter-Construct Correlations

Constructs	Mean (S.D.)	Correlation Matrix							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) PO	5.51 (1.06)	.83							
(2) PC	4.17 (1.37)	.60	.92						
(3) PA	4.22 (1.46)	.60	.22	.83					
(4) PS	4.62 (1.46)	.63	.60	.59	.85				
(5) PI	4.93 (1.28)	.24	.34	.03	.16	.88			
(6) Age	36.06 (5.01)	.03	.33	.16	.17	-.02	n.a.		
(7) Gender	1.63 (0.49)	.08	-.31	.10	-.11	-.08	-.05	n.a.	
(8) Experiences	13.85 (2.98)	-.32	-.10	-.12	-.04	-.03	.23	-.29	n.a.

Note: The diagonal elements represent the square root of the AVE.  
 PO = Psychological Ownership, PC = Privacy Concern, PA = Perceived Autonomy,  
 PS = Perceived Similarity, PI = Perceived Investment

TABLE 7 Measurement Model Results

Constructs	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Psychological Ownership	PO1	0.916	0.771	0.869	0.689
	PO2	0.765			
	PO3	0.803			
Privacy Concern	PC1	0.884	0.905	0.940	0.840
	PC2	0.921			
	PC3	0.942			
Perceived Autonomy	PA1	0.880	0.778	0.872	0.695
	PA2	0.755			
	PA3	0.862			
Perceived Similarity	PS1	0.924	0.810	0.886	0.724
	PS2	0.883			
	PS3	0.733			
Perceived Investment	PI1	0.900	0.854	0.909	0.770
	PI2	0.910			
	PI3	0.820			

TABLE 8 Loadings and Crossloadings

	Perceived Autonomy	Perceived Similarity	Perceived Investment	Privacy Concern	Psychological Ownership
PA1	<b>0.880</b>	-0.087	0.512	0.195	0.533
PA2	<b>0.755</b>	0.123	0.500	0.167	0.470
PA3	<b>0.862</b>	0.053	0.455	0.186	0.485
PS1	0.076	<b>0.900</b>	0.208	0.299	0.232
PS2	0.038	<b>0.910</b>	0.145	0.327	0.223
PS3	-0.072	<b>0.820</b>	0.018	0.272	0.143
PI1	0.584	0.152	<b>0.924</b>	0.687	0.683
PI2	0.438	0.149	<b>0.883</b>	0.473	0.454
PI3	0.451	0.090	<b>0.733</b>	0.248	0.392
PC1	0.169	0.289	0.467	<b>0.884</b>	0.508
PC3	0.193	0.280	0.578	<b>0.921</b>	0.536
PC4	0.236	0.369	0.572	<b>0.942</b>	0.589
PO2	0.496	0.268	0.582	0.581	<b>0.916</b>
PO3	0.592	0.076	0.507	0.376	<b>0.765</b>
PO4	0.402	0.229	0.466	0.516	<b>0.803</b>

**Note:** PO = Psychological Ownership, PC = Privacy Concern, PA = Perceived Autonomy, PS = Perceived Similarity, PI = Perceived Investment

TABLE 9 Heterotrait-Monotrait Ratio (HTMT) Results

	1	2	3	4	5
Perceived Autonomy	0.830				
Perceived Similarity	0.027	0.850			
Perceived Investment	0.727	0.161	0.880		
Privacy Concern	0.259	0.385	0.639	0.920	
Psychological Ownership	0.774	0.275	0.758	0.708	0.830

## 2.5.2 SEM Results

With an adequate measurement model in place, the structural model is tested. To test for the significance of path coefficients, we run a bootstrap analysis with 5000 samples and calculate the t-statistics. The resulting model explains a significant amount of variance in the dependent and mediating variables. Figure 5 presents the standardized path coefficients and the explained construct variances.

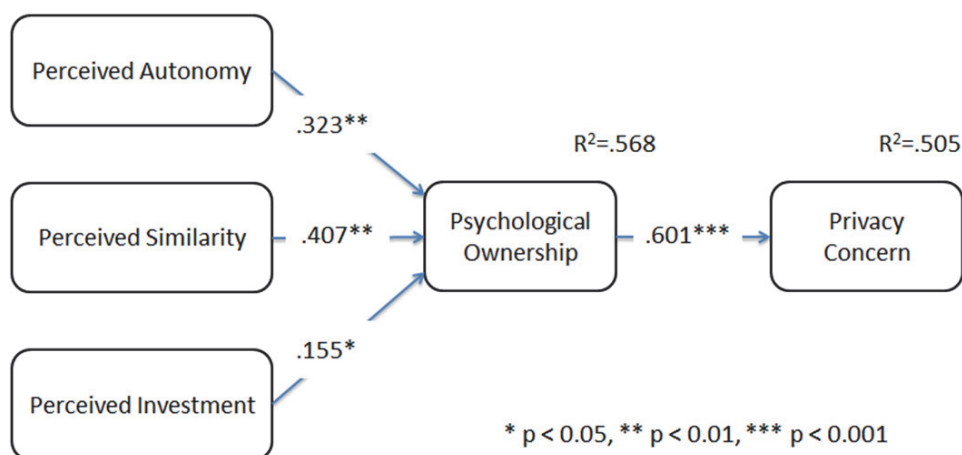


FIGURE 5 PLS Results

The feeling of psychological ownership can explain 50.5% of the variance in SNSs users' privacy concerns. The three routes together explain 56.8% of the variance in psychological ownership. H1, H2, H3, and H4 are supported by the empirical results. Higher level of psychological ownership leads to higher concerns on SNSs users' privacy. As expected, the perceived autonomy, perceived similarity, and perceived investment as three routes to psychological ownership in the context of SNSs can help users to develop a feeling of psychological ownership toward their virtual properties on SNSs. Finally, the influences from the control variables, e.g., age, gender and Internet experiences, on SNSs users' privacy concerns are not significant. Further, as suggested by Hair et al. (2011, 2014), we tested the predictive relevance of all the endogenous

construct in the model by using blindfolding to obtain cross-validated redundancy measures for each construct. All  $Q^2$  values are larger than zero indicating that the exogenous constructs have predictive relevance for the endogenous construct under consideration.

## 2.6 Implications for Research and Practice

In this paper, drawing on psychological ownership theory, we proposed a model to predict social media users' privacy concerns. Specifically, we argue that once the user developed a feeling of psychological ownership toward his or her virtual properties on social media platforms, he or she will have a concern over the potential threats of the online privacy. Further, we identified three psychological roots through which people can generate the feeling of psychological ownership. New scales were developed to conduct the empirical study. The results support our research model.

### 2.6.1 Theoretical Contributions

The theoretical contribution of this research is three-fold. First of all, by introducing a new theory, psychological ownership theory, to the current phenomena, we integrate the value based and cognitive based definition of privacy together to investigate SNSs users' online privacy issues. Second, we identified three routes to the psychological ownership and develop new instruments for the three routes in the context of SNSs. Third, we empirically verified that SNSs users' privacy concern is a consequence of their psychological ownership toward the virtual territory.

First, with the proliferation of SNSs, how to protect individual users' online privacy becomes a critical question for both government and service providers. In order to protect SNSs users' online privacy and therefore encourage them to share more, we need to understand what the privacy is in the context of SNS first. Due to the complexity of the concept of privacy in nature, there are various approaches to define privacy in different disciplines. For example, it could be either value-based or cognate-based (Smith et al. 2011). On the one hand, the value-based definition views privacy as a human right integral to society's moral value system. On the other hand, instead of seeking a clear boundary between private and public, psychologists and cognitive scientists are interested in producing a cognate-based conceptualization of general privacy related to the individual's mind, perceptions, and cognition rather than to an absolute moral value or norm (e.g. Hong and Thong 2013, Malhortra et al. 2004, Smith et al. 1996, Westin 1967).

As we discussed in previous sections, both approaches have its advantages and disadvantages. To fill those gaps mentioned earlier, in this study, we combined these two perspectives (value-based and cognate-based) together by introducing psychological ownership theory. Similar to value-based defini-

tional approach, we will identify the boundary between the private and public areas. However, following the cognate-based definitional approach, we would like to argue that the construction of the boundary is related to people's minds, perceptions, and cognitions. Specifically, drawing on psychological ownership theory we identified a psychological boundary that separate private spaces from public and therefor define an individual user's online privacy.

Second, while privacy is intensively discussed, the research on the antecedents of privacy concerns is not sufficient (Smith et al. 2011). In this study, we have identified three psychological routes to psychological ownership that can influence SNSs users' privacy concern. Pierce et al. (2001, 2003) theorizes that there are three major experiences through which psychological ownership can emerge. The experiences are context dependent. Therefore, in the current context, by conducting qualitative and quantitative studies, we modified the original definitions and developed new routes to fit the context of SNS. The three routes are: perceived autonomy, perceived similarity and perceived investment.

Third, we develop and empirically validate measurement scales for the new constructs. The scale provided a foundation for the future studies on privacy in the context of online social networks.

### **2.6.2 Practical Contributions**

In terms of practical contribution, we hope the results can provide guidelines for the managers to discuss the different aspects of users' privacy in their services. Our study can remind the vendors of SNSs that psychological ownership toward the virtual territory in SNSs may also have negative effects. Users may choose to close their territory or stopping sharing due to the high degree of privacy concern. Functions need to be developed for users to manage their own online social networks. The new scales may also be used by the service provider to evaluate their users' privacy concern with respect to the service.

## **2.7 Conclusions**

The objective of this study is two-fold: (1) to identify how people define privacy in the context of SNSs, and (2) to identify the antecedents of SNSs users' privacy concerns.

Drawing of the psychological ownership theory, we argue that people have online privacy in the context of SNSs once they developed a feeling of psychological ownership toward the virtual properties on SNS. We also identified and tested a model with three routes that can help people to develop psychological ownership and therefore lead to privacy concerns on SNSs. The proposed research model was supported by the empirical results. In conclusion, our paper enriches our understanding of users' privacy concerns in the context of SNSs.



### **3 INFORMATION SHARING ON BLOGS**

Social network sites (SNS) provide a new platform on which people can share opinions, knowledge, experiences, and emotions, among many other things. Quite often, the information shared is private and sensitive. In Study 1 of this thesis, we have investigated the phenomena from individual user's perspective. However, we would like to argue that since in SNSs, the main activities are interpersonal, it is necessary to investigate the issue from interpersonal perspective as well. Specifically, in this study, we explore how SNSs users, particularly bloggers, perceive privacy concerns in the online social network embedded in a SNS platform. Drawing on multidimensional development theory (MDT) we identify factors that can influence SNSs users' privacy concerns: environmental factors, self-ego factors, and interpersonal factors. Our findings indicate that perceived strength of social ties and previous privacy experiences, but not website privacy statements, have significant effects on SNSs users' information privacy concerns.

#### **3.1 Introduction**

Social networking sites (SNS) such as Facebook and MySpace allow their users to build or join online communities to communicate and exchange information with each other with similar interests, identities, and activity participation. Very often, the information that users shared with their audiences looks very sensitive and private. As we had discussed in the first study of this thesis, in the information era, such kind of information can be misused easily. Taking blog as an example, bloggers write online diaries in a digital format that can be easily copied, transmitted, and integrated through the Internet, which seems contradictory to the fact that not very long ago, most people writing a paper diary would keep it secret from others. We already knew that, in Internet, while we learn things about the people in our world, they learn about us as well. From our peers' profile pages on Facebook, we know when they leave town and

how long they will be gone. We know if they come into money. We see pictures of their kids, their families, their cars, their vacations, and their homes. We learn about their vulnerabilities. We learn about their drinking and drug use, and even crimes. The lack of control of the dissemination of the sensitive information mentioned earlier will lead to serious problems, especially when one's circumstances change. There have been many instances in which individuals have been fired from their jobs or arrested after using their blogs to confess to having committed crimes. A search of headlines on newspaper about the blogosphere reveals stories of people fired for blogging about their jobs (Perez 2005, Twist 2004), admitting to the crimes they had committed (Healy 2007), confessing to attacking others, and admitting to affairs and betrayals (Bailey 2004). Additionally, many bloggers post information and photos on their blogs without considering the possible repercussions if prospective employers view these spaces (Lewis 2006). Overall, while the users enjoy the opportunity to share and learn, their online privacy is endangered. Then, the question posed here is what is it that makes the users of social media share information that potentially threatens their privacy? To put it in another way, what influences their information privacy concerns?

Although concerns about information privacy have been well studied and cited as one of the major barriers to the success of electronic commerce (e-commerce) websites (e.g., Dinev and Hart 2006, Hoffman et al. 1999), it is not appropriate to simply apply the findings in e-commerce context to the context of social networking websites directly. E-commerce websites and social networking websites have very different attributes in nature. An e-commerce website is typically set up to facilitate monetary transactions between a merchant and its users. In contrast, a SNS, such as Facebook is developed to create a virtual area in which users can share information without any economic benefit to the users. In the context of e-commerce, users are required to give out personal information such as name, credit card number and home address when purchasing products online, which is done in a passive manner. In contrast, users of SNSs voluntarily share information with others, and actively provide substantial information on their habits, family and preferences to their audiences. Research on information privacy in the context of e-commerce mainly focuses on the usage and dissemination of static information, such as name, address, financial information and occupation. However, SNSs users intentionally or unintentionally disclose both static and dynamic information in their virtual spaces, such as their daily activities, opinions, preferences and emotions. Online consumers on e-commerce sites seek to protect their privacy from merchants alone, whereas the information privacy concerns of SNSs users relate to a vast audience that is both known and unknown. Thus, an investigation of individual SNS user's information privacy concerns when sharing information on the platform offered by the SNS vendor is timely and necessary.

The objective of this study is to identify the important determinants of information privacy concerns in the context of blogs, which are a typical kind of SNS. Some studies have found that blogs have more in common with diaries

than with independent journalism, and claim that popular and celebrity blogs are not representative of blogs in general (Herring et al. 2005, Papacharissi 2004). Diary-type blogs attract ordinary people, in that they offer a platform for information sharing, entertainment, self-expression, and social interaction (Papacharissi 2002). To narrow the scope of this research, we focus on ordinary bloggers who write diary-like blogs and their concerns about protecting their privacy in relation to their readers.

A conceptual model is developed to capture the sociological factors that influence bloggers' information privacy concerns based on social network theory and the multidimensional theory of privacy.

In the following chapter, we present the theoretical background. The research model and hypotheses are developed in Chapter 3.2. Chapter 3.3 describes our empirical studies and Chapter 3.4 presents the results. Chapter 3.5 concludes.

## **3.2 Theoretical Background**

### **3.2.1 Information Privacy**

The concept of privacy is very complex. Due to the complexity of the privacy concept, there is no common agreement on the definition of "privacy" in the literature (Joinson 2001, Yao et al. 2007). In general, privacy is legally deemed as "a right to be let alone" (Warren and Brandeis 1890). As pointed out by Smith et al. (2011), there are two problems for this definition. First, there is a need to define general privacy in a more specifically manner than define it as the "right to be left alone" simply. Second, the state of the protector of general privacy is not clear (Smith et al. 2011). To solve these problems, some researchers argued that privacy is not an absolute right but is subject to the economic principles of cost-benefit analysis and trade-off (Bennett 1995, Cohen 2001, Campbell and Carlson 2002, Davies 1997). From the perspective of psychology, Westin (1967) links secrecy and privacy, defining privacy as the decisions of individuals, groups, or institutions about when, how, and the extent to which information about themselves is communicated to others. Westin (1967) introduced the notion of state in the general privacy concept: "voluntary and temporary withdrawal of a person from the general society" (p. 7). Psychologists and cognitive scientists then became interested in producing a cognate-based conceptualization of general privacy-related to the individual's mind, perceptions, and cognition rather than to an absolute moral value or norm (Smith et al. 2011). The cognate-based definition has since entered the mainstream of privacy research—likely because it lends itself more readily to the attributes of information privacy—and has been further developed in the fields of information systems and marketing (Altman 1975, Culnan 1993, Kelvin 1973, Margulis 1977a, Smith et al. 1996, Westin 1967). In this study, we follow Westin's (1967) study and define information privacy concern as the control of

when, how, by whom, and to what extent information about them is communicated to others.

Privacy is a multi-dimensional concept. Some researchers define privacy by identifying its dimensions. For example, physical privacy is defined as the degree to which a person is physically accessible to others; interactional privacy is an individual's ability and effort to control social contacts; psychological privacy is the ability to control inputs and outputs and to form values, and the right to decide with whom and under what circumstances thoughts and intimate information will be shared or revealed; and informational privacy is the right to determine how, when, and the extent to which information about oneself will be revealed to others (Burgoon et al. 1989, Altman 1975, Westin 1967). Similarly, Yao (2007) identified five components of privacy in the context of new communication technologies: the spatial component, which is the separation of private and public space; the informational component, which is the protection of identity, personal information, and independent decisions; the rights or liberty component, which is the ability to protect privacy; the need component, which is the psychological desire for privacy; and the boundary management component, which is the extent to which people can control the spatial and informational aspects of their private life. Clarke (1999) has also identified four dimensions of privacy: privacy of a person, personal behavior privacy, personal communication privacy, and personal data privacy. Today, as most communications are digitized and stored as information, personal communication privacy and data privacy can be merged into the construct of information privacy (Belanger and Crossler 2011). Therefore, in this study, we focus on information privacy only.

Previous research on informational privacy was mainly conducted in the e-commerce context in the information systems literature. In general, it is agreed that, without proper management, information privacy concerns are one of the major barriers to the adoption of e-commerce platform, in that they may make online consumers reluctant to disclose information and to engage in monetary transactions on e-commerce websites (Slyke et al. 2006). In such a context, Stone et al. (1983) defined information privacy as an individual's ability to personally control information about his or herself. Malhotra et al. (2004 p. 337) defined information privacy concerns as "an individual's subjective views of fairness within the context of information privacy." Smith et al. (1996) used a one-dimensional global information privacy concern (GIPC) scale to measure individuals' concerns about information privacy. However, the GIPC scale reflects only the general level of information privacy concerns, and cannot reveal the specific dimensions of such concerns. An individual's concern about information privacy (CFIP) was defined as the general concern about how an organization collects, uses, and protects personal information (Smith et al. 1996). The CFIP construct has been modeled as a second-order multidimensional construct that consists of four dimensions (Stewart and Segars 2002): collection, unauthorized secondary use, improper access, and errors. The notion behind these dimensions is that the chief concerns of individuals about information privacy are

that too much data are collected, much of the data is inaccurate, corporations may use personal information for undisclosed purposes, and corporations may fail to protect access to personal information (Smith et al. 1996). More recent research suggests that the measurement of privacy needs to be re-examined in different consumer contexts, and that a validated scale to measure overall privacy attitudes is needed (Culnan and Armstrong 1999).

