Use of Online Social Networking Services from a Theoretical Perspective of the Motivation-Participation-Performance Framework

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Abstract:

Social networking services (SNS) are platforms to form and manage personal connections and create a foundation for human relationships. Intending to identify why, how, and for what outcome users use SNS, this study contributes to the body of knowledge on SNS by analyzing how motivation, participation, and performance are related to each other in the SNS context. Drawing on a theoretical perspective of the motivation-participation-performance framework, we identify four significant why motivations (i.e., vertical social, horizontal social, hedonic, and utilitarian motivations), two main ways (how) of participation (i.e., sharing and collaboration), and two ultimate benefits (for what outcome) of SNS use (i.e., personal and job performance). The analyzed results of empirical data collected from SNS users indicate that the identified motivations significantly influence participation in sharing and collaboration activities on SNS and that SNS participation significantly affects personal and professional/job-related performance. This study contributes to theory by providing a multidimensional view of SNS use, its predictors, and its consequences.

Keywords: Online Social Networking Services, SNS, Motivation, Participation, Performance.

1   Introduction

Social networking services (SNS) are digital platforms that one can use to build a foundation of personal connections and manage social relationships (Gunawardena et al., 2009; Valenzuela, Park, & Kee, 2009). Although social dynamics of community life stimulate the motivations for participating in a social setting, online communities and communities in real life have significant differences in terms of factors that predict participation (Parameswaran & Whinston, 2007).

SNS have continuously evolved as a space to produce, share, and consume information through participation (Bulmer & DiMauro, 2009). People use SNS for many reasons: to maintain their relationships with friends and family, to meet new people, to participate in groups sharing similar interests, and so on (Ellison, Lampe, & Steinfield, 2009; Gunawardena et al., 2009; Kwon & Wen, 2010). Most SNS users have immersion tendencies; they check various content several times a day, add multimedia content, and modify their profiles (Chai & Kim, 2011). Facebook alone has 1.65 billion active users of which 66.1 percent use it on a daily basis (Smith, 2016). Moreover, SNS are influencing power and public culture (Boyd & Ellison, 2007; Ross et al., 2009). An important stream of studies has sought to identify salient motivations for SNS usage (e.g., Tong, Wang, Tan, & Teo, 2013; Xu, Ryan, Prybutok, & Wen, 2012). This research adds to this stream of studies by drawing on uses and gratifications paradigm (Katz, 1959; Stafford, Stafford, & Schkade, 2004) to identify the major motivations for SNS use. Moreover, while research has mostly viewed participation in SNS in the form of sharing or knowledge contribution, other types of SNS participation, such as collaboration, remain unexplored (Avanade, 2013; Chai, Das, & Rao, 2011; Lin, 2007; Pavlou & Gefen, 2005; Tsai & Bagozzi, 2014). Hence, it is an important yet challenging issue to identify SNS users' prominent motivations to participate in SNS activities.

These days, online social networking has become increasingly pervasive in the workplace as a platform to directly connect professionals/business partners and distribute content (Wilson, 2009). Some SNS users may use SNS purely for either their personal/social connections or for business purposes, while others may use them for both. In fact, there is no clear-cut criteria for how to use SNS for both personal and professional/business purposes. Individuals commonly use SNS to maintain personal and professional relationships on mutual fields of interest, to share personal information and professional knowledge, to consolidate both personal social ties and professional contacts, and to keep in touch with their close friends, business partners, and professional colleagues. Because many users use SNS for dual purposes (i.e., both personal and professional) (Mostaghimi & Crotty, 2011), we need more work explore the effect of SNS use on different dimensions of individual performance (Bollen, 2014; Li, Liu, Xu, Heikkilä, & van der Heijden, 2015).

Consequently, we need an investigation of the effect of SNS use on performance in terms of both personal and professional/job performance. Therefore, in this study, we address the following two research questions in the context of SNS:

> **RQ1:** What motivates users to participate in SNS activities?

> **RQ2:** How do users' participation activities in SNS influence their personal life and professional/job performance?

With this study, we primarily focus on filling the research gap we identify above by investigating the research questions. To do so, by adopting the theoretical models developed by Roberts, Hann, and Slaughter (2006) and Campbell and Pritchard (1976) as our overarching theories, we investigate the relationship between motivation, participation, and performance in the context of Facebook-style SNS[1]. More specifically, we identify different motivations as important predictors of SNS participation, including utilitarian, hedonic, and social motivation. Further, we classify social motivation into two types: vertical social motivation and horizontal social motivation. Then, we examine how motivations lead to SNS participation. Particularly, we need to understand whether all types of motivation affect participation equally or some types of motivation better relate to certain forms of participation. We also investigate how SNS participation influences individuals' performance. While the relationship among SNS motivation, participation, and performance has received attention from scholars, previous studies have rather looked at either how motivations lead to participation or how participation leads to performance (see Appendix 1).

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[1] In this study, we are particularly interested in Facebook-style SNS because it is not only the most popular SNS for personal purposes but also the most common social collaboration platform for professionals/businesses (Avanade, 2013). Many Facebook users use it for both personal and professional purposes.