Based on the CFIP, Malhotra et al. (2004) developed the Internet Users' Information Privacy Concerns (IUIPC) construct. This measure includes the three dimensions of collection, control, and awareness of privacy practices. In the IUIPC - as in the CFIP - collection is defined as the degree to which a person is concerned about the amount of individual-specific data possessed by others relative to the value of the benefits received from providing this information (Malhotra et al. 2004). In the control dimension, an individual's concerns about information privacy center on whether he or she has control over personal information. While control is an active component of information privacy, awareness of privacy practices is a passive dimension of information privacy, and refers to the degree to which a consumer is aware of organizational information privacy practices (Malhotra et al. 2004).

As we have discussed in the previous sections, in the context of SNSs, information privacy can be conceptualized as users' concerns about when, how, and the extent to which information about themselves is communicated to their readers. We therefore focus on investigating users' information privacy concerns when they actively share information about themselves to known and unknown audiences. It is necessary to select an appropriate measurement instrument for this investigation. The CFIP reflects individuals' concerns about organizational information privacy practices and is more commonly used to examine offline or traditional direct marketing (Malhotra et al. 2004). Although Malhotra et al. (2004) claimed that the IUIPC is suitable for studying online users; they tested the instrument in the context of online marketing only. Another problem with the IUIPC is that the collection dimension seems to be unsuitable for the context of SNSs, because audiences of a blog are unlikely to request personal information from the focal bloggers before posting a comment on the blog. Further, the GIPC is context independent and can reflect the general level of information privacy concerns in our context, and is thus more suitable than the other two measures for adoption in this study of bloggers' privacy concerns.

### **3.2.2 Multidimensional Development Theory (MDT)**

Laufer and Wolfe (1977) proposed the multidimensional development theory (MDT) of privacy research, which suggests that there are three dimensions that need to be considered when conduct research in people's privacy concerns: environmental factor, self-ego factor and interpersonal factor. They claim that these three components must be taken into account to fully understand an individual's perceptions of privacy and coping strategies for privacy invasions. Specifically, the theory suggests that an individual's perceptions of privacy and coping strategies for privacy invasion in a particular situation are functions of

environmental influences, individual experience, and the other parties involved in the privacy related situations.

The environmental dimension refers to the environmental elements that can influence an individual's ability to perceive, possess, and deploy available privacy options. For example, government regulations and industry privacy relevant practices can determine how individuals perceive the potential violations of the individual's privacy and how to select the available options to protect their privacy. An individual can refer to a privacy law or corporate policy to check whether he or she has suffered from privacy invasion in a particular situation. Similarly, Culnan and Bies (2004) and Xu and Teo (2004) found that higher levels of government legislation offer better protection of personal privacy, and can thus help to ease individuals' privacy concerns. Most government legislation in this area has been a response to the concerns of individual users. Higher legislative requirements for privacy protection are usually driven by stronger concerns about privacy among individual users (Milberg et al. 2000, Singh and Hill 2003). Hence, individual users' privacy concerns will be mitigated when there are wider-ranging privacy laws or clear privacy practice in the social environment.

The self-ego dimension indicates that the characteristics and experiences of individuals can alter their concerns about privacy. The empirical results of Awad and Krishnan (2006) showed that consumers who value information transparency most are less willing to be profiled online. Previous research also suggested that individuals with previous experiences of privacy invasions are likely to have stronger privacy concerns (Smith et al. 1996) and display less intention to disclose personal information on websites (Hui et al. 2007, Malhotra et al. 2004).

The interpersonal dimension is the core of the privacy phenomenon in daily life (Wolfe and Laufer, 1974). Without the existence of other parties and social relationships with them, there would be no need for privacy or concerns about privacy invasions. The interpersonal dimension consists of two aspects: information management and interaction management. Interaction management refers to the management of the interactions between an individual and the socio-physical environment and other individuals. Information management refers to an individual's choice regarding the disclosure or non-disclosure of personal information in a particular situation. When individuals make a decision to disclose or not to disclose their personal information, then they consider the consequences. This "calculus of behavior" (Dinev and Hart 2006, Culnan and Armstrong 1999, Laufer and Wolfe 1977), presumes that individuals make a tradeoff between the benefits obtained from information disclosure and the risk of unforeseeable outcomes, such as unauthorized secondary usage of the shared information. The typical benefits obtained from information disclosure are intrinsic benefits (such as pleasure) rather than extrinsic benefits. Previous research shows that the provision of benefits increases the willingness of individuals to provide personal information (Andrade et al. 2002, Hui et al. 2007, Phelps et al. 2000), and helps to ease privacy concerns (Ward et al. 2005). Hui et

al. (2006) found that both extrinsic benefits (such as money saving and time saving) and intrinsic benefits (such as pleasure) are effective in inducing people to disclose personal information to Internet businesses. However, individuals are unwilling to provide personal information to other parties if they perceive a risk of unpleasant consequences, including unauthorized secondary usage of the shared information. Other empirical findings indicate that a higher level of perceived privacy risk is related to a higher level of Internet privacy concerns (Dinev and Hart 2006) and a lower level of intention to disclose personal information (Xu et al. 2005).

In the context of SNS, the benefit and cost of information sharing need to be investigated from interpersonal relationship perspective. SNS is a platform for social networking. Social network theory models the pattern and content of the interactions that take place between social units. In social network theory, social relationships are viewed in terms of nodes and ties. Nodes are the individual actors within networks, and ties are the relationships between actors. The strength of ties construct is primarily concerned with the nature of the relational bonds between two or more social actors and the effect of these bonds on their information-sharing activities (Uzzi 1999). Social network theory uses "tie types" to identify the types of exchanges or relationships that occur between the actors in a network (Granovetter 1973). Granovetter (1973) and Marsden and Campbell (1997) classified the relationships between social actors as either strong or weak ties. The strength of social tie will influence individuals' calculus of behavior on information sharing.

### 3.3 Hypothesis Development

Based on the multidimensional development theory (MDT), the model proposed here includes environmental factors, self-ego factors, and interpersonal factors as important predictors of the information privacy concerns of bloggers. Specifically, in the current context, we would like to argue that website privacy statement represents the environmental dimension and previous privacy experiences represents self-ego dimension. The interpersonal dimension is the most crucial elements in the current context. In line with the social network theory, we use perceived strength of ties to represent the interpersonal dimension in the model. Figure. 6 illustrates the research model.

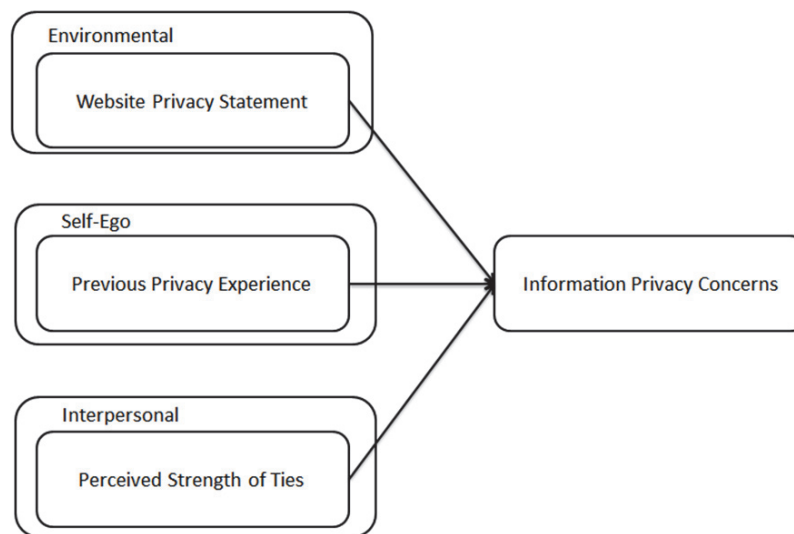


FIGURE 6 Research Model.

### 3.3.1 Environmental Dimension

In terms of environmental factors, SNS and e-commerce websites share some similarities. For both type of websites, it is essential to be aware of how to mitigate the information privacy concerns of individual users. In this case, the findings in e-commerce research can be applied to the current context directly. Previous studies identified that e-commerce websites have adopted various mechanisms to achieve the goal, such as the inclusion of privacy policy statements (Resnick and Montania 2003, Turner and Dasgupta 2003) and the adoption of privacy seals (Hui et al. 2007, Singh and Hill 2003). It is generally agreed that, there are likely to be fewer information privacy concerns among individual users about e-commerce websites that display privacy policy statements. We follow previous findings and propose the following hypothesis.

- H1 Bloggers' awareness of privacy statements on blog website are negatively related to their information privacy concerns.

### 3.3.2 Self-ego Dimension

In terms of self-ego dimension, previous empirical results are inconclusive regarding the effects of previous privacy experiences on the individual's information privacy concerns (Awad and Krishnan 2006). Some empirical results show a significant relationship between previous privacy invasions experiences and the current information privacy concerns (Culnan and Armstrong 1999). Despite this, previous experience of privacy invasion is generally proposed to be positively correlated with privacy concerns (Smith et al. 1996). If an individual has suffered from privacy invasion before, then he or



she will be more likely to develop a higher level of general concerns about information privacy. This leads to the following hypothesis.

- H2 Bloggers' previous privacy invasion experiences are positively related to their current information privacy concerns.

### 3.3.3 Interpersonal Dimension

According to Granovetter (1973), strong ties are distinct from weak ties in terms of social network structure and networking motivation. The structure of a social tie is described by the degree of information redundancy among peers, whereas motivation is measured by the degree of emotional closeness and reciprocity among actors. In other words, the strength of social tie can be measured by the degree of information redundancy and the degree of emotional closeness and reciprocity among social network actors.

Information redundancy is broadly viewed as the degree of information overlapping between two or more social actors (Burt 1992). Overlapping knowledge is the product of social actors sharing equivalent structural positions in which they are exposed to similar types of information. For example, Uzzi (1999) found that within the banking industry, a firm's access to information about loan opportunities and market prices is facilitated by having a network of loosely connected, non-redundant, arm's length ties with small business lenders. This finding indicates that information is more likely to flow among social actors that have different sets of contacts or ties with a low degree of information redundancy. These contacts or ties are also more likely to provide access to novel information (Hansen 1999). Thus, weak ties are more likely to afford access to non-redundant information. Whereas information redundancy focuses on the degree of overlap in the information base, relational embeddedness is defined as the degree of reciprocity and closeness among social actors (Granovetter 1973), and is concerned with the quality of a relationship.

Blogs have a special social relevance because they allow bloggers to create and maintain a network of weak social ties. Rooted in social network theory, this study captures the interpersonal dimension of privacy concerns from the perspective of ties. Relations between bloggers and their readers can be perceived as either strong or weak ties. Previous research has shown that bloggers tend to make assumptions about their anonymous readers, and usually presume these unknown readers to be good and unlikely to harm them (Vigas 2005). Acquisti and Gross (2006) analyze the impact of privacy concerns on the behavior of members of online social networks such as Myspace and found that the privacy concerns of individuals are only a weak predictor of their membership of these networks. We thus argue that the strength of ties between bloggers and readers tends to be generally perceived by bloggers to be weaker than it really is. Bloggers may ignore those lurking in the shadows and with whom they actually form "strong ties" in their offline life. For example, when bloggers describe something that relates to their work, they may be careful in their wording if they know that their boss is one of their readers. However, if their boss

does not leave comments and never lets them know that they read the blog, then the bloggers may misperceive the strong tie of that reader as a weak tie and therefore have less privacy concerns.

As strength of ties is measured by two dimensions - information redundancy and relational embeddedness - we further analyze the relationship between bloggers' perceptions of tie strength and their information privacy concerns separately. As a blog is a loosely connected network, it is convenient way of sharing share information with others. Research (Constant et al. 1996) has shown that information is easier to disseminate through weak ties. Hsu and Lin (Hsu and Lin 2008) investigated the acceptance of blog usage and found that knowledge-sharing factors (altruism and reputation) significantly influence the attitude toward using blog and thus the intention to use blog. Bloggers value knowledge-sharing with readers and may gain more attention through weak ties, as the information redundancy with weak-tie readers is low and it is easier to provide them with new information.

According to Nardi et al. (2004), bloggers write "journals" to document their life and use the platform as an "outlet" for thoughts and feelings. Thus, the content of blog entries is very personal. As we previously mentioned, bloggers tend to assume that unknown readers are moral. If a reader is close to a blogger emotionally, then the blogger will care more about how that reader perceives the information that is posted (Vigas 2005). That is to say, if the relational embeddedness between a blogger and a reader is high, then the blogger will be more careful about what is said to maintain the closeness of the relationship and therefore has a higher level of privacy concern.

According to the MDT, individuals display "calculus behavior", that is, when individuals make a decision to disclose or not to disclose personal information, they consider the consequences. If a blogger perceives the average tie strength with readers to be weak, then he or she will gain more attention due the lower information redundancy, and runs less of a risk of jeopardizing the relationships with readers. With more "benefit" and less "risk", the blogger will be less concerned about information privacy. In contrast, if a blogger perceives the average tie strength to be strong, which means that the blogger generally shares a high level of common information with readers and maintains close relationships with them, there will be less new information to share and the blogger will be more concerned with maintaining relationships with his or her posts. Anonymity is a special case in which the tie strength is zero. Previous research in computer-mediated communication suggests that anonymity may lead to fewer concerns about privacy and a higher level of self-disclosure (Joinson 2001). Based on this argument, we propose the following hypothesis.

- H3 Bloggers' perception of the strength of social ties among the readers is positively related to their current information privacy concerns.

## 3.4 Methodology

### 3.4.1 Study

In order to verify our theory, we conducted an empirical study among university students in Hong Kong. Their ages ranged from 18 to 27 years. To guarantee the appropriateness of the sample frame, a pretest to obtain information on the general usage of blogs was conducted among 106 participants before the main study. The results showed that 75% of students possessed a personal blog and 97% of them updated their blogs at least once every three months.

### 3.4.2 Scales

A questionnaire was developed to collect the data from the participants. To guarantee the content validity of the questionnaire, the content, scope, and purpose of each item was reviewed by an expert panel before the survey was conducted. Several small-scale pretests, including face-to-face interviews, were also conducted to enhance the psychometric properties of the measurement scales. In the main study, participants were asked to voluntarily join the survey. Student ID card numbers were recorded to avoid multiple submissions. A total of 225 students participated in the survey. Participants who did not own a blog were eliminated from the study, giving a final sample size of 177. Bloggers aged between 18 and 20 years old comprised about 53.4% of the sample, those aged 21 to 23 about 33.5%, and other ages about 13.1%. About 56% of the participants were male. The average Internet experience of the participants was 7.34 years. The average blog usage time was about 3.64 years. About 60.1% of them updated their blog at least once a week.

The measurement items in the questionnaire were developed based on a comprehensive review of the literature and on expert opinions. Items that had been tested in previous research were used as much as possible. As explained before, the GIPC developed by Smith et al. (1996) was deemed most suitable for social networking websites, and thus fit the context of blog websites. We thus adapted the GIPC to measure the information privacy concerns of bloggers as regards their readers. Superficially, six items were used (see Table 10). The three items used to measure previous privacy experience were also adapted from Smith et al. (1996). Strength of ties was constructed as a second-order construct measured by the two sub-dimensions: information redundancy and relational embeddedness. The items used to measure perceived tie strength between bloggers and readers were adapted from the measure of Rindfleisch and Moorman (2001). Information redundancy and relational embeddedness were each measured by four items and their overall scores calculated by adding each of the individual item scores together, where lower scores represented weaker ties and higher scores indicated stronger ties. Seven-point scales were used for all other the construct measures.

TABLE 10 Scales

Construct	Items
Global Information Privacy Concern (GIPC)	<ol style="list-style-type: none"> <li>1. All things considered, the Internet would cause serious privacy problems.</li> <li>2. Compared to others, I am more sensitive about the way online blog readers handle my personal information.</li> <li>3. To me, it is the most important thing to keep my privacy intact from online blog readers.</li> <li>4. I believe other people are too much concerned with online privacy issues.</li> <li>5. Compared with other subjects on my mind, personal privacy is very important.</li> <li>6. I'm concerned about threats to my personal privacy today.</li> </ol>
Website Privacy Statement (WPS)	I am aware of the privacy statement of the Blog website.
Previous Privacy Experience (PPE)	<ol style="list-style-type: none"> <li>1. How often have you personally experienced incidents whereby your personal information was used by some service provider or e-commerce website without your authorization?</li> <li>2. How often have you personally been the victim of what you felt was an improper invasion of privacy?</li> <li>3. How much have you heard or read during the last year about the use and potential misuse of consumer's personal information without consumer's authorization by some service provider or e-commerce website?</li> </ol>
Relational Embeddedness (RE)	<ol style="list-style-type: none"> <li>1. I feel indebted to my blog readers for what they have done for me.</li> <li>2. I share close social relations with my blog readers.</li> <li>3. The relationship with my blog readers can be defined as "mutually gratifying."</li> <li>4. I expect that I will keep my blog readers keep reading my blog in future.</li> </ol>
Knowledge Redundancy (KR)	<ol style="list-style-type: none"> <li>1. My blog readers have similar knowledge to me.</li> <li>2. My blog readers have complementary new knowledge for me.</li> <li>3. My blog readers have similar experiences to me.</li> <li>4. My blog readers have similar background to me.</li> </ol>

### 3.5 Results

We used structural equation modeling in SmartPLS 3.1.6 (Ringle et al. 2014) using a bootstrap resampling procedure of 5000 subsamples (Hair et al. 2011) to estimate both the measurement model and the structural model. The PLS method was selected because it uses component-based estimation, maximizes the variance explained by the dependent variable, does not require multivariate normality of the data, and is less demanding of sample size (Chin 1998). Compared with covariance-based structural models, the PLS method is more flexible and more appropriate for exploratory studies that aim to forge new theories or extend the current literature to new contexts (David 2000).

#### 3.5.1 Measurement Model

Each construct in the measurement model was modeled to be reflective, except for tie strength, which was modeled as a second-order formative construct. The descriptive statistics for the model are shown in Table 11. For all constructs, we assessed internal consistency and convergent validity by examining item loading, average variance extracted (AVE), Composite Reliability, and Cronbach's Alpha. Our measurement model has passed various tests for validity and reliability as described by Hair et al. (2010, 2011, 2012). Convergent validity is established for a construct if the average variance extracted (AVE) is above 0.5 (Fornell and Larcker 1981); all constructs surpass this criterion (Table 11). Further, all items have a loading above 0.707 (Table 13) on their respective constructs. The item loadings were higher than 0.782. Scale reliability was assessed through composite reliability and Cronbach's Alpha (Table 9); and both were higher than 0.896 for each of our constructs. Support for discriminant validity was provided by the fact that (a) all items loaded higher on their respective constructs than on the other constructs and the cross-loading differences were much higher than the suggested threshold of 0.1 (Gefen and Straub 2005); (b) the correlation matrix in Table 12 shows that, for each pair of constructs, the absolute value of their correlation is below the square root of AVE of each construct, (Fornell and Larcker 1981); and (c) the heterotrait-monotrait ratio of correlations (HTMT)6 results in Table 14 show that none of the HTMT criteria are greater than 0.85 (Henseler et al. 2014). This additional analysis offered complementary support for discriminant validity. Together the above results suggest good measurement properties.

TABLE 11 Descriptive Statistics

Construct	Mean (STD)	Composite Reliability	Cronbach's Alpha	AVE
Information Privacy Concern	4.33 (1.25)	0.948	0.934	0.754
Knowledge Redundancy	4.21 (1.13)	0.926	0.894	0.759
Relational Embeddedness	4.42 (1.05)	0.926	0.896	0.760
Previous Privacy Experience	3.64 (1.53)	0.961	0.940	0.892
Website Privacy Statement	4.90 (1.23)	1	1	1

TABLE 12 Correlation Matrix for the Principal

Constructs	1	2	3	4	5
1 Previous Privacy Experience	0.945				
2 Knowledge Redundancy	0.267	0.871			
3 Information Privacy Concern	0.411	0.582	0.868		
4 Relational Embeddedness	0.326	0.499	0.624	0.872	
5 Website Privacy Statement	-0.279	-0.420	-0.454	-0.684	1

TABLE 13 Loadings and Crossloadings

	GIPC	WPS	PPE	RE	KR
GIPC1	0.891	-0.468	0.387	0.550	0.568
GIPC2	0.873	-0.401	0.387	0.577	0.476
GIPC3	0.881	-0.309	0.339	0.495	0.425
GIPC4	0.810	-0.562	0.332	0.587	0.555
GIPC5	0.915	-0.337	0.372	0.605	0.506
GIPC6	0.836	-0.244	0.311	0.400	0.485
WPS	-0.454	1.000	-0.279	-0.684	-0.420
PPE1	0.389	-0.274	0.965	0.313	0.212
PPE2	0.434	-0.351	0.967	0.331	0.301
PPE 3	0.330	-0.138	0.901	0.273	0.237
RE1	0.364	-0.521	0.242	0.782	0.322
RE2	0.545	-0.554	0.174	0.874	0.472
RE3	0.501	-0.651	0.271	0.926	0.394
RE4	0.682	-0.644	0.410	0.897	0.506
KR1	0.497	-0.409	0.289	0.425	0.887
KR2	0.404	-0.229	0.079	0.296	0.803
KR3	0.607	-0.460	0.300	0.523	0.922
KR4	0.491	-0.326	0.222	0.460	0.868

Notes: GIPC = Global Information Privacy Concern (GIPC), WPC = Website Privacy Statement, PPE = Previous Privacy Experience, RE = Relational Embeddedness, KR = Knowledge Redundancy

TABLE 14 Heterotrait-Monotrait Ratio (HTMT) Results

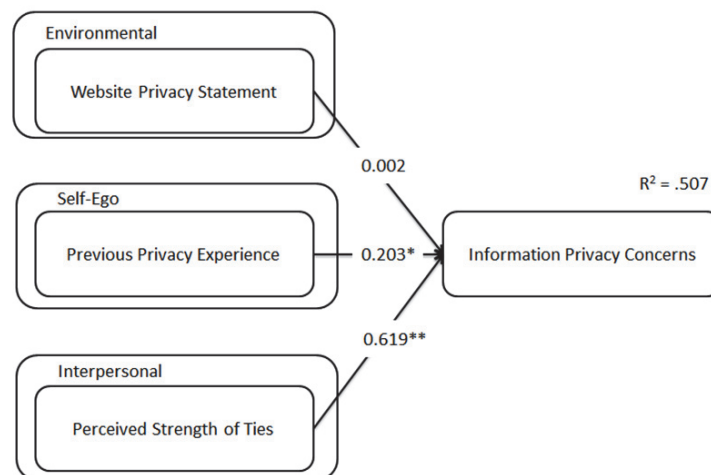
	GIPC	WPS	PPE	RE	PR
GIPC	0.868				
WPS	-0.461	1			
PPE	0.432	-0.278	0.945		
RE	0.648	-0.717	0.341	0.872	
KR	0.625	-0.432	0.277	0.532	0.871

Notes: GIPC = Global Information Privacy Concern (GIPC), WPC = Website Privacy Statement, PPE = Previous Privacy Experience, RE = Relational Embeddedness, KR = Knowledge Redundancy

### 3.5.2 SEM Results

With an adequate measurement model in place, the structural model is tested. To test for the significance of path coefficients, we run a bootstrap analysis with 5000 samples and calculate the t-statistics. The resulting model explains a significant amount of variance in the dependent and mediating variables. Figure 7 presents the standardized path coefficients and the explained construct variances.

The PLS path coefficients are shown in Figure 7. For a clearer exposition, the item loadings of each construct are omitted. The results showed that perceived strength of ties and previous privacy experience had significant effects on information privacy concerns ( $\beta = 0.619$ ,  $p < 0.001$ ,  $\beta = 0.203$ ,  $p < 0.01$ ), which supports hypotheses 3 and 2. These two paths together accounted for 50.7% of the variance in information privacy concerns. In contrast, the presence of a website privacy statement had no direct influence on information privacy concerns ( $0.002$ ,  $p > 0.05$ ), which indicates that hypothesis 1 was not supported.



\*\*  $P < 0.001$  \*  $P < 0.01$ , \* indicates that the path is significant.

FIGURE 7 PLS Results

## 3.6 Implications for Research and Practice

In this study, we present a multi-faceted model to investigate the factors contributing to the information privacy concerns of bloggers when they post entries onto their blogs.

### 3.6.1 Theoretical Contributions

The self-ego factor – previous privacy experience – appeared to significantly influence the information privacy concerns of bloggers. Although previous studies have not found a significant relationship between previous privacy experience and information privacy concerns in other contexts (Culnan and Armstrong 1999), the previous privacy experience of bloggers is likely to be an important factor determining their concerns about information privacy. The environmental factor – website privacy statement – was found not to significantly affect the information privacy concerns of bloggers. This result indicates that the presence of a privacy statement on blog sites does not ease bloggers' information privacy concerns. A possible explanation for this is that as social networking websites are considered to be value creation platforms for users and bloggers disseminate information about themselves at their own will, they may neglect the role of the website itself and do not think website privacy statements important. Finally, the study shows that the perceived strength of ties between bloggers and their readers significantly influences the information privacy concerns of bloggers. Bloggers seem to be more willing to share information with “strangers”, yet among these “strangers” it is likely that there are acquaintances or even readers with close relationships to the blogger. This misperception of the strength of ties with online readers explains why there have been so many cases of privacy invasion due to blogging.

### 3.6.2 Practical Contributions

This study has several implications. As has been stated, social networking websites are platforms on which users can create value voluntarily without the involvement of the service provider. However, service providers can utilize the value created by their users. Businesses and organizations are already investigating ways of taking advantage of blogs. However, the information shared by users is influenced by their information privacy concerns, and businesses and organizations need to consider this factor when looking for means to exploit the blogosphere.

Recently, the number of blogs has decreased, the reason for which remains unclear. Our study may shed some light on this phenomenon. It indicates that as more information is shared and more interactions occur between bloggers and readers, the strength of the ties between them may gradually become stronger. This may cause bloggers' concerns about information privacy to increase to the extent that they stop blogging.



### 3.7 Conclusions

In this study, we present a multi-faceted model to investigate the factors contributing to the information privacy concerns of bloggers when they post entries onto their blogs. An empirical study was conducted to verify the proposed model.

This study also has several limitations. We adopted the GIPC as the information privacy construct in this study, but this is a first-order construct that can only generally reflect bloggers' information privacy concerns without indicating the particular dimensions of those concerns. However, existing multi-dimensional constructs such as the CFIP or IUICP are not suitable for the context of social networking websites because they were developed for application to e-commerce websites, which have very different attributes. This highlights that a new multi-dimensional scale is needed to capture information concerns in relation to social networking websites.

Future research should pay more attention to the usage of blogs in relation to privacy. Motivation and purpose, domestic traits, and other psychological differences may cause variations in information privacy concerns. Clearly, people's use of blogs is a complex picture worthy of further investigation.

## **4 WHY SHARING INFORMATION IN A VIRTUAL-TEAM? A STUDY ON PROJECT -BASED IS TEAM LEARNING**

### **4.1 Introduction**

Organizations are under constant pressure to create synergies by using the resources under their control (Griffith et al. 2003). Among all factors, which can influence a firm's performance, teams and knowledge management are two areas that are often fruitful in providing increased value to the firms when they are carefully managed. Teams can increase capability, flexibility, and responsiveness (Leavitt 1996), while knowledge management is believed to be crucial to organizational performance in general (Berman et al. 2002). In today's rapidly changing business environment, an organization's ability to create and share knowledge is important for establishing and sustaining competitive advantage (Teece et al. 1997). Teams within the organization are the key building blocks of today's knowledge-based organization (Leonard and Sensiper 1998). Various forms of collaborations between team members within the organizations are considered as the foundation of project success (Moe et al. 2010).

In the knowledge-based view of the firm (Grant 1991, 1996; Spender 1996; Teece 2000), knowledge is the foundation of a firm's competitive advantage. Eventually, it will become the primary driver of a firm's value. Inherently, however, knowledge resides within individuals (Nonaka and Konno 1998) and, more specifically, in the employees who create, recognize, archive, access, and apply knowledge in carrying out their tasks. Consequently, the movement of knowledge across individual boundaries into organizational routines and practices is ultimately dependent on employees' knowledge-sharing behaviors. When knowledge sharing is limited across an organization, the likelihood increases that knowledge gaps will arise, and these gaps are likely to produce lower work outcomes (Baird and Henderson 2001).

With the introduction of social media tools, including social networking sites, blogs, wikis, and microblogs into the organization environment, teams are increasingly becoming “virtual”, in that they are often geographically dispersed and communicate via computer mediated communication tools (Jarvenpaa and Leidner 1999). The advantage of virtual team is that with the help of modern telecommunication tools, virtual team can save the operation cost of the organization. However, such teams also pose a particular challenge for knowledge coordination, as knowledge is distributed across team members (Bowers et al. 1993, Faraj and Sproull 2000, Moreland 1999).

Recent studies suggest that knowledge coordination in virtual teams is problematic due to temporal and spatial separation among team members and the use of computers as the primary means of communication tools (Cramton 2001, Griffith and Neale 2001, Hollingshead 1998b). Organizations rely on mobilizing more diverse sets of unevenly distributed knowledge resources through virtual teams, and effective knowledge sharing between members is more difficult in virtual teams than in traditional forms of organization. As a result, how to facilitate knowledge sharing within virtual team members is an important issue for organizations to improve their efficacy.

We built our theory on the top of previous studies in the context of traditional form of work team. Specifically, in the traditional form of organization, teamwork quality (TWQ) was proved to be an important antecedent of team project success (Hoegl and Gemuenden 2001). Previous studies suggested that information sharing activities can be enhanced by high level of TWQ in a work team. Therefore, in this study, we would like to investigate the effect of TWQ in the context of virtual team.

Further, depending on the work environment and organization culture, there are also other possible moderators, which could influence the relationship between TWQ and team performance. Trust, for example, can be one of them. Trust among members of virtual teams is especially important (Powell et al. 2004). Team members need to have confidence that information shared within the team is accurate and that team member providing the information is competent (Tjosvold 1984). Under the organization context, there are two types of trust, conditional trust and unconditional trust (Jones and George 1998). While conditional trust mainly depends on favorable attitude toward the outcome of the behavior, unconditional trust mainly depends on shared values and common bond among the team members. Previous studies suggested that people with high unconditional trust tend to have more communication with each other and therefore enhance the efficiency of work flow (Citera et al. 1995). The development of a shared understanding of the project is integral to team members’ successful agreement (Gray 1989). In other words, although the presence of conditional trust allows a team to work toward a common goal, the existence of unconditional trust can fundamentally change the quality of the exchange relationship and convert a group of people into a team with commitment. In the context of virtual team, the quality of personal relationships relies on the inten-

sive communication among each team members. Therefore, we would like to focus on unconditional trust in this study.

As a result, another purpose of this paper is to identify factors which can enhance unconditional trust within the virtual team and therefore moderate the relationships between TWQ and virtual team performance.

## 4.2 Theoretical Background and Hypotheses Development

### 4.2.1 Teamwork Quality

The performance of a team is affected by the quality of teamwork. Hoegl and Gemuenden (2001) develop six teamwork facets to measure the quality of the collaborations within team members: communication, coordination, balance of member contributions, mutual support, efforts, and cohesion. Communication indicates the properties of frequency, formality, straightness, and openness to exchange information among team members (Pinto et al. 1990). Coordination shows the harmonization and synchronization of team members when tasks are distributed to individual team members (Brannick et al. 1995). Balance of member contributions is a factor that detects whether or not each team member has contributed his or her specific knowledge or expertise to the team (Seers et al. 1995). In addition, during the process of the team project, many tasks are interdependent from each other. Thus, being able to provide support mutually among team members is also a critical factor to make the team more productive (Seers et al. 1995). After the workload of a project is assigned, whether or not the team member can commit to the assigned task is an indicator of the effort of the team members would like to dedicate to the team. Finally, cohesion describes how keen the team members would like to stay in the team. The degree of cohesion is affected by the sense of belonging and can therefore intensify the collaboration (Mullen et al. 1994).

The analysis from Hoegl and Gemuenden's study (2001) had confirmed that the six variables mentioned above pertain to the same latent construct and about 72% of variance is explained by the latent construct. Also, the standard regression coefficients of a linear regression between six observed variables and team quality are in high showing all six variables have similar contribution in measuring the team quality. Thus, we model team work quality (TWQ) as a second order construct with six reflective first order indicators in our model. Consistent to the previous study, we hypothesize that:

- H1 A virtual team's Team Work Quality (TWQ) is positively related to the team's performance.

Besides team's success, individual member's own achievement is also an outcome of high level of TWQ. The two constructs: satisfaction and learning, were suggested to be used to measure the personal success of each team members (Hoegl and Gemuenden 2001). High level of TWQ can lead to team members'

high level of satisfaction with their work situation and provide more opportunities for team members to acquire knowledge and skills (Campion et al. 1993, Campion et al. 1996, Pinto et al. 1993). Therefore, higher TWQ will lead to higher personal feeling of achievement. Thus, in light of these theoretical investigations, we hypothesize that:

- H2 A virtual team's Team Work Quality (TWQ) is positively related to the team member's personal success.

#### 4.2.2 Leader-Member Exchange

Although, the relationships between TWQ and team performance and personal success were well established by previous studies in the traditional organizations, the various moderators that can influence these relationships are context dependent. Thus, we would like to go a step forward to identify these factors in our research context. Among other factors, Leader-Member Exchange (LMX) and of Perceived Organizational Support (POS) were the focuses of this study.

The Leader-Member Exchange (LMX) that was originally derived from the model of leadership called Vertical Dyad Linkage (VDL) to establish a leadership theory (Dansereau et al. 1975) that commonly measures the relationship between a team leader and his or her subordinates. LMX addressed the team management issue from a relationship-based approach. It can involve many extents of the relationships such as (a) all members and their relationships in a system, (b) the interactions between members of a dyad, (c) the interdependent patterns of their behavior, (d) the sharing of outcomes, and (e) the development of conceptions of environments, cause maps, and value (Scandura et al. 1986). Thus, the theory had been considered for several levels of analysis including group-level effect, dyad-level effect and the combination of dyads into groups (Graen et al. 1995).

Scandura et al. (1999) argued that those subordinates who had high quality of LMXs were found to have high level of decision influence, regardless their superiors' rating of their expertise. Higher quality LMX resembled social exchanges in that the exchange extends beyond what is specified in the formal job description (Liden and Graen 1980, Liden et al. 1997). In other words, high level of LMX can help to foster organizational citizenship based on the commitment and trust among the team members. Because high level of trust, interaction, support, and rewards characterize higher-quality LMX, there is a perceived obligation on the part of subordinates to reciprocate this higher-quality relationship (Dienesch and Liden 1986). The behavior of team members will be guided by the common goal of the team. The unconditional trust is higher in such team. In contrast, similar to pure economic exchanges, lower-quality LMX are limited to exchanges that take place according to the employment contract. These relationships are characterized by low trust, interaction, support, and rewards (Dienesch and Liden 1986). For those people in the lower-quality LMX environment, the rating from superiors is critical. The behavior of team members

will be guided by the monetary reward instead. The trust in such team is conditional. Additionally, better LMX is also treated as respect between leader and subordinates and therefore enhance the efficacy and quality of communications between members (Qaquebeke and Eckloff 2010). LMX was also found to have positive effect on the formation of team members' common value toward the project and therefore increase the success possibility of the project (Isaac et al. 2004). To sum up, higher-quality of LMX is an indicator of higher level of unconditional trust. Thus, the quality of LMX can moderate the relationship between TWQ and team performance and personal success for a virtual team.

- H3 LMX can enhance the relationship between a virtual team's TWQ and team performance.
- H4 LMX can enhance the relationship between a virtual team's TWQ and Personal success.

#### **4.2.3 Perceived Organizational Support**

Besides LMX, a team and its member's performance may also be affected by some other factors. The internal context or culture of an organization can also influence the relationship between TWQ and team performance and personal success (Citera et al. 1995). Someone believes that when an organization values the contributions from the employees and care about their well beings, such supports can incur the commitment and subsequently increase work effort. Theory of Perceived Organizational Support (POS) basically can be used to confirm this belief. POS refers to global beliefs held by employees regarding the extent to which their organizations value their contributions and care about their well-being (Farh et al. 2007). Referring to Blau's (1964) study, the perceived organizational support would be influenced by the frequency, extremity, and judged sincerity of statements of praise and approval from the organization. It implied that employees would expect an organization to provide greater reward to match their effort toward organizational goals. This expectancy can develop positive emotional bond to the organization. The social exchange view confirms that the commitment to the organization is strongly influenced by their perception of the organization's commitment to them (Eisenberger et al. 1986). Thus, high level of POS will show the care from the organization and therefore lead to high level of commitment from the virtual team members. Therefore the relationship between TWQ and team and individual's performance can be enhanced. The virtual team with higher POS will have more commitment to the organization. It will help to build a common value between organization and team members and therefore enhance their performance.

- H5 POS can enhance the relationship between a virtual team's TWQ and team performance.

H6 POS can enhance the relationship between a virtual team's TWQ and personal success.

The research model is shown in Figure 8.

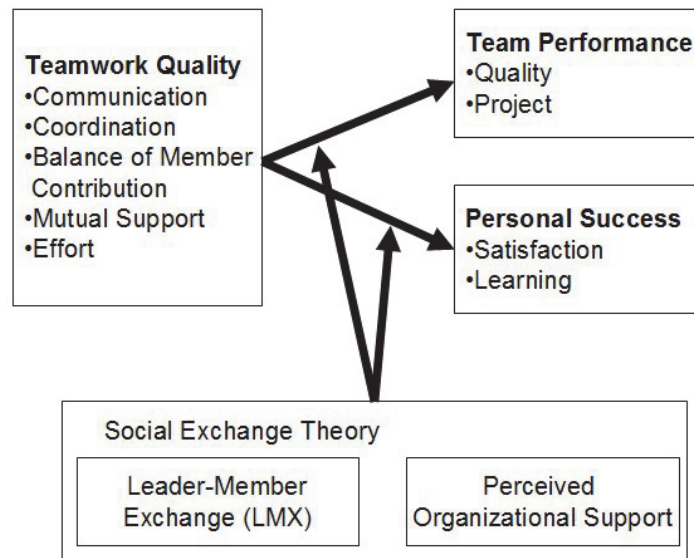


FIGURE 8 Research Model.

## 4.3 Methodology

### 4.3.1 Study

The study was conducted in a university in Hong Kong. Participants were undergraduate students who had registered in a course in business school. The course instructor was defined as the leader to all students' teams during the data collection process. Students were divided into 13 groups. Each group was asked to find a real-world project to conduct a Web-based information system project. The project lasted for the whole semester. Thus, students had chance to work with the instructor and their clients for 13 weeks. When the project was finished, students were asked to fill in a questionnaire about their teams' quality, performance, LMX, POS, and individuals' success. The course instructor evaluated the team performance as well.

### 4.3.2 Scales

We tried to adopt the existing measurement if they can be found. For LMX, we adopted Graen and Uhl-Bien's measurement (Graen and Uhl-Bien 1995) in which a single measurement with seven items is recommended. The same measurement was also used in Schriesheim et al.'s study (Schriesheim et al. 1999). The measurement of POS is adopted from Eisenberger et al.'s (1990) study that selects nine items from Survey of Perceived Organizational Support (SPOS) that was originally developed by Eisenberger et al.'s (1986). The measurements of TWQ, team performance and personal success were adopted from Hoegl and Gemuenden's study (2001). For all the items, except for some items of LMX, students were asked to indicate their degree of agreement to these items on five-point scales ranging from "strongly disagree" (1) to "strongly agree" (5).

Since team quality, team performance and personal success are three formative second-order constructs, while the moderators (LMX and POS) are reflective first-order constructs, we cannot use repeated indicators approach (Lohmöller 1989). Instead, here we use factor score approach to construct the second-order factor and analyze the model with all first-order factors instead of the second-order factors in measurement model. The psychometric properties of all order factors (CFA, discriminant validity, reliability) were assessed for the first order constructs. We then took the construct score for each first order factor. Finally, we created a new model with the construct scores as the indicators of the second order construct.

For the similar reason, we cannot create moderators by product indicator approach directly. We used two-stage approach instead. (Please refer to Chin et al. 2003 for details). We calculated construct level scores for each construct, and multiplied the construct level scores to create single indicator for interaction term.

TABLE 15 Scales

Construct		Items
Team Work Quality (TWQ)	COM	<ol style="list-style-type: none"> <li>1. There was frequent communication within the team.</li> <li>2. The team members communicated often in spontaneous meetings, phone conversations, etc.</li> <li>3. The team members communicated mostly directly and personally with each other.</li> <li>4. There were mediators through whom much communication was conducted. (R)</li> <li>5. Project-relevant information was shared openly by all team members.</li> </ol>



		<p>6. Important information was kept away from other team members in certain situations. (R)</p> <p>7. In our team there were conflicts regarding the openness of the information flow. (R)</p> <p>8. The team members were happy with the timeliness in which they received information from other team members.</p> <p>9. The team members were happy with the precision of the information received from other team members.</p> <p>10. The team members were happy with the usefulness of the information received from other team members.</p>
	COO	<p>1. The work done on subtasks within the project was closely harmonized.</p> <p>2. There were clear and fully comprehended goals for subtasks within our team.</p> <p>3. The goals for subtasks were accepted by all team members.</p> <p>4. There were conflicting interests in our team regarding subtasks/sub-goals. (R)</p>
	BMC	<p>1. The team recognized the specific potentials (strengths and weaknesses) of individual team members.</p> <p>2. The team members were contributing to the achievement of the team's goals in accordance with their specific potential.</p> <p>3. Imbalance of member contributions caused conflicts in our team. (R)</p>
	MS	<p>1. The team members helped and supported each other as best they could. If conflicts came up, they were easily and quickly resolved.</p> <p>2. Discussions and controversies were conducted constructively.</p> <p>3. Suggestions and contributions of team members were respected.</p> <p>4. Suggestions and contributions of team members were discussed and further developed.</p> <p>5. Our team was able to reach consensus regarding important issues.</p>
	EFF	<p>1. Every team member fully pushed the project.</p> <p>2. Every team member made the project their highest priority.</p> <p>3. Our team put much effort into the project.</p> <p>4. There were conflicts regarding the effort that team members put into the project. (R)</p>

	COH	<p>1. It was important to the members of our team to be part of this project. 2. The team did not see anything special in this project. (R)</p> <p>3. The team members were strongly attached to this project.</p> <p>4. The project was important to our team.</p> <p>5. All members were fully integrated in our team.</p> <p>6. There were many personal conflicts in our team. (R)</p> <p>7. There was personal attraction between the members of our team.</p> <p>8. Our team was sticking together.</p> <p>9. The members of our team felt proud to be part of the team.</p> <p>10. Every team member felt responsible for maintaining and protecting the team.</p>
Leader-Member Exchange (LMX)		<p>1. Do you usually know how satisfied your leader is with what you do? (anchored with "1 = Rarely" and "5 = Very Often")</p> <p>2. How well does your leader understand your job problems and needs? (anchored with "1 = Not a Bit" and "5 = Great Deal")</p> <p>3. How well does your leader recognize your potential? (anchored with "1 = Not at All" and "5 = Fully")</p> <p>4. Regardless of how much formal authority he/she has built into his/ her position, what are the chances that your leader would use his/ her power to help you solve problems in your work? (anchored with "1 = None" and "5 = Very High")</p> <p>5. Regardless of the amount of formal authority your leader has, what are the chances that he/she would "bail you out," at his/ her expense? (anchored with "1 = None" and "5 = Very High")</p> <p>6. I have enough confidence in my leader that I would defend and justify his/ her decision if he/she were not present to do so? (anchored with "1 = Strongly Disagree" and "5 = Strongly Agree")</p> <p>7. How would you characterize your working relationship with your leader? (anchored with "1 = Extremely Ineffective" and "5 = Extremely Effective")</p>
Perceived Organizational Support (POS)		<p>1. The organization values my contribution to its well-being.</p> <p>2. The organization strongly considers my goals and values.</p>

	<ul style="list-style-type: none"> <li>3. Help is available from the organization when I have a problem.</li> <li>4. The organization really cares about my well-being.</li> <li>5. The organization is willing to help me when I need a special favor.</li> <li>6. The organization cares about my general satisfaction at work.</li> <li>7. The organization cares about my opinions.</li> <li>8. The organization takes pride in my accomplishments at work.</li> <li>9. The organization tries to make my job as interesting as possible.</li> </ul>
Work Satisfaction (WS)	<ul style="list-style-type: none"> <li>1. After this project, I could draw a positive balance for myself overall.</li> <li>2. I have gained from the collaborative project.</li> <li>3. I would like to do this type of collaborative work again.</li> </ul>
Learning (L)	<ul style="list-style-type: none"> <li>1. I was able to acquire important know-how through this project.</li> <li>2. I see this project as a technical success.</li> <li>3. I learned important lessons from this project.</li> <li>4. Teamwork promotes me personally.</li> <li>5. Teamwork promotes me professionally.</li> </ul>
Quality (Q)	<ul style="list-style-type: none"> <li>1. Going by the results, this project can be regarded as successful.</li> <li>2. All demands of the customers have been satisfied.</li> <li>3. The project result was of high quality.</li> </ul>
Evaluation (TPE)	<ul style="list-style-type: none"> <li>1. From the company's perspective one could be satisfied with how the project progressed.</li> <li>2. Overall, the project was done in a cost-efficient way.</li> <li>3. Overall, the project was done in a time-efficient way.</li> </ul>
<p>Note: COM = Communication, COO = Coordination, BMC = Balance of Member Contributions, MS = Mutual Support, EFF = Effort, COH = Cohesion</p>	

#### 4.4 Results

We used structural equation modeling in SmartPLS 3.1.6 (Ringle et al. 2014) using a bootstrap resampling procedure of 5000 subsamples (Hair et al. 2011) to estimate both the measurement model and the structural model. It does not require multivariate normality of the data and is less demanding on sample size (Chin 1998). Compared to covariance based structural models, PLS methods are

more flexible and are more appropriate for exploratory study aiming at finding new theory or extending current literature to new context (Gefen et al. 2000). Considering that our study is exploratory and conducted in a new context, we select PLS method to implement data analysis.

#### 4.4.1 Measurement Model

For the measurement model, Teamwork Quality (TWQ) was modeled as a formative second-order construct with six reflective first-order constructs. Team Performance (TP) and Personal Success (PS) were modeled as formative second-order with two reflective first-order constructs. The two moderators, Leader-Member Exchange (LMX) and Perceived Organizational Support (POS) were modeled as reflective first-order constructs. The descriptive statistics is shown in Table 16.

TABLE 16 Descriptive Statistics

Construct	Mean (STD)	Composite Reliability	AVE	Cronbach' Alpha
COM	4.19(0.64)	0.868	0.633	0.815
COO	4.09(0.73)	0.875	0.642	0.808
BMC	4.10(0.70)	0.845	0.644	0.724
MS	4.22(0.60)	0.889	0.572	0.849
EFF	3.77(0.89)	0.881	0.713	0.795
COH	4.18(0.67)	0.923	0.633	0.901
Q	4.02(0.77)	0.865	0.683	0.761
TPE	4.33(0.76)	0.941	0.843	0.906
WS	4.09(0.73)	0.889	0.728	0.813
L	4.19(0.67)	0.898	0.691	0.898
LMX	3.48(0.53)	0.805	0.455	0.696
POS	3.51(0.85)	0.908	0.526	0.886

Note: COM = Communication, COO = Coordination, BMC = Balance of Member Contributions, MS = Mutual Support, EFF = Effort, COH = Cohesion, Q = Quality, TPE = Evaluation, WS = Work Satisfaction, L = Learning, LMX = Leader-member Exchange, POS = Perceived Organization Support

For all constructs, the internal consistency and convergent validity were evaluated by examining the item construct loading, average variance extracted (AVE), composite reliability, and Cronbach' Alpha value. Convergent and discriminant validity is inferred when the PLS indicators (1) load much higher on their hypothesized factor than on other factors (own-loadings are higher than cross-loadings), and (2) when the square root of each construct's average variance extracted (AVE) is larger than its correlations with other constructs (Chin 1998).

For individual item reliability, item loadings are higher than 0.60. The Alpha values are higher than 0.72. We also calculated item cross-loadings based on the procedure recommended for PLS (Gefen and Straub 2005). Each item

loaded higher on its principal construct than on other constructs (please see Table 18). While cross-loadings derived from this procedure will be inevitably higher than from typical exploratory factor analysis, the cross-loading differences were much higher than the suggested threshold of 0.1 (Gefen and Straub 2005). All AVE were larger than 0.53 except LMX which is 0.45. The convergent validity of all constructs except LMX was good.

TABLE 17 Correlation Matrix for Principal Constructs

	1	2	3	4	5	6	7	8	9	10	11	12
1 BMC	0.80											
2 COH	0.68	0.80										
3 COM	0.58	0.67	0.73									
4 COO	0.58	0.65	0.66	0.80								
5 EFF	0.70	0.70	0.59	0.53	0.84							
6 L	0.50	0.70	0.54	0.54	0.44	0.83						
7 LMX	0.26	0.35	0.31	0.27	0.33	0.38	0.67					
8 MS	0.68	0.75	0.65	0.69	0.58	0.65	0.30	0.76				
9 POS	0.37	0.37	0.43	0.39	0.31	0.27	0.27	0.40	0.73			
10 Q	0.51	0.60	0.55	0.52	0.43	0.64	0.36	0.59	0.54	0.83		
11 TPE	0.54	0.67	0.52	0.51	0.48	0.62	0.24	0.57	0.31	0.64	0.92	
12 WS	0.59	0.77	0.59	0.59	0.61	0.72	0.41	0.69	0.37	0.60	0.59	0.85

Note: The diagonal elements represent the square root of the AVE. For discriminant validity, diagonal elements should be larger than off-diagonal elements.  
 COM = Communication. COO = Coordination, BMC = Balance of Member Contributions, MS = Mutual Support, EFF = Effort, COH = Cohesion, Q = Quality, TPE = Evaluation, WS = Work Satisfaction, L = Learning, LMX = Leader-member Exchange, POS = Perceived Organization Support

TABLE 18 Loadings and Crossloadings

	1	2	3	4	5	6	7	8	9	10	11	12
BMC1	<b>0.798</b>	0.498	0.464	0.488	0.433	0.438	0.217	0.484	0.365	0.430	0.405	0.450
BMC2	<b>0.836</b>	0.598	0.538	0.441	0.526	0.444	0.194	0.626	0.238	0.400	0.482	0.498
BMC3	<b>0.773</b>	0.570	0.471	0.473	0.727	0.318	0.234	0.513	0.299	0.397	0.410	0.481
COH1	0.463	<b>0.662</b>	0.507	0.503	0.368	0.493	0.211	0.625	0.298	0.406	0.510	0.466
COH2	0.397	<b>0.628</b>	0.385	0.375	0.390	0.508	0.290	0.462	0.229	0.369	0.445	0.400
COH3	0.532	<b>0.828</b>	0.630	0.546	0.652	0.623	0.360	0.620	0.314	0.475	0.470	0.673
COH4	0.389	<b>0.660</b>	0.355	0.374	0.350	0.583	0.284	0.478	0.193	0.394	0.430	0.508
COH5	0.578	<b>0.805</b>	0.593	0.542	0.629	0.536	0.267	0.567	0.219	0.457	0.551	0.622
COH6	0.475	<b>0.611</b>	0.448	0.569	0.494	0.316	0.198	0.539	0.270	0.410	0.412	0.419
COH8	0.577	<b>0.813</b>	0.563	0.522	0.554	0.529	0.263	0.602	0.347	0.513	0.522	0.635
COH9	0.610	<b>0.853</b>	0.576	0.577	0.632	0.577	0.328	0.620	0.369	0.561	0.562	0.718
COH10	0.612	<b>0.846</b>	0.598	0.543	0.652	0.533	0.257	0.659	0.293	0.507	0.536	0.650
COM1	0.416	0.404	<b>0.643</b>	0.331	0.327	0.350	0.208	0.387	0.346	0.467	0.356	0.309
COM2	0.234	0.303	<b>0.505</b>	0.293	0.295	0.322	0.190	0.282	0.224	0.274	0.213	0.291
COM5	0.397	0.454	<b>0.702</b>	0.478	0.343	0.344	0.258	0.478	0.209	0.315	0.460	0.389
COM7	0.444	0.369	<b>0.502</b>	0.488	0.275	0.198	0.120	0.462	0.214	0.314	0.272	0.210
COM8	0.463	0.564	<b>0.764</b>	0.500	0.510	0.375	0.204	0.487	0.343	0.400	0.413	0.469
COM9	0.515	0.592	<b>0.823</b>	0.590	0.553	0.425	0.283	0.541	0.337	0.425	0.408	0.522
COM10	0.452	0.550	<b>0.790</b>	0.599	0.488	0.497	0.233	0.583	0.384	0.477	0.393	0.554
COO1	0.477	0.621	0.652	<b>0.829</b>	0.483	0.460	0.289	0.602	0.384	0.450	0.442	0.556
COO2	0.478	0.582	0.587	<b>0.879</b>	0.418	0.471	0.213	0.572	0.324	0.448	0.438	0.538
COO3	0.550	0.584	0.611	<b>0.877</b>	0.493	0.510	0.230	0.608	0.322	0.446	0.488	0.547
COO4	0.331	0.319	0.341	<b>0.584</b>	0.267	0.256	0.078	0.397	0.204	0.293	0.232	0.327
EFF1	0.627	0.637	0.570	0.483	<b>0.905</b>	0.403	0.292	0.542	0.285	0.416	0.466	0.579
EFF2	0.565	0.626	0.481	0.418	<b>0.881</b>	0.396	0.330	0.468	0.257	0.348	0.347	0.535
EFF4	0.575	0.539	0.430	0.453	<b>0.714</b>	0.309	0.188	0.457	0.245	0.321	0.386	0.420

L2	0.297	0.432	0.290	0.346	0.242	0.665	0.299	0.419	0.144	0.415	0.454	0.441
L3	0.383	0.547	0.358	0.398	0.305	0.820	0.287	0.542	0.215	0.506	0.494	0.622
L4	0.480	0.646	0.544	0.509	0.451	0.905	0.391	0.568	0.268	0.591	0.539	0.665
L5	0.480	0.680	0.555	0.533	0.462	0.911	0.300	0.605	0.255	0.611	0.562	0.655
LMX1	0.071	0.192	0.135	0.095	0.180	0.194	0.623	0.095	0.164	0.208	0.095	0.245
LMX2	0.170	0.269	0.196	0.288	0.258	0.288	0.779	0.286	0.181	0.211	0.174	0.307
LMX3	0.284	0.253	0.262	0.240	0.231	0.293	0.635	0.262	0.116	0.183	0.153	0.320
LMX6	0.169	0.190	0.198	0.096	0.188	0.222	0.582	0.147	0.192	0.292	0.206	0.238
LMX7	0.161	0.295	0.240	0.165	0.242	0.254	0.707	0.193	0.264	0.297	0.154	0.259
MS1	0.569	0.605	0.519	0.467	0.567	0.409	0.227	0.677	0.248	0.362	0.412	0.488
MS2	0.513	0.516	0.489	0.476	0.448	0.374	0.234	0.734	0.361	0.445	0.402	0.457
MS3	0.430	0.532	0.458	0.458	0.329	0.469	0.159	0.713	0.222	0.432	0.393	0.434
MS4	0.512	0.636	0.551	0.605	0.442	0.584	0.288	0.849	0.366	0.547	0.450	0.593
MS5	0.497	0.572	0.538	0.558	0.441	0.538	0.290	0.786	0.334	0.431	0.405	0.605
MS6	0.559	0.609	0.518	0.543	0.451	0.535	0.194	0.769	0.256	0.440	0.512	0.532
POS1	0.146	0.182	0.190	0.136	0.231	0.069	0.135	0.159	0.542	0.219	0.087	0.185
POS2	0.240	0.293	0.342	0.270	0.229	0.174	0.175	0.284	0.772	0.356	0.142	0.239
POS3	0.216	0.287	0.309	0.285	0.260	0.145	0.235	0.250	0.698	0.332	0.147	0.194
POS4	0.271	0.284	0.348	0.265	0.207	0.231	0.237	0.283	0.811	0.422	0.239	0.280
POS5	0.284	0.306	0.336	0.333	0.219	0.243	0.188	0.336	0.789	0.387	0.310	0.364
POS6	0.314	0.321	0.292	0.297	0.289	0.222	0.193	0.315	0.690	0.426	0.311	0.311
POS7	0.418	0.358	0.426	0.368	0.279	0.291	0.246	0.395	0.783	0.471	0.273	0.343
POS8	0.197	0.179	0.262	0.249	0.125	0.144	0.223	0.213	0.701	0.379	0.228	0.230
POS9	0.246	0.252	0.323	0.289	0.187	0.148	0.140	0.257	0.707	0.421	0.206	0.175
Q1	0.434	0.605	0.472	0.472	0.405	0.731	0.335	0.539	0.267	0.714	0.610	0.606
Q2	0.429	0.407	0.435	0.357	0.330	0.366	0.253	0.427	0.513	0.855	0.439	0.412
Q3	0.398	0.494	0.487	0.449	0.351	0.499	0.288	0.487	0.536	0.898	0.531	0.473
TPE1	0.510	0.622	0.463	0.464	0.492	0.542	0.233	0.529	0.285	0.589	0.924	0.520

TPE2	0.521	0.603	0.501	0.470	0.425	0.586	0.181	0.554	0.322	0.620	<b>0.953</b>	0.564
TPE3	0.452	0.592	0.504	0.484	0.407	0.573	0.236	0.478	0.258	0.551	<b>0.876</b>	0.538
WS1	0.488	0.675	0.528	0.547	0.546	0.576	0.328	0.549	0.358	0.507	0.485	<b>0.869</b>
WS2	0.593	0.723	0.498	0.533	0.570	0.718	0.330	0.653	0.271	0.518	0.573	<b>0.879</b>
WS3	0.427	0.556	0.509	0.524	0.451	0.550	0.395	0.558	0.318	0.520	0.442	<b>0.809</b>

Note: COM = Communication, COO = Coordination, BMC = Balance of Member Contributions, MS = Mutual Support, EFF = Effort, COH = Cohesion, Q = Quality, TPE = Evaluation, WS = Work Satisfaction, L = Learning, LMX = Leader-member Exchange, POS = Perceived Organization Support



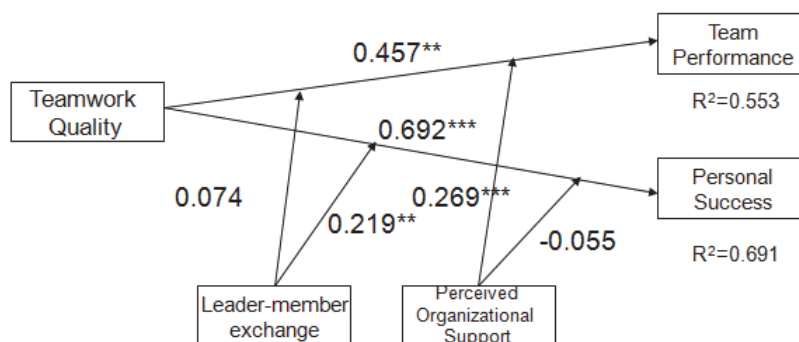
TABLE 19 Heterotrait-Monotrait Ratio (HTMT) Results

	1	2	3	4	5	6	7	8	9	10	11	12
1 BMC	.800											
2 COH	.743	.800										
3 COM	.669	.823	.730									
4 COO	.813	.767	.695	.800								
5 EFF	.903	.792	.735	.908	.840							
6 L	.905	.737	.650	.814	.867	.830						
7 LMX	.848	.682	.603	.800	.848	.918	.670					
8 MS	.956	.661	.628	.869	.913	.847	.778	.760				
9 POS	.700	.859	.748	.895	.880	.677	.668	.710	.730			
10 Q	.305	.487	.361	.486	.401	.294	.280	.347	.497	.830		
11 TPE	.904	.756	.660	.863	.905	.872	.853	.816	.777	.334	.920	
12 WS	.457	.662	.441	.431	.447	.472	.416	.413	.424	.374	.435	.850

Note: The diagonal elements represent the square root of the AVE. For discriminant validity, diagonal elements should be larger than off-diagonal elements.  
 COM = Communication. COO = Coordination, BMC = Balance of Member Contributions, MS = Mutual Support, EFF = Effort, COH = Cohesion, Q = Quality, TPE = Evaluation, WS = Work Satisfaction, L = Learning, LMX = Leader-member Exchange, POS = Perceived Organization Support

#### 4.4.2 SEM Results

The PLS path coefficients are shown in Figure 9. For better presentation, the item loadings of each construct are omitted. A bootstrap analysis was performed with 5000 subsamples. The R square for TP and IS are 0.553 and 0.691. The significant testing results were shown in the Table 20 where H1, H2, H4, and H5 are supported, but H3 and H6 are not supported.



\*\*\*P < 0.001, \*\*P < 0.001, \*P < 0.1

FIGURE 9 PLS Results

TABLE 20 Bootstrap Analysis results

Relationship	T-Statistics	P Value
LMX x TWQ -> IS	3.6480	< 0.01
LMX x TWQ-> TP	0.8487	0.237
POS x TWQ-> IS	0.7516	0.973
POS x TWQ-> TP	2.9475	< 0.001
TWQ -> IS	9.7688	< 0.001
TWQ -> TP	3.5722	< 0.1

Consistent to the previous studies on team performance, we found that TWQ has significant effects on both team performance and individual's success. The result confirmed that TWQ is a fundamental factor to team project success. The individual members can also learn from the success process and therefore enhance their own perceived achievement.

Although LMX moderated the relationship between TWQ and individual success, the moderating effect on the relationship between TWQ and team performance was not significant. This might be due to that LMX is dyad relationship between supervisor and team member. It is personal orientated and indicated the relationship between individuals. If a team member cannot feel be appreciated by his/her supervisor, the perceived achievement can be lowered. However, since the goal of the team project is clear, low LMX will not influence the whole team's performance.

POS was found to moderate the relationship between TWQ and team performance but not the relationship between TWQ and individual success. In our context, the perceived organization support was mainly from project's client. The support was offered to accomplish the project. Therefore, it was project orientated. Lack of such support will make the project process slower down. However, if the project failed in this way, the individual will perceive that the reason of failure is because the lack of support from client rather than lacking essential of himself/herself. As a result, lack of POS will not influence individual's own evaluation.

## 4.5 Implications for Research and Practice

### 4.5.1 Theoretical Contributions

This study identified two moderators, LMX and POS, for the relationship between TWQ and team and individual's success. Specifically, LMX moderated the association between TWQ and individual success while POS moderated the one between TWQ and team performance. The results had higher generalization since the students were asked to conduct real-world projects rather than a course project during data collection process.

#### **4.5.2 Practical Contributions**

Based on the results, there are some implications to industry. First, since TWQ is a fundamental factor of team project success, an organization needs to consider providing more friendly environment and organization culture to enhance TWQ. Secondly, since LMX can moderate the relationship between TWQ and individual success, a team leader should interact with members patiently to link the corporate goal to individual goal. Finally, the organizational support is always important for team members to dedicate themselves for better team performance.

#### **4.6 Conclusions**

Appropriate management of the corporations among team members is important to guarantee the teamwork quality. In this study, based on social exchange theory and trust theory, we investigated the relationship between teamwork quality and both team and individual performance. Specifically, we identified two moderators, leader-member exchange (LMX) and perceived organization support (POS), which can moderate the effect from teamwork quality to both team and individual performance. Empirical study was conducted to provide support for our model. The result indicated that LMX has significant moderation effect on the relationship between teamwork quality and individual performance. POS had significant moderation effects on the relationship between teamwork quality and team performance.

## 5 CONCLUSION

This thesis sought to understand users' information sharing activities in social media. I addressed three key research questions: 1 Why do social networking sites (SNS) users have online information privacy? 2 What are the antecedents of blog users' online information privacy concerns? And 3 Why virtual team members want to share knowledge among each other in social media platform? I conducted three studies to investigate users' information sharing activities in three types of social media applications, social networking sites, personal blogs and organization wikis.

In study 1, integrate value-based and cognate-based perspective together to explain the emergence of SNSs users' privacy concerns. Specifically, we introduce psychological ownership theory to the current phenomena and argue that people have online privacy concerns in the context of SNSs once they can develop a feeling of psychological ownership toward the virtual properties on the platform. Drawing on psychological ownership theory, we also identified and tested an empirical model with three routes that can help people to develop their psychological ownerships and therefore lead to privacy concerns on SNSs. In conclusion, our paper enriches our understanding of users' privacy concerns in the context of SNSs by introducing psychological ownership theory to define a psychological boundary between privacy space and public domain.

In study 2, we present a multi-faceted model to investigate the factors that can influence the information privacy concerns of bloggers when they post entries onto their blogs. We have included environmental factors, self-ego factors, and interpersonal factors as important predictors of the information privacy concerns in our research model. The self-ego factor - previous privacy experience - appeared to significantly influence the information privacy concerns of bloggers positively. Although previous studies have not found a significant relationship between previous privacy experience and information privacy concerns in other contexts (Culnan and Armstrong 1999), the previous privacy experience of bloggers is likely to be an important factor determining their concerns about information privacy. The environmental factor - website privacy statement - was found not to significantly affect the information privacy con-

cerns of bloggers. This result indicates that the presence of a privacy statement on blog websites does not actually ease bloggers' information privacy concerns which is a different finding from previous studies. A possible explanation for this is that as blogs are considered to be value creation platforms for bloggers to disseminate information about themselves at their own will, they may neglect the role of the website itself and do not think website privacy statements are important. Finally, the study shows that the perceived strength of social ties between bloggers and their readers significantly influences the information privacy concerns of bloggers. Bloggers seem to be more willing to share sensitive information with "strangers" due to the low level of information redundancy. However, among these "strangers" it is likely that there are acquaintances or even readers with close relationships to the blogger. This misperception of the strength of social ties with online readers provides a new explanation on why there have been so many cases of privacy invasions due to blogging.

In study 3, we proved that teamwork quality, which has been identified by studies conducted in the offline context, can also influence a virtual team's performance. Further, the study identified two moderators, leader-member exchange and perceived organization support, for the relationship between teamwork quality and team and individual's success. Specifically, leader-member exchange moderated the association between teamwork quality and individual success while perceived organization support moderated the one between teamwork quality and team performance. The results had higher generalization since the students were asked to conduct real-world projects rather than a course project during data collection process.

Overall, this thesis contributes to research on human's behaviors in social media, particularly to the information privacy and knowledge sharing issues. The findings also have implications to future research and vendors who want to either provide SNS services or launch organizational SNS platforms.

## YHTEENVETO (FINNISH SUMMARY)

### **Tiedonjakaminen sosiaalisessa mediassa**

Sosiaalisen median käyttö on yleistä. Sosiaalisen median palveluiden menestys riippuu käyttäjien halukkuudesta jakaa tietojaan keskenään ilman virallista sopimusta. Väitöskirjassa tarkastellaan sosiaalisen median käyttäjien tietojen jakamista kolmen erilaisen empiirisen tutkimuksen kautta. tutkimuksen tuovat uutta tutkimustietoa tietojen jakamiseen sosiaalisessa mediassa.

## REFERENCES

- Acquisti, A., and Gross, R. 2006. "Imagined Communities: Awareness, Information Sharing, and Privacy on the Facebook," In *Privacy enhancing technologies* (pp. 36-58). Springer Berlin Heidelberg.
- Agarwal, R., and Karahanna, E. 2000. "Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage," *MIS Quarterly* (24:4), pp. 665-694.
- Aggarwal, R., Gopal, R., Sankaranarayanan, R., and Singh P.V. 2012. "Blog, Blogger, and the Firm: Can Negative Employee Posts Lead to Positive Outcomes?" *Information Systems Research* (23:2), pp.306-332.
- Alge, B. J., Ballinger, G. A., Tangirala, S., and Oakley, J. L. 2006. "Information Privacy in Organizations: Empowering Creative and Extrarole Performance". *Journal of Applied Psychology* (91:1), pp. 221-232.
- Altman, I. 1975. *The Environment and Social Behavior*, Brooks/Cole, Monterey, 1975.
- Ameripour, A., Nicholson, B., and Newman, M., 2010. "Conviviality of Internet Social Networks: An Exploratory Study of Internet Campaigns in Iran," *Journal of Information Technology* (25), pp. 244-257.
- Anderson, C. L., and Agarwal, R. 2010. "Practicing Safe Computing: A Multimethod Empirical Examination of Home Computer User Security Behavioral Intentions," *MIS Quarterly* (34:3), pp. 613-643.
- Anderson, C. L., and Agarwal, R. 2011. "The Digitization of Healthcare: Boundary Risks, Emotion, and Consumer Willingness to Disclose Personal Health Information". *Information Systems Research* (22:3), pp. 469-490.
- Andrade, E. B., Kaltcheva, V., and Weitz, B. 2002. "Self-disclosure on the Web: The Impact of Privacy Policy, Reward, and Company Reputation," *Advances in Consumer Research* (29:1), pp.350-353.
- Animesh, A.P., Yang, S.B., and Oh, W. 2011 "An Odyssey into Virtual Words: Exploring the Impacts of Technological and Spatial Environments on Intention to Purchase Virtual Products," *MIS Quarterly* (35:3), pp.780-810.
- Arazy, O., Nov, O., Patterson, R., and Yeo, L. 2011. "Information Quality in Wikipedia: The Effects of Group Composition and Task Conflict," *Journal of Management Information Systems* (27:4), pp. 71-98.
- Awad, N. F., and Krishnan, M. S. 2006. The Personalization Privacy Paradox: An Empirical Evaluation of Information Transparency and the Willingness to Be Profiled Online for Personalization," *MIS Quarterly* 30, pp.13-28.
- Avey, J. B., Avolio, B. J., Crossley, C. D., and Luthans, F. 2009. "Psychological Ownership: Theoretical Extensions, Measurement and Relation to Work Outcomes," *Journal of Organizational Behavior* (30:2), pp. 173-191.
- Bailey, H. 2010. "A Beltway Blogger's Sex Scandal," *Newsweek*, [http://findarticles.com/p/articles/mi\\_kmnew/is\\_200406/ai\\_kepm480053](http://findarticles.com/p/articles/mi_kmnew/is_200406/ai_kepm480053), accessed on Jan 3, 2010.

- Barki, H., Pare, G., and Sicotte, C. 2008. "Linking IT Implementation and Acceptance via the Construct of Psychological Ownership of Information Technology," *Journal of Information Technology* (23), pp. 269-280.
- Bateman, P. J., Gray, P. H., and Butler, B. S. 2011. "The Impact of Community Commitment on Participation in Online Communities," *Information Systems Research* (22:4), pp. 841-854.
- Beaglehole, E. 1932. *Property: A Study in Social Psychology*. New York: Macmillan.
- Beggan, J. K. 1992. "On the Social Nature of Nonsocial Perceptions: The Mere Ownership Effect," *Journal of Personality and Social Psychology* (62:2), pp. 229-237.
- Bellman, S., Johnson, E. J., Kobrin, S. J., and Lohse, G. L. (2004). International Differences in Information Privacy Concerns: A Global Survey of Consumers. *The Information Society*, 20(5), 313-324.
- Bennett, C. J. 1995. *The Political Economy of Privacy: A Review of the Literature*, Hackensack, NJ: Center for Social and Legal Research.
- Berman, S. L., Down, J., and Hill, C. W. 2002. "Tacit Knowledge as a Source of Competitive Advantage in the National Basketball Association," *Academy of Management Journal*, 45(1), 13-31.
- Bhattacharjee, A., and Premkumar, G. 2004. "Understanding Changes in Belief and Attitude toward Information Technology Usage: A Theoretical Model and Longitudinal Test," *MIS Quarterly* (28:2), pp. 229-254.
- Blau, P. M. 1964. *Exchange and Power in Social Life*. New York: Wiley.
- Brannick, M. T., Prince, A., Prince, C., and Salas, E. "The Measurement of Team Process," *Human Factors*, 37(3), 641-651.
- Brown, G., Lawrence, T. B., and Robinson, S. L. 2005. "Territoriality in Organizations," *Academy of Management Review* (30:3), pp. 577-594.
- Buchanan, T., Paine, C., Joinson, A. N., and Reips, U. D. 2007. "Development of Measures of Online Privacy Concern and Protection for Use on the Internet". *Journal of the American Society for Information Science and Technology* (58:2), pp. 157-165.
- Burgoon, J. K., Parrott, R., LePoire, B. A., Kelley, D. L., Walther, J. B., and Perry, D. 1989. "Maintaining and Restoring Privacy through Communication in Different Types of Relationship," *Journal of Social and Personal Relationships* 6, pp.131-158.
- Burk, C. 1900. "The Collecting Instinct," *Pedagogical Seminary* (7:2), pp. 179-207.
- Burt, R. S. 1992. *Structural Holes*, Cambridge University Press, Cambridge.
- Butler, B. S., and Wang, X. 2012. "The Cross-Purposes of Cross-Posting: Boundary Reshaping Behavior in Online Discussion Communities," *Information Systems Research* (23:3), pp. 993-1010.
- Campbell, A. J. 1997. "Relationship Marketing in Consumer Markets: A Comparison of Managerial and Consumer Attitudes about Information Privacy," *Journal of Direct Marketing* 11(3), pp.44-57.
- Campion, M. A., Medsker, G. J., and Higgs, A. C. 1993. "Relations between Work Group Characteristics and Effectiveness: Implications for Designing Effective Work Groups," *Personnel Psych*, 46(4), pp. 823-850.



- Campion, M. A., Papper, B. E. M., and Medsker, G. J. 1996. "Relations between Work Team Characteristics and Effectiveness: A Replication and Extension," *Personnel Psych*, 49(2), 429-452.
- Cases, A. S., Fournier, C., Dubois, P. L., and Tanner, J. F. 2010. "Web Site Spill over to Email Campaigns: The Role of Privacy, Trust and Shoppers' Attitudes". *Journal of Business Research* (63:9), pp. 993-999.
- Castaneda, J. A., Montoso, F. J., and Luque, T. 2007. "The Dimensionality of Customer Privacy Concern on the Internet". *Online Information Review* (31:4), pp. 420-439.
- Chai, S., Das, S., and Rao, H. R. 2011. "Factors Affecting Bloggers' Knowledge Sharing: An Investigation Across Gender," *Journal of Management Information Systems* (28:3), pp. 309-341.
- Chaturvedi, A.R., Dolk, D.R., and Drnevich, P.L. 2011. "Design Principles for Virtual Worlds," *MIS Quarterly* (35:3), pp.673-684.
- Chen, J., Xu, H., and Whinston, A. B. 2011. "Moderated Online Communities and Quality of User-Generated Content," *Journal of Management Information Systems* (28:2), pp. 237-268.
- Chen, K., and Rea Jr, A. I. 2004. "Protecting Personal Information Online: A Survey of User Privacy Concerns and Control Yechniques". *The Journal of Computer Information Systems* (44:4),pp. 85-92.
- Chen, K. C., and Jang, S. J. 2010. "Motivation in Online Learning: Testing a Model of Self-determination Theory," *Computers in Human Behavior* (26:4), pp. 741-752.
- Chi, N. W., and Han, T. S. 2008. "Exploring the Linkages between Formal Ownership and Psychological Ownership for the Organization: The Mediating Role of Organizational Justice," *Journal of Occupational and Organizational Psychology* (81:4), pp. 691-711.
- Chin, .W. W., Marcolin, B. L., and Newsted, P. R. 2003. "A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion/Adoption Study," *Information Systems Research* 14(2), pp. 189-217.
- Chin, W. W. 1998. "The Partial Least Square Approach to Structural Equation Modeling," in *Modern Methods for Business Research*, G. A. Marcoulides (ed.), Mahwah, NJ: Lawrence Erlbaum, pp. 150-170.
- Citera, M., Mcneese, M. D., Brown, C. E., Selvaraj, J. A., Zaff, B. S., and Whitaker, R. D. 1995. "Fitting Information System to Collaborating Design Teams," *Journal of American Society for Information Science*, 46(7), pp. 551-559.
- Constant, D., Sproull, L., and Kiesler, S. 1996. "The Kindness of Strangers: The Usefulness of Electronic Weak Ties for Technical Advice," *Organization Science* 7(2), pp. 119-135.
- Csikszentmihalyi, M., and Rochberg-Halton, E. 1981. *The Meaning of Things*. New York: Cambridge University Press.
- Culnan, M. J. 1993. "'How Did They Get My Name?': An Exploratory Investigation of Consumer Attitudes toward Secondary Information Use". *MIS Quarterly*, pp. 341-363.

- Culnan, M.J. and Bies, R. J. 2004. "Consumer Privacy: Balancing Economic and Justice Considerations," *Journal of Social Issues* 59, pp.323-342.
- Culnan, M.J., and Armstrong, P. K. 1999. "Information Privacy Concerns, Procedural Fairness, and Impersonal Trust: An Empirical Investigation," *Organizational Science* 10, pp.104-115.
- Dansereau, F. Jr., Graen, G., and Haga, W. J. "A Vertical Dyad Linkage Approach to Leadership within Formal Organizations: A Longitudinal Investigation of the Role-making Process," *Organizational Behavior and Human Performance* 13, pp. 46-78.
- Davis, A., Khazanchi, D., Murphy, J., Ziguers, I., and Owens, D. 2009. "Avatars, People, and Virtual Worlds: Foundations for Research in Metaverses," *Journal of the Association for Information Systems* (10:2), pp. 91-117.
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., and Kornazheva, B. P. 2001. "Need Satisfaction, Motivation, and Well-being in the Work Organizations of a Former Eastern Bloc Country: A Cross-Cultural Study of Self-Determination," *Personality and Social Psychology Bulletin* (27:8), pp. 930-942.
- Dienesch, R. M., and Liden, R. C. 1986. "Leader-member Exchange Model of Leadership: A Critique and Further Development," *Academy of Management Review* 11, pp. 618-634.
- Dinev, T., and Hart, P. 2004. "Internet Privacy Concerns and Their Antecedents-measurement Validity and A Regression Model". *Behaviour & Information Technology* (23:6), pp. 413-422.
- Dinev, T., and Hart, P. 2006. "An Extended Privacy Calculus Model for e-commerce Transactions," *Information Systems Research* 17(1), pp. 61-80.
- Dittmar, H. 1992. *The Social Psychology of Material Possessions: To Have is to Be*. Hemel Hempstead, Hertfordshire: Harvester Wheatsheaf.
- Dixon, J. C., and Street, J. W. 1957. "The Distinction between Self and Not-Self in Children and Adolescents," *The Journal of Genetic Psychology* (127:2), pp. 157-162.
- Durkheim, E. 1957. *Professional Ethics and Civil Morals*. (Translated by C. Brookfield.) London: Routledge and Kegan Paul.
- Dutton, J. E., and Dukerich, J. M. 1991. "Keeping an Eye on the Mirror: Image and Identity in Organizational Adaptation," *Academy of Management Journal* (34:3), pp. 517-554.
- Dyne, L. V., and Pierce, J. L. 2004. "Psychological Ownership and Feelings of Possession: Three Field Studies Predicting Employee Attitudes and Organizational Citizenship Behavior," *Journal of Organizational Behavior* (25:4), pp. 439-459.
- Earp, J. B., Anton, A., Aiman-Smith, L., and Stufflebeam, W. H. 2005. "Examining Internet Privacy Policies within the Context of User Privacy Values". *Engineering Management, IEEE Transactions* (52:2), pp. 227-237.
- Eastlick, M. A., Lotz, S. L., and Warrington, P. 2006. "Understanding Online B-to-C Relationships: An Integrated Model of Privacy Concerns, Trust, and Commitment". *Journal of Business Research* (59:8), pp. 877-886.

- Eisenberger, R., Fasolo, P. and Davis-LaMastro, V. 1990. "Perceived Organizational Support and Employee Diligence, Commitment, and Innovation," *Journal of Applied Psychology* 75(1), pp. 51-59
- Eisenberger, R., Huntington, R., Hutchison, S., and Sowa, D. 1986. "Perceived Organizational Support," *Journal of Applied Psychology* 71, pp. 500-507.
- Ellwood, C. A. 1927. *Cultural Evolution: A Study of Social Origins and Development*. New York: Century.
- Fama, E. F., and Jensen, M. C. 1983. "Agency Problems and Residual Claims," *Journal of Law and Economics* 26, pp. 327- 349.
- Fama, E. F., and Jensen, M. C. 1983. "Separation of Ownership and Contract," *Journal of Law and Economics* 26, pp. 301-325.
- Farh, J. L., Hackett, M., and Liang, J. 2007. "Individual-level Cultural Values as Moderators of Perceived Organizational Support-Employee Outcome Relationships in China: Comparing the Effects of Power Distance and Traditionality," *Academy of Management Journal* 50(3), pp. 715-729.
- Ferguson, J., Soekijad, M., Huysman, M., and Vaast, E. 2013. "Blogging for ICT4D: Reflecting and Engaging with Peers to Build Development Discourse," *Information Systems Journal* (23:4), pp. 307-328.
- Formanek, R. 1991. "Why They Collect: Collectors Reveal Their Motivations," *Journal of Social Behavior and Personality* (6:6), pp. 275-286.
- Forte, A., Larco, V. and Bruckman, A. 2009. "Decentralization in Wikipedia Governance," *Journal of Management Information Systems* (26:1), pp. 49-72.
- Fuchs, C., Prandelli, E., and Schreier, M. 2010. "The Psychological Effects of Empowerment Strategies on Consumers' Product Demand," *Journal of Marketing* (74:1), pp. 65-79.
- Furby, L. 1978. "Possessions: Toward A Theory of Their Meaning and Function throughout the Life Cycle," In P. B. Baltes (Ed.), *Life Span Development and Behavior*, vol. 1: pp. 297- 336. New York: Academic Press.
- Gefen, D. and Straub, D. 2005. "A Practical Guide to Factorial Validity using PLS-Graph: Tutorial and Annotated Example," *Communications of the Association for Information Systems* (16:5), pp. 91-109.
- Gefen, D., Straub, D., and Boudreau, M. C. 2000. "Structural Equation Modeling and Regression: Guidelines for Research Practice," *Communications of the Association for Information Systems* 4(1), pp. 7.
- Goel, L., Johnsom, N. A., Junglas, I., and Ives, B. 2011. "From Space to Place: Predicting Users' Intention to Return to Virtual Worlds," *MIS Quarterly* (35:3), pp. 749-771.
- Goel, L., Johnsom, N. A., Junglas, I., and Ives, B. 2013. "Predicting Users' Return To Virtual Worlds: A Social Perspective," *Information Systems Journal* (23), pp. 35-63.
- Graen, G. B., and Scandura, T. A. 1987. "Toward A Psychology of Dyadic Organizing," In L. L. Cummings and B. Staw (Eds.), *Research in Organizational Behavior*, vol. 9: pp. 175-208. Greenwich, CT: JAI Press.
- Graen, G. B., and Uhl-Bien, M. 1995. "Relationship-based Approach to Leadership: Development of Leader-member Exchange (LMX) Theory of

- Leadership Over 25 Years: Applying a Multi-level Multi-domain Perspective," *Leadership Quarterly* 6, pp. 219-247.
- Graham, L. T., and Gosling, S. D. 2012. "Impressions of World of Warcraft Players' Personalities Based on Their Usernames: Interobserver Consensus But No Accuracy," *Journal of Research in Personality* (46), pp. 599-603.
- Granovetter, M. S. 1973. "The Strength of Weak Ties," *American Journal of Sociology*, pp. 1360-1380.
- Gray, B. Collaborating: Finding Common Ground for Multiparty Problems. San Francisco: Jossey Bass, 1989.
- Greguras, G. J., and Diefendorff, J. M. 2009. "Different Fits Satisfy Different Needs: Linking Person-Environment Fit to Employee Commitment and Performance Using Self-Determination Theory," *Journal of Applied Psychology* (94:2), pp. 465-471.
- Griffith, T. L., Sawyer, J. E., and Neale, M. A. 2003. "Virtualness and Knowledge in Teams: Managing the Love Triangle of Organizations, Individuals, and Information Technology," *MIS Quarterly* 27(2), pp. 265-287.
- Guardia, J. G. L., Ryan, R. M., Couchman, C. E., and Deci, E. L. 2000. "Within-Person Variation in Security of Attachment: A Self-Determination Theory Perspective on Attachment, Need Fulfillment, and Well-Being," *Journal of Personality and Social Psychology* (79:3), pp. 367-384.
- Hackman, J. R., and Oldham, G. R. 1980. *Work Redesign*. Reading, MA: Addison-Wesley.
- Hagger-Johnson, G., Egan, V., and Stillwell, D. 2011. "Are Social Networking Profiles Reliable Indicators of Sensational Interests?" *Journal of Research in Personality* (45), pp. 71-76.
- Hansen, M. T. 1999. The Search-transfer Problem: The Role of Weak Ties in Sharing Knowledge across Organization Subunits," *Administrative Science Quarterly* 44(1), pp. 82-111.
- Harper, D. 1990. "Spotlight Abuse-Save Profits," *Industrial Distribution* (79:3), pp. 47-51.
- Harris, M. M., Van Hove, G., and Lievens, F. 2003. "Privacy and Attitudes Towards Internet-based Selection Systems: A Cross-cultural Comparison". *International Journal of Selection and Assessment* (11), pp. 230-236.
- Healy, R. 2007. "Murder, They Blogged," *Time Magazine*, <http://www.time.com/time/nation/article/0,8599,1597801,00.html?cnn=yes>, accessed on Jan 3, 2010.
- Herath, T., Chen, R., Wang, J., Banjara, K., Wilbur, J., and Rao, H. R. 2014. "Security Services as Coping Mechanisms: An Investigation into User Intention to Adopt An Email Authentication Service". *Information Systems Journal* (24:1), pp. 61-84.
- Herring, S. C., Scheidt, L. A., Wright, E., and Bonus, S. 2005. "Weblogs as a Bridging Genre," *Information Technology and People* 18(2), pp. 142-171.
- Hoegl, M. and Gemuenden, H. G. 2001. "Teamwork Quality and the Success of Innovative Projects: A Theoretical Concept and Empirical Evidence," *Organization Science*, 12(4), pp. 435-449.

- Hoffman, D. L., Novak, T. P., and Peralta, M. 1999. "Building Consumer Trust Online," *Communications of the ACM* 42(4), pp. 80-85.
- Hong, W., and Thong, J. Y. 2013. "Internet Privacy Concerns: An Integrated Conceptualization and Four Empirical Studies," *MIS Quarterly* (37:1), pp. 275-298.
- Hsu, C. L., and Lin, J. C. C. 2008. "Acceptance of Blog Usage: The Roles of Technology Acceptance, Social Influence and Knowledge Sharing Motivation," *Information and Management* 45(1), pp. 65-74.
- Hui, K. L., Tan, B. C., and Goh, C. Y. 2006. "Online Information Disclosure: Motivators and Measurements," *ACM Transactions on Internet Technology (TOIT)*, 6(4), pp. 415-441.
- Hui, K. L., Teo, H. H., and Lee, S. Y. T. 2007. "The Value of Privacy Assurance: an Exploratory Field Experiment," *MIS Quarterly*, pp. 19-33.
- Joinson, A. N., and Paine, C. B. 2007. "Self-disclosure, Privacy and the Internet," In: A.N. Joinson, K.Y.A. McKenna, T. Postmes, Reips, Ulf-Dietrich(Eds.), *The Oxford Handbook of Internet Psychology*, Oxford University Press , New York, 2007, pp.235-250.
- Isaac, R. G., Wilson, L. K., and Pitt, D. C. 2004. "Value Congruence Awareness: Part 2. DNA Testing Sheds Light on Functionalism," *Journal of Business Ethics*, 54, pp. 303-315.
- James, W. 1890. *The Principles of Psychology*, New York: Holt.
- Jarvenpaa, S. L., and Majchrzak, A. 2010. "Vigilant Interaction in Knowledge Collaboration: Challenges of Online User Participation Under Ambivalence," *Information Systems Research* (21:4), pp. 773-784.
- Jenkins-Guarnieri, M.A., Wright, S.L., and Hudiburgh, L.M. 2012. "The Relationships among Attachment Style, Personality Traits, Interpersonal Competency, and Facebook Use," *Journal of Applied Developmental Psychology* (33:6), pp. 294-301.
- Konrath et al, 2011.
- Jiang, Z., Heng, C. S., and Choi, B. C. 2013. "Privacy Concerns and Privacy-Protective Behavior in Synchronous Online Social Interactions". *Information Systems Research* (24:3), pp. 579-595.
- Joinson, A. N. 2001. "Self-disclosure in Computer-mediated Communication: The Role of Self-awareness and Visual Anonymity," *European Journal of Social Psychology* 31(2), pp. 177-192.
- Jones, G. R., and George, J. M. 1998. "The Experience and Evolution of Trust: Implications for Cooperation and Teamwork," *The Academy of Management Review* 23(3), pp. 531-546.
- Kane, G. C., and Fichman, R. G. 2009. "The Shoemaker's Children: Using Wikis for Information Systems Teaching, Research, and Publication," *MIS Quarterly* (33:1), pp. 1-17.
- Kaplan, A. M., and Haenlein, M. 2010. "Users of the World, Unite! The Challenges and Opportunities of Social Media," *Business Horizons* (53:1), pp. 59-68.

- Kehr, F., Kowatsch, T., Wentzel, D., and Fleisch, E. 2015. "Blissfully Ignorant: The Effects of General Privacy Concerns, General Institutional Trust, and Affect in the Privacy Calculus". *Information Systems Journal*, Forthcoming.
- Keith, M. J., Babb, J., Lowry, P. B., Furner, C., and Abdullat, A. 2015. "The Role of Mobile-Computing Self-Efficacy in Consumer Information Disclosure". *Information Systems Journal*, Forthcoming.
- Kim, D. J. 2008. "Self-perception-based versus Transference-based Trust Determinants in Computer-mediated Transactions: A Cross-cultural Comparison Study". *Journal of Management Information Systems* (24:4), pp. 13-45.
- Kim, H. W., Chan, H. C., and Kankanhalli, A. 2012. "What Motivates People to Purchase Digital Items on Virtual Community Websites? The Desire for Online Self-Presentation," *Information Systems Research*, Articles in Advance, pp. 1-14.
- Kohler, T., Fueller, J., Matzler, K., and Stieger, D. 2011. "Co-Creation in Virtual Worlds: The Design of the User Experience," *MIS Quarterly* (35:3), pp. 773-788.
- Korgaonkar, P. K., and Wolin, L. D. (1999). A Multivariate Analysis of Web Usage. *Journal of Advertising Research*, 39, 53-68.
- Krasnova, H., Spiekermann, S., Koroleva, K., and Hildebrand, T. 2010. "Online Social Networks: Why We Disclose?" *Journal of Information Technology* (25:1), pp. 109-125.
- Kraus, M. W., Chen, S., and Keltner, D. 2011. "The Power to Be Me: Power Elevates Self-Concept Consistency and Authenticity," *Journal of Experimental Social Psychology* (47), pp. 974-980.
- Kreps, D. 2010. "My Social Networking Profile: Copy, Resemblance, or Simulacrum? A Poststructuralist Interpretation of Social Information Systems," *European Journal of Information Systems* (19), pp. 104-115.
- Lau, R. Y. K., Liao, S. S., Wong, K. F., and Chiu, D. K. W. 2012. "Web 2.0 Environmental Scanning and Adaptive Decision Support for Business Mergers and Acquisitions," *MIS Quarterly* (36:4), pp. 1239-1268.
- Laufer, R. S., and Wolfe, M. 1977. "Privacy as a Concept and a Social Issue: A Multidimensional Developmental Theory," *Journal of Social Issues* 33(3), pp. 22-42.
- Leavitt, H. J. 1996. "The Old Days, Hot Groups and Manager's Lib," *Administrative Science Quarterly* 41(2), pp. 288-300.
- Lee, Y., and Chen A.N.K. 2011. "Usability Design and Psychological Ownership of a Virtual World," *Journal of Management Information Systems* (28:3), pp.269-308.
- Lewis, D. 2006. "Job Applicants Online Musings Get a Hard look," *Boston Globe*, [http://www.boston.com/business/globe/articles/2006/03/30/job\\_applicants\\_online\\_musings\\_get\\_hard\\_look/](http://www.boston.com/business/globe/articles/2006/03/30/job_applicants_online_musings_get_hard_look/), accessed on Jan 3, 2010.
- Liden, R. C., and Graen, G.. 1980. "Generalizability of the Vertical Dyad Linkage Model of Leadership," *Academy of Management Journal* 23, pp. 451-465.

- Liden, R. C., Sparrowe, R. T., and Wayne, S. J. 1997. "Leader-member Exchange Theory: The Past and Potential for the Future," *Research in Human Resources Management* 15, pp. 47-119.
- Liu, C., Marchewka, J. T., Lu, J., and Yu, C. S. 2005. "Beyond concern-A Privacy-trust-behavioral Intention Model of Electronic Commerce". *Information & Management* (42:2), pp. 289-304.
- Locke, J. 1690. *Two Treatises of Government*. Oxford: Oxford University Press.
- Lowry, P. B., Cao, J., and Everard, A. 2011. "Privacy Concerns versus Desire for Interpersonal Awareness in Driving the Use of Self-Disclosure Technologies: The Case of Instant Messaging in Two Cultures". *Journal of Management Information Systems* (27:4), pp. 163-200.
- Lohmöller, J.B. 1989. *Latent Variable Path Modeling with Partial Least Squares*, Heidelberg.
- MacKenzie, S. B., Podsakoff, P. M., and Podsakoff, N. P. 2011. "Construct Measurement and Validation Procedures in MIS and Behavioral Research: Integrating New and Existing Techniques," *MIS Quarterly* (35:2), pp. 293-A5.
- Malhotra, N. K., Kim, S. S., and Agarwal, J. 2004. "Internet Users' Information Privacy Concerns (IUIPC): The Construct, the Scale, and a Causal Model," *Information Systems Research* (15:4), pp. 336-355.
- Marx, G. T. 2001. "Murky Conceptual Waters: The Public and the Private," *Ethics and Information Technology* (3:3), pp. 157-169.
- Marx, K. 1976. *The Marx-Engels Reader* (2nd ed.). (Edited by R. C. Tucker.) New York: Norton.
- Mayhew, M. G., Ashkanasy, N. M., Bramble, T., and Gardner, J. 2007. "A Study of the Antecedents and Consequences of Psychological Ownership in Organizational Settings," *The Journal of Social Psychology* (147:5), pp. 477-500.
- McClelland, D. 1951. *Personality*. New York: Holt, Rinehart and Winston.
- McDougall, W. 1923. (First published in 1908). *An Introduction to Social Psychology*, 18th ed. London: Methuen.
- McIntyre, N., Srivastava, A., and Fuller, J. A. 2009. "The Relationship of Locus of Control and Motives with Psychological Ownership in Organizations," *Journal of Managerial Issues* (21:3), pp. 383-401.
- Metzger, M. J. 2007. "Communication Privacy Management in Electronic Commerce". *Journal of Computer Mediated Communication* (12:2), 335-361.
- Milberg, S. J., Burke, S. J., Smith, H. J., and Kallman, E. A. 1995. "Values, Personal Information Privacy, and Regulatory Approaches". *Communications of the ACM* (38:12), pp. 65-74.
- Milberg, S. J., Smith, H. J., and Burke, S. J. 2000. "Information Privacy: Corporate Management and National Regulation," *Organization Science* 11(1), pp. 35-57.
- Moe, N, B., Dingsoyr, T., and Royrvik, E. A. 2010. "Putting Agile Teamwork to the Test -An Preliminary Instrument for Empirically Assessing and

- Improving Agile Software Development," *Journal of Business Ethics* 31, pp. 114-123.
- Mueller, J., Hutter, K., Fueller, J., and Matzler, K. 2011. "Virtual Worlds As Knowledge Management Platform - A Practice-Perspective," *Information Systems Journal* (21), pp. 479-501.
- Mullen, B., and Copper, C. 1994. "The Relation between Group Cohesiveness and Performance: An Integration," *Psych. Bull* 115(2), pp. 210-227.
- Nah, F., Eschenbrenner, B., and DeWester, D. 2011. "Enhancing Brand Equity through Flow and Telerecence: A Comparison of 2D and 3D Virtual Worlds," *MIS Quarterly* (35:3), pp.731-747.
- Nardi, B. A., Schiano, D. J., Gumbrecht, M., and Swartz, L. 2004. "Why We Blog," *Communications of the ACM*, 47(12), pp. 41-46.
- Nissenbaum, H. 1998. "Protecting Privacy in an Information Age: The Problem of Privacy in Public," *Law and Philosophy* (17:5), pp. 559-596.
- Nuttin, J. M., Jr. 1987. "Affective Consequences of Mere Ownership: The Name Letter Effect in Twelve European Languages," *European Journal of Social Psychology* (17:4), pp. 381-402.
- Papacharissi, Z. 2002. "The Self Online: The Utility of Personal Home Pages," *Journal of Broadcasting and Electronic Media* 46(3), pp. 346-368.
- Papacharissi, Z. 2004. "The Blogger Revolution? Audiences as Media Producers," In *Annual Meeting of the International Communication Association*, New Orleans, LA (Vol. 20).
- Patrick, H., Knee, C. R., Canevello, A., and Lonsbary, C. 2007. "The Role of Need Fulfillment in Relationship Functioning and Well-Being: A Self-Determination Theory Perspective," *Journal of Personality and Social Psychology* (92:3), pp. 434-457.
- Pavlou, P. A., Liang, H., and Xue, Y. 2006. "Understanding and Mitigating Uncertainty in Online Environments: A Principal-agent Perspective". *MIS Quarterly*, (31:1), pp. 105-136.
- Perez, J. C. 2005. "Three Minutes: Fired Google Blogger," *PC World*, <http://www.pcworld.com/printable/article/id,119715/printable.html>, accessed on Jan 3, 2010.
- Phelps, J., Nowak, G., and Ferrell, E. 2000. "Privacy Concerns and Consumer Willingness to Provide Personal Information," *Journal of Public Policy and Marketing*, 19(1), pp. 27-41.
- Pierce, J. L., and Jussila, I. 2010. "Collective Psychological Ownership within the Work and Organizational Context: Construct Introduction and Elaboration," *Journal of Organizational Behavior* (31:6), pp. 810-834.
- Pierce, J. L., Kostova, T., and Dirks, K. T. 2001. "Toward a Theory of Psychological Ownership in Organizations," *Academy of Management Review* (26:2), pp. 298-310.
- Pierce, J. L., Kostova, T., and Dirks, K. T. 2003. "The State of Psychological Ownership: Integrating and Extending A Century of Research," *Review of General Psychology* (7:1), pp. 84-107.



- Pierce, J. L., O'Driscoll, M. P. and Coghlan, A. 2004. "Work Environment Structure and Psychological Ownership: The Mediating Effects of Control," *The Journal of Social Psychology* (144:5), pp. 507-534.
- Pinto, M. B., and Pinto, J. K. 1990. "Project Team Communication and Cross-functional Cooperation in New Program Development," *J. Product Innovation Management* 7, 200-212.
- Pinto, M. B., Pinto, J. K., and Prescott, J. E. 1993. "Antecedents and Consequences of Project Team Cross-functional Cooperation," *Management Science* 39(10), pp. 1281-1297.
- Porteous, J. D. 1976. "Home: The Territorial Core," *Geographical Review* (66:4), pp. 383-390.
- Posey, C., Lowry, P. B., Roberts, T. L., and Ellis, T. S. 2010. "Proposing the Online Community Self-Disclosure Model: The Case of Working Professionals in France and The U.K. Who Use Online Communities," *European Journal of Information Systems* (19), pp. 181-195.
- Prelinger, E. 1959. "Extension and Structure of the Self," *The Journal of Psychology* (47:1), pp. 13-23.
- Putzke, J., Fischbach, K., Schoder, D., and Gloor, P. A. 2010. "The Evolution of Interaction Networks in Massively Multiplayer Online Games," *Journal of the Association for Information Systems* (11:2), pp. 69-94.
- Qiu, L., Lin, H., Ramsay, J., and Yang, F. 2012. "You are What You Tweet: Personality Expression and Perception on Twitter," *Journal of Research in Personality* (46), pp. 710-718.
- Ransbotham, S., and Kane, G. C. 2011. "Membership Turnover And Collaboration Success In Online Communities: Explaining Rises And Falls From Grace In Wikipedia," *MIS Quarterly* (35:3), pp. 613-627.
- Ren, Y., Harper, F. M., Drenner, S., Terveen, L., Kiesler, S., Riedl, J., and Kraut, R. E. 2012. "Building Member Attachment in Online Communities: Applying Theories of Group Identity And Interpersonal Bonds," *MIS Quarterly* (36:3), pp. 841-864.
- Resnick, M. L., and Montania, R. 2003. Perceptions of Customer Service, Information Privacy, and Product Quality from Semiotic Design Features in an Online Web Store," *International Journal of Human-computer Interaction*, 16(2), 211-234.
- Rindfleisch, A., and Moorman, C. 2001. "The Acquisition and Utilization of Information in New Product Alliances: A Strength-of-ties Perspective," *Journal of Marketing*, 65(2), pp. 1-18.
- Roquilly, C. 2011. "Control over Virtual Worlds by Game Companies: Issues and Recommendations," *MIS Quarterly* (35:3), pp. 653-671.
- Rose, E. A. 2006. "An Examination of the Concern for Information Privacy in the New Zealand Regulatory Context". *Information & Management* (43:3), pp. 322-335.
- Rosen, J. 2000. *The Unwanted Gaze: The Destruction of Privacy in America*, New York: Random House.

- Rudmin, F. W., and Berry, J. W. 1987. "Semantics of Ownership: A Free-recall Study of Property," *The Psychological Record* (37:2), pp. 257-268.
- Sartre, J. P. 1969. (First published in 1943). *Being and Nothingness: A Phenomenological Essay on Ontology*. New York: Philosophical Library.
- Saunders, S., Rutkowski, A. F., Van Genuchten, M., Vogel, G., and Orrego, J. M. 2011. "Virtual Space and Place: Theory and Test," *MIS Quarterly* (35:4), pp. 1079-1098.
- Scandura, T. A. 1999. "Rethinking Leader-Member Exchange: An Organizational Justice Perspective," *Leadership Quarterly* 10(1), pp. 125-140.
- Scandura, T. A., Graen, G. B., and Novak, M. A. 1986. "When Managers Decide Not to Decide Autocratically: An Investigation of Leader-Member Exchange and Decision Influence," *Journal of Applied Psychology* 71(4), pp. 579-584.
- Schoenbachler, D. D., and Gordon, G. L. 2002. "Trust and Customer Willingness to Provide Information in Database-driven Relationship Marketing". *Journal of Interactive Marketing* (16:3), pp. 2-16.
- Schriesheim, C. A., Stephanie L. C., and Cogliser, C. C. 1999. "Leader-Member Exchange (LMX) Research: A Comprehensive Review of Theory, Measurement, and Data-Analytic Practices," *Leadership Quarterly* 10(1), pp. 63-113.
- Schultze, U. 2010. "Embodiment and Presence in Virtual Worlds: A Review," *Journal of Information Technology* (25), pp. 434-449.
- Schultze, U., and Orlikowski, W. J. 2010. "Research Commentary-Virtual Worlds: A Performative Perspective on Globally Distributed, Immersive Work," *Information Systems Research* (21:4), pp.810-821.
- Seers, A., Petty, M. M., and Cashman, J. F. 1995. "Team-member Exchange under Team and Traditional Management: A Naturally Occurring Quasi-experiment," *Group and Organization Management* 20, pp. 18-38.
- Seder, J. P., and Oishi, S. 2009. "Ethnic/Racial Homogeneity in College Students' Facebook Friendship Networks and Subjective Well-Being," *Journal of Research in Personality* (43), pp. 438-443.
- Sheehan, K. B., and Hoy, M. G. 2000. "Dimensions of Privacy Concern among Online Consumers". *Journal of Public Policy & Marketing* (19:1), pp. 62-73.
- Sheldon, K. M., Abad, N., and Hinsch, C. 2011. "A Two-Process View of Facebook Use and Relatedness Need-Satisfaction: Disconnection Drives Use, and Connection Rewards It," *Journal of Personality and Social Psychology* (100:4), pp. 766-775.
- Sheng, H., Nah, F. F. H., and Siau, K. 2008. "An Experimental Study on Ubiquitous Commerce Adoption: Impact of Personalization and Privacy Concerns". *Journal of the Association for Information Systems* (9:6), pp. 344-376.
- Singh, T., and Hill, M. E. 2003. "Consumer Privacy and the Internet in Europe: a View from Germany," *Journal of Consumer Marketing* 20(7), pp. 634-651.
- Smith, H. J., Dinev, T., and Xu, H. 2011. "Information Privacy Research: An Interdisciplinary Review," *MIS Quarterly* (35:4), pp. 989-1016.

- Smith, H. J., Milberg, S. J., and Burke, S. J. 1996. "Information Privacy: Measuring Individuals' Concerns about Organizational Practices," *MIS Quarterly* (20:2), pp. 167-196.
- Son, J. Y., and Kim, S. S. 2008. "Internet Users' Information Privacy-protective Responses: A Taxonomy and a Nomological Model". *MIS Quarterly* (32:3), pp. 503-529.
- Stewart, K. A., and Segars, A. H. 2002. "An Empirical Examination of the Concern for Information Privacy Instrument," *Information Systems Research* 13(1), pp. 36-49.
- Stone, E. F., Gueutal, H. G., Gardner, D. G., and McClure, S. 1983. "A Field Experiment Comparing Information-privacy Values, Beliefs, and Attitudes across Several Types of Organizations," *Journal of Applied Psychology* 68(3), pp. 459.
- Suh, K. S., Kim, H., and Suh, E. K. 2011. "What if Your Avatar Looks Like You? Dual-congruity Perspectives for Avatar Use," *MIS Quarterly* (35:3), pp. 711-729.
- Sutton, R., and Callahan, A. L. 1987. "The Stigma of Bankruptcy: Spoiled Organizational Image and Its Management," *Academy of Management Journal* (30:3), pp. 405-436.
- Tang, Q., Gu, B., and Whinston, A. B. 2012. "Content Contribution for Revenue Sharing and Reputation in Social Media: A Dynamic Structural Model," *Journal of Management Information Systems* (29:2), pp. 41-75.
- Tjosvold, D. 1984. "Cooperation Theory and Organizations," *Human Relations* 37(9), pp. 743-767.
- Tjosvold, D. 1988. "Cooperative and Competitive Dynamics within and between Organizational Units," *Human Relations* 41, pp. 425-436.
- Tow, W. N. H., Dell, P., and Venable, J. 2010. "Understanding Information Disclosure Behaviour in Australian Facebook Users," *Journal of Information Technology* (25), pp. 126-136.
- Tuan, Y. 1980. "The Significance of the Artifact," *Geographical Review* (70:4), pp. 462-472.
- Tuan, Y. 1984. *Dominance and Affection: The Making of Pets*. New Haven, CT: Yale University Press.
- Turner, E. C. and Dasgupta, S. 2003. "Privacy on the Web: An Examination of User Concerns, Technology, and Implications for Business Organizations and Individuals," *Information Systems Management* 20, pp.8-19.
- Twist, J. 2004. "Blogger Grounded by Her Airline," *BBC News*, <http://news.bbc.co.uk/go/pr/fr/-/1/hi/technology/3955913.stm>, accessed on Jan 3, 2010.
- Uzzi, B. 1999. "Embeddedness in the Making of Financial Capital: How Social Relations and Networks Benefit Firms Seeking Financing," *American Sociological Review*, pp. 481-505.
- Van Dyne, L., and Pierce, J. L. 2004. "Psychological Ownership and Feelings of Possession: Three Field Studies Predicting Employee Attitudes and

- Organizational Citizenship Behavior," *Journal of Organizational Behavior* (25:4), pp. 439-459.
- Van Slyke, C., Shim, J. T., Johnson, R., and Jiang, J. J. 2006. "Concern for Information Privacy and Online Consumer Purchasing," *Journal of the Association for Information Systems* 7(1), pp. 16.
- Waggoner, A. S., Smith, E. R., and Collins, E. C. 2009. "Person Perception by Active Versus Passive Perceivers," *Journal of Experimental Social Psychology* (45), pp. 1028-1031.
- Wagner, C., and Majchrzak, A. 2006. "Enabling Customer-Centricity Using Wikis and the Wiki Way," *Journal of Management Information Systems* (23:3), pp. 17-43.
- Ward, S., Bridges, K., and Chitty, B. 2005. "Do Incentives Matter? An Examination of On-line Privacy Concerns and Willingness to Provide Personal and Financial Information," *Journal of Marketing Communications* 11(1), pp. 21-40.
- Warren, S. D., and Brandeis, L. D. 1890. "The Right to Privacy," *Harvard Law Review*, pp. 193-220.
- Wattal, S., Schuff, D., Mandviwalla, M., and Williams, C. B. 2010. "Web 2.0 and Politics: The 2008 U.S. Presidential Election and An E-Politics Research Agenda," *MIS Quarterly* (34:4), pp. 669-688.
- Weisbuch, M., Ivcevic, Z., and Ambady, N. 2009. "On Being Liked on the Web and in the "Real World": Consistency In First Impressions across Personal Webpages and Spontaneous Behavior," *Journal of Experimental Social Psychology* (45), pp. 573-576.
- Weinstein, N., and Ryan, R. M. 2010. "When Helping Helps: Autonomous Motivation for Prosocial Behavior and Its Influence on Well-Being for the Helper and Recipient," *Journal of Personality and Social Psychology* (98:2), pp. 222-244.
- Westin, A. F. 1967. *Privacy and Freedom*, New York: Atheneum.
- White, R. W. 1959. "Motivation Reconsidered: The Concept of Competence," *Psychological Review* (66:5), pp. 297-333.
- Viégas, F. B. 2005. "Bloggers' Expectations of Privacy and Accountability: An Initial Survey," *Journal of Computer-Mediated Communication* 10(3), pp. 00-00.
- Workman, M. 2007. "The Proximal-Virtual Team Continuum: A Study of Performance," *Journal of the American Society for Information Science and Technology*, 58(6), pp. 794-801.
- Xu H., Dinev T., Smith J., and Hart P. (2011). Information Privacy Concerns: Linking Individual Perceptions with Institutional Privacy Assurances. *Journal of the Association for Information Systems*, 12(12), pp. 798-824.
- Xu, H., and Teo, H. H. 2004. "Alleviating Consumers' Privacy Concerns in Location-based Services: A Psychological Control Perspective," *ICIS 2004 Proceedings*, 64.

- Xu, H., Teo, H. H., and Tan, B. 2005. "Predicting the Adoption of Location-based Services: The Role of Trust and Perceived Privacy Risk," *ICIS 2005 Proceedings*, 71.
- Xu, Z., Turel, O., and Yuan, Y. 2012. "Online Game Addiction among Adolescents: Motivation and Prevention Factors," *European Journal of Information Systems* (21), pp. 321-340.
- Yao, M. Z., Rice, R. E., and Wallis, K. 2007. "Predicting User Concerns about Online Privacy," *Journal of the American Society for Information Science and Technology* 58(5), pp. 710-722.
- Zhou, Z., Fang, Y., Vogel, D., Jin, X., and Zhang, X. 2012. "Attracted to or Locked In? Predicting Continuance Intention in Social Virtual World Services," *Journal of Management Information Systems* (29:1), pp. 273-306.
- Zhang, X., and Wang, C. 2012. "Network Positions and Contributions to Online Public Goods: The Case of Chinese Wikipedia," *Journal of Management Information Systems* (29:2), pp.11-40.
- Zviran, M. (2008). User's Perspectives on Privacy in Web-based Applications. *The Journal of Computer Information Systems*, 48(4), pp.97.

## APPENDIX

## Review of the Literature on Social Media

Study	Main Findings
Jarvenpaa and Majchrzak 2010	Vigilant interactions on social media are associated with trust asymmetry, deception (establishing partial, biased, or misleading views of oneself), and novelty.
Wattal et al. 2010	Blog mentions of candidates are significantly associated with an increase in their Gallup poll standings.
Aggarwal et al. 2012	Employees write both positive and negative things about their companies. The negative posts appear to increase the readership.
Ameripour et al. 2010	The blogosphere holds a potential to be a convivial tool, contributing to the accomplishment of conviviality in Iran.
Chai et al. 2011	Bloggers' trust, strength of social ties, and reciprocity positively influence their knowledge-sharing behavior.
Ferguson et al. 2013	Blogging plays two roles in the discourse of ICT-enabled development; i.e., bloggers (1) engage in "the cognitive process of (re)structuring experiences, existing knowledge or insights... making sense of one's own process of learning in various contexts" and (2) "can interact with their audience by trying to influence them".
Bateman et al. 2011	Users' behaviors are predicted by net benefits they obtain from the social networking sites, their affective bonds with the sites, and their sense of obligation towards using the sites.
Butler and Wang 2012	An increase in the boundary of a social-networking site (via cross-posting) attracts newcomers, while having a negative impact on member retention.
Krasnova et al. 2010	Self-disclosure increases with enjoyment and relationship building and maintenance, and decreases with perceived privacy risk.
Kreps 2010	This paper proposes a poststructuralist interpretivist lens to explore how loyally a social-networking profile can represent the essence of an individual, i.e., one's true identity.
Lau et al. 2012	This paper proposes a business intelligence system (based on social networking) that can effectively aid executives' decision making in the business context of merge and acquisition.
Posey et al. 2010	Self-disclosure increases with positive social influence, reciprocity, trust, and a tendency toward collectivism, and decreases with privacy risk beliefs.
Ren et al. 2012	Individuals' attachment to the community increases when the community enhances features to establish: (1) interpersonal bonds, or (2) group identity, i.e., making individuals feel connected to a group's character or purpose.

Tow et al. 2010	The paper reveals a list of factors related to users' information disclosure behavior.
Animesh et al. 2011	Users' flow experiences increase with their perception of telepresence (i.e., feeling of being in a remote place) and social presence (i.e., feeling of having personal, warm, close, humanizing, and emotional interactions with other users).
Chaturvedi et al. 2011	Core properties of software agents in virtual worlds include: autonomy, interactivity, spatial presence, rules of engagement, perception, memory, communication, and motion.
Davis et al. 2009	This paper proposes a framework relating outcomes of using a virtual world to user behaviors and technology capabilities of the virtual world.
Goel et al. 2011	This paper shows the process by which a virtual world becomes a place to an individual user, from the user's sensory perception and awareness of the space, to having meaningful interactions in the space, to lastly becoming attached with the place.
Goel et al. 2013	Users' flow experiences increase with social perception and social awareness. Social perception: perception of others as being in the same social context; Social awareness: understanding and interacting with each other in a social sense.
Kim et al. 2012	Users' desire for online self-presentation is an antecedent of their intention to purchase digital items.
Kohler et al. 2011	This study identifies design principles for virtual co-creation systems, including pragmatic, usability, collaborative, sociability, and hedonic.
Lee and Chen 2011	The paper reveals indicators and routes of users' state of psychological ownership, including cognitive appraisal, perceived control, affective appraisal, and self-investment, which are further attributed to usability design of a virtual world.
Mueller et al. 2011	Virtual worlds—if they are able to overcome problems like platform stability, user interface or security issues—bear the potential to serve as a knowledge management platform.
Nah et al. 2011	This paper shows that, in a virtual world, 3D technologies enhance users' telepresence and flow experiences, which, in turn, positively impact users' attitudes and beliefs about the brand associated with the social world and positively impact users' intention to engage with the brand.
Saunders et al. 2011	Virtual worlds can be characterized by features of creating "space" and "place" for users, which, in turn, determine users' perceptions of the virtual worlds (perceived ease of use and enjoyment) and experiences with the virtual worlds (social presence and focused immersion).
Schultze 2011	This paper reviews concepts and theories regarding users' presence in virtual worlds. A systematic categorization of presence in virtual worlds includes users' sense of: telepresence (being in a

	distant place), social presence, co-presence, self-presence, hyper presence (more “real” and “true” access to self in virtual than in actual settings), and eternal presence (connected all the time with others).
Schultze and Orlikowski 2010	This paper proposes a performative perspective for analyzing virtual worlds, which focuses on users’ situated and relational practices that enact entangled and contingent boundaries, entities, identities, and effects.
Suh et al. 2011	A user’s intention to use an avatar is attributable to avatar identification, which increases with avatar similarity to the user.
Zhou et al. 2012	Users’ continuance intention is determined by affective commitment and calculative commitment. Perceived utilitarian value, hedonic value, and relational capital promote affective commitment; personalization and relational capital increase calculative commitment.
Arazy et al. 2011	Information quality of Wikipedia articles is a function of contributors’ task conflict, knowledge diversity, and member orientation (i.e., administration-oriented vs. content-oriented).
Forte et al. 2009	The way Wikipedia governs its growth features decentralized decision-making in a large, self-organizing enterprise.
Kane and Fichman 2009	Wiki and other Web 2.0 tools can greatly help teaching and research and enable new ways to do that.
Ransbotham and Kane 2011	A mixture of new and experienced contributors increases the likelihood that an article will be promoted to “featured article”.
Wagner and Majchrzak 2006	Wiki can be used to enable customers to not only access but also change an organization's Web presence, creating previously unheard of opportunities for joint content development and "peer production" of Web content.
Zhang and Wang 2012	A contributor’s social position in the collaboration network on Wikipedia influences her decisions about her total contribution as well as the allocation of her efforts.
Chen et al. 2011	Moderation is a useful mechanism to improve information quality in a content community.
Tang et al. 2012	Content contribution is driven by a contributor’s desire for exposure, revenue sharing, and reputation.
Putzke et al. 2010	Players’ demographic variables and network structural effects that are active in the real world are found to influence the evolution of the players’ interaction network in virtual games.
Roquilly 2011	Game companies use contract to complement their use of copyright, codes, creativity, and community to ensure the control and development of virtual worlds.
Xu et al. 2012	Game-playing behaviors (and even addiction) are driven by needs for advancement and mastering the mechanics, for rela-



	tionship, and for escapism. The paper also shows factors for addiction prevention.
Hagger-Johnson 2011	People share personal information about their hobbies and interests online. Social networking sites enable individuals to display aspects of themselves to friends and, depending on the web site and its privacy settings, to the external world. Users of Facebook create a personal profile, where they can optionally report their age, location, and university or schools attended. Users of social networking sites openly reveal sensational interests and activities, with potentially forensic content.
Jenkins-Guarnieri et al. 2012	Initiating interpersonal relationships and developing intimacy in close relationships are two primary goals of SNS use. SNS users maintain established social connections, develop relationships, and communicate interpersonally. Facebook use may help individuals increase their connection strategies. Facebook can bring together individuals and facilitate communication between them by finding common ground based on shared interests.
Konrath et al, 2011	The growing self-interest is reflected by the meteoric rise in popularity of social networking sites such as MySpace and Twitter, by which people can broadcast their own personal information, pictures, and opinions to the online world. The physically distant online environments could functionally create a buffer between individuals, which makes it easier to ignore others' pain or even at times inflict pain on others
Kraus et al. 2011	Consistency in the self-concept across social contexts has been linked to various positive outcomes, including felt authenticity and well-being. Expressing the self regardless of changes in the context could promote the sense that one is known and understood by others. Online social websites are increasingly used as a platform people can express the self to others.
Qiu et al. 2012	Since people frequently use microblogs to record their thoughts and activities, it is reasonable to expect that an individual's microblogs will also contain their personality-related residue. Facebook profiles contain richer personal information (including self-description, status updates, and photo albums) and may provide a wider range of cues to underlying personality than tweets.
Seder and Oishi 2009	Having a more homogeneous friendship network was associated with higher life satisfaction and positive affect, as well as lower felt misunderstanding.
Waggone et al. 2009	Social networking websites are increasingly popular, and undergraduates view Facebook as useful for gathering information about friends and strangers. Impressions formed via Facebook also correlate with impressions formed during real life interaction. Perceivers judged the targets on several broad dimensions: the Big Five personality dimensions, political ideology, and de-

	gree of religiosity.
Weisbuch et al. 2009	Self-reported personality traits are reflected in personal webpages. Impressions formed from personal webpages may be based on targets' wholly deliberative or self-presentational behavior. On personal webpages, self-disclosure are described with respect to how much one talks about himself or herself, as indicated by lists of personal interests, personal activities, personal attitudes, and the like. Social expressivity is described with respect to displays of sociable interactivity, as through posting of photo albums and contacting others ("friends").
Graham and Gosling 2012	Features of the usernames have little validity, but observers used them anyway. One feature of MMORPGs is that players may engage in long-term interactions with other players whom they may never meet in person. People tend to present themselves the same online as they are seen in offline contexts.

## REFERENCES

- Aggarwal, R., Gopal, R., Sankaranarayanan, R., and Singh P.V. 2012. "Blog, Blogger, and the Firm: Can Negative Employee Posts Lead to Positive Outcomes?" *Information Systems Research* (23:2), pp.306-332.
- Ameripour, A., Nicholson, B., and Newman, M., 2010. "Conviviality of Internet Social Networks: An Exploratory Study of Internet Campaigns in Iran," *Journal of Information Technology* (25), pp. 244-257.
- Animesh, A.P., Yang, S.B., and Oh, W. 2011 "An Odyssey into Virtual Words: Exploring the Impacts of Technological and Spatial Environments on Intention to Purchase Virtual Products," *MIS Quarterly* (35:3), pp.780-810.
- Arazy, O., Nov, O., Patterson, R., and Yeo, L. 2011. "Information Quality in Wikipedia: The Effects of Group Composition and Task Conflict," *Journal of Management Information Systems* (27:4), pp. 71-98.
- Bateman, P. J., Gray, P. H., and Butler, B. S. 2011. "The Impact of Community Commitment on Participation in Online Communities," *Information Systems Research* (22:4), pp. 841-854.
- Butler, B. S., and Wang, X. 2012. "The Cross-Purposes of Cross-Posting: Boundary Reshaping Behavior in Online Discussion Communities," *Information Systems Research* (23:3), pp. 993-1010.
- Chai, S., Das, S., and Rao, H. R. 2011. "Factors Affecting Bloggers' Knowledge Sharing: An Investigation Across Gender," *Journal of Management Information Systems* (28:3), pp. 309-341.
- Chaturvedi, A.R., Dolk, D.R., and Drnevich, P.L. 2011. "Design Principles for Virtual Worlds," *MIS Quarterly* (35:3), pp.673-684.
- Chen, J., Xu, H., and Whinston, A. B. 2011. "Moderated Online Communities and Quality of User-Generated Content," *Journal of Management Information Systems* (28:2), pp. 237-268.
- Davis, A., Khazanchi, D., Murphy, J., Zigurs, I., and Owens, D. 2009. "Avatars, People, and Virtual Worlds: Foundations for Research in Metaverses," *Journal of the Association for Information Systems* (10:2), pp. 91-117.
- Ferguson, J., Soekijad, M., Huysman, M., and Vaast, E. 2013. "Blogging for ICT4D: Reflecting and Engaging with Peers to Build Development Discourse," *Information Systems Journal* (23:4), pp. 307-328.
- Forte, A., Larco, V. and Bruckman, A. 2009. "Decentralization in Wikipedia Governance," *Journal of Management Information Systems* (26:1), pp. 49-72.
- Goel, L., Johnson, N. A., Junglas, I., and Ives, B. 2011. "From Space to Place: Predicting Users' Intention to Return to Virtual Worlds," *MIS Quarterly* (35:3), pp. 749-771.
- Goel, L., Johnson, N. A., Junglas, I., and Ives, B. 2013. "Predicting Users' Return To Virtual Worlds: A Social Perspective," *Information Systems Journal* (23), pp. 35-63.
- Graham, L. T., and Gosling, S. D. 2012. "Impressions of World of Warcraft Players' Personalities Based on Their Usernames: Interobserver Consensus But No Accuracy," *Journal of Research in Personality* (46), pp. 599-603.

- Hagger-Johnson, G., Egan, V., and Stillwell, D. 2011. "Are Social Networking Profiles Reliable Indicators of Sensational Interests?" *Journal of Research in Personality* (45), pp. 71-76.
- Jarvenpaa, S. L., and Majchrzak, A. 2010. "Vigilant Interaction in Knowledge Collaboration: Challenges of Online User Participation Under Ambivalence," *Information Systems Research* (21:4), pp. 773-784.
- Jenkins-Guarnieri, M.A., Wright, S.L., and Hudiburgh, L.M. 2012. "The Relationships among Attachment Style, Personality Traits, Interpersonal Competency, and Facebook Use," *Journal of Applied Developmental Psychology* (33:6), pp. 294-301.
- Konrath et al, 2011
- Kane, G. C., and Fichman, R. G. 2009. "The Shoemaker's Children: Using Wikis for Information Systems Teaching, Research, and Publication," *MIS Quarterly* (33:1), pp. 1-17.
- Kim, H. W., Chan, H. C., and Kankanhalli, A. 2012. "What Motivates People to Purchase Digital Items on Virtual Community Websites? The Desire for Online Self-Presentation," *Information Systems Research, Articles in Advance*, pp. 1-14.
- Kohler, T., Fueller, J., Matzler, K., and Stieger, D. 2011. "Co-Creation in Virtual Worlds: The Design of the User Experience," *MIS Quarterly* (35:3), pp. 773-788.
- Krasnova, H., Spiekermann, S., Koroleva, K., and Hildebrand, T. 2010. "Online Social Networks: Why We Disclose?" *Journal of Information Technology* (25:1), pp. 109-125.
- Kraus, M. W., Chen, S., and Keltner, D. 2011. "The Power to Be Me: Power Elevates Self-Concept Consistency and Authenticity," *Journal of Experimental Social Psychology* (47), pp. 974-980.
- Kreps, D. 2010. "My Social Networking Profile: Copy, Resemblance, or Simulacrum? A Poststructuralist Interpretation of Social Information Systems," *European Journal of Information Systems* (19), pp. 104-115.
- Lau, R. Y. K., Liao, S. S., Wong, K. F., and Chiu, D. K. W. 2012. "Web 2.0 Environmental Scanning and Adaptive Decision Support for Business Mergers and Acquisitions," *MIS Quarterly* (36:4), pp. 1239-1268.
- Lee, Y., and Chen A.N.K. 2011. "Usability Design and Psychological Ownership of a Virtual World," *Journal of Management Information Systems* (28:3), pp.269-308.
- Mueller, J., Hutter, K., Fueller, J., and Matzler, K. 2011. "Virtual Worlds As Knowledge Management Platform - A Practice-Perspective," *Information Systems Journal* (21), pp. 479-501.
- Nah, F., Eschenbrenner, B., and DeWester, D. 2011. "Enhancing Brand Equity through Flow and Telerecence: A Comparison of 2D and 3D Virtual Worlds," *MIS Quarterly* (35:3), pp.731-747.
- Posey, C., Lowry, P. B., Roberts, T. L., and Ellis, T. S. 2010. "Proposing the Online Community Self-Disclosure Model: The Case of Working Professionals in France and The U.K. Who Use Online Communities," *European Journal of Information Systems* (19), pp. 181-195.

- Putzke, J., Fischbach, K., Schoder, D., and Gloor, P. A. 2010. "The Evolution of Interaction Networks in Massively Multiplayer Online Games," *Journal of the Association for Information Systems* (11:2), pp. 69-94.
- Qiu, L., Lin, H., Ramsay, J., and Yang, F. 2012. "You are What You Tweet: Personality Expression and Perception on Twitter," *Journal of Research in Personality* (46), pp. 710-718.
- Ransbotham, S., and Kane, G. C. 2011. "Membership Turnover And Collaboration Success In Online Communities: Explaining Rises And Falls From Grace In Wikipedia," *MIS Quarterly* (35:3), pp. 613-627.
- Ren, Y., Harper, F. M., Drenner, S., Terveen, L., Kiesler, S., Riedl, J., and Kraut, R. E. 2012. "Building Member Attachment in Online Communities: Applying Theories of Group Identity And Interpersonal Bonds," *MIS Quarterly* (36:3), pp. 841-864.
- Roquilly, C. 2011. "Control over Virtual Worlds by Game Companies: Issues and Recommendations," *MIS Quarterly* (35:3), pp. 653-671.
- Saunders, S., Rutkowski, A. F., Van Genuchten, M., Vogel, G., and Orrego, J. M. 2011. "Virtual Space and Place: Theory and Test," *MIS Quarterly* (35:4), pp. 1079-1098.
- Schultze, U. 2010. "Embodiment and Presence in Virtual Worlds: A Review," *Journal of Information Technology* (25), pp. 434-449.
- Schultze, U., and Orlikowski, W. J. 2010. "Research Commentary-Virtual Worlds: A Performative Perspective on Globally Distributed, Immersive Work," *Information Systems Research* (21:4), pp.810-821.
- Seder, J. P., and Oishi, S. 2009. "Ethnic/Racial Homogeneity in College Students' Facebook Friendship Networks and Subjective Well-Being," *Journal of Research in Personality* (43), pp. 438-443.
- Suh, K. S., Kim, H., and Suh, E. K. 2011. "What if Your Avatar Looks Like You? Dual-congruity Perspectives for Avatar Use," *MIS Quarterly* (35:3), pp. 711-729.
- Tang, Q., Gu, B., and Whinston, A. B. 2012. "Content Contribution for Revenue Sharing and Reputation in Social Media: A Dynamic Structural Model," *Journal of Management Information Systems* (29:2), pp. 41-75.
- Tow, W. N. H., Dell, P., and Venable, J. 2010. "Understanding Information Disclosure Behaviour in Australian Facebook Users," *Journal of Information Technology* (25), pp. 126-136.
- Waggoner, A. S., Smith, E. R., and Collins, E. C. 2009. "Person Perception by Active Versus Passive Perceivers," *Journal of Experimental Social Psychology* (45), pp. 1028-1031.
- Wagner, C., and Majchrzak, A. 2006. "Enabling Customer-Centricity Using Wikis and the Wiki Way," *Journal of Management Information Systems* (23:3), pp. 17-43.
- Wattal, S., Schuff, D., Mandviwalla, M., and Williams, C. B. 2010. "Web 2.0 and Politics: The 2008 U.S. Presidential Election and An E-Politics Research Agenda," *MIS Quarterly* (34:4), pp. 669-688.

- Weisbuch, M., Ivcevic, Z., and Ambady, N. 2009. "On Being Liked on the Web and in the "Real World": Consistency In First Impressions across Personal Webpages and Spontaneous Behavior," *Journal of Experimental Social Psychology* (45), pp. 573-576.
- Xu, Z., Turel, O., and Yuan, Y. 2012. "Online Game Addiction among Adolescents: Motivation and Prevention Factors," *European Journal of Information Systems* (21), pp. 321-340.
- Zhou, Z., Fang, Y., Vogel, D., Jin, X., and Zhang, X. 2012. "Attracted to or Locked In? Predicting Continuance Intention in Social Virtual World Services," *Journal of Management Information Systems* (29:1), pp. 273-306.
- Zhang, X., and Wang, C. 2012. "Network Positions and Contributions to Online Public Goods: The Case of Chinese Wikipedia," *Journal of Management Information Systems* (29:2), pp.11-40