Thus, we could not find an integrated view of why, how, and for what outcome users use SNS in the literature. We expect our findings to extend the body of knowledge on SNS by providing an integrated view of SNS users' activities and a better understanding of determinants and consequences of user behavior in the SNS context.

The paper proceeds as follows. In Section 2, we review previous research dealing with SNS and the motivation-participation-performance framework as theoretical background of this study. In Section 3, we propose a research model and four hypotheses. In Section 4, we describe the research methodology that includes how we developed the measurement instruments, collected data, and tested the hypotheses. After discussing the results of data analysis in Section 5, we discuss the findings and implications of our study in Section 6.

2 Literature Review and Theoretical Background

In this section, we review the related literature on which we found our research model. First, we review SNS and its various types. Then, we explain the theoretical models that serve as the foundation of this study. Next, we review previous literature to identify four types of motivations used in current study. Finally, we look at different forms of SNS participation.

2.1 Online Social Networking Services

Since the first online social networking service, SixDegrees.com, launched in 1997, a large number of SNS have emerged (Kim, Sohn, & Choi, 2011; Tokunaga, 2011). White (2014) categorizes SNS into seven major types: 1) social connections (e.g., Facebook, Google+, and MySpace) for connecting to friends, family members, and acquaintances; 2) multimedia sharing (e.g., YouTube, Instagram, and Snapchat) for sharing videos and photos; 3) professional social networks (e.g., LinkedIn and Konnects) for career-related goals; 4) informational social networks (e.g., Super Green Me, Do-It-Yourself Community) for seeking answers to everyday problems; 5) educational networks (e.g., the Student Room, ePALS School Blog) for collaborating with others on academic projects; 6) hobby and special interest social networks (e.g., ActionProfiles and FanIQ) for helping individuals to find other people with similar interests; 7) and academic social networks (e.g., Academic.edu, Connotea Collaborative Research) for academic researchers to share their research results. Thelwall (2009) classifies SNS into three types: 1) socializing SNS, 2) networking SNS, and 3) social navigation SNS. Socializing SNS are primarily designed for recreational social communication with existing friends (e.g., Facebook, Cyworld), networking SNS are primarily for nonsocial interpersonal communication (e.g., LinkedIn), and social navigation SNS are primarily for helping other users to find a particular information or resources (e.g., dig.com and Goodreads for books).

Although each type of SNS is customized for a few unique features, most SNS support general information-sharing and networking functions such as making connections and uploading rich content including photographs, videos, and other digital content for both personal and professional/work purposes (Boyd & Ellison, 2007). Facebook-style SNS, as the most popular general purpose SNS, has a unique position. Individuals use it for not only connecting to social connections but also other applications. For example, one can use Facebook for multimedia sharing, career-related tasks (through applications such as Glassdoor), informational and educational goals (through groups), and hobbies (through pages and groups).

2.2 Motivation-Participation-Performance Framework

Based on Campbell and Pritchard's (1976) general social theory of motivation and performance, Roberts et al. (2006) propose a theoretical model (i.e., motivation-participation-performance framework) to explain the behavior of contributors in open source software development context. The authors were initially interested in understanding how different motivations of contributors are related because motivations are important predictors of an individual's behavior and performance. They were also interested in finding out how motivations influence contribution and, in turn, how contribution influences performance.

Roberts et al. (2006) identify two broad categories of motivations related to open source software development participation: intrinsic and extrinsic. Intrinsic motivations are those that satisfy basic human needs for competence, control, and autonomy. In contrast, extrinsic motivations are inspired by the environment. Roberts et al. also identify the main form of behavior in the context of open source software development as participation in projects. Wasko, Faraj, and Teigland (2004) also confirm this view and suggest that, in the context of SNS, different motivations shape people's participation. Finally, Roberts et al. (2006) measured performance as the rankings assigned to each developer by the open source software community.

According to the above model, different people have different motivations, which, combined with their knowledge, skills, and abilities, produce task-related behaviors (i.e., motivations lead to participation). In turn, different forms of participation consequently lead to different levels of performance. One needs to distinguish between performance and behavior such as participation. Performance is the outcome of evaluating an individual's behavior, which individuals' output often express (Mitchell & Daniels, 2003).

This framework is appropriate for this study for several reasons. First, as advanced information and communication technologies support many kinds of private and professional activities in a new way, previous work has already addressed particular aspects of social networking activities. However, previous work has not formed an integrated view of social networking motivations, participation activities, and outcomes in the SNS context. Thus, we suggest an integrated conceptualization of SNS usage by applying the motivation-participation-performance framework. This framework is a general social psychology theory. However, similar to the case of Roberts et al.'s (2006) application of the theory to the open source software development context, it is useful to apply the framework to the specific domain of SNS to explain individuals' context-specific motivation, participation, and performance. More specifically, for SNS users in general and Facebook-style SNS users in particular, social motivations are critical components for why users participate in SNS and their participation leads to their ultimate outcomes. Therefore, we argue that the framework is suitable for addressing our research question as an overarching theory to provide a holistic view of SNS use.

Second, open source software development networks and SNS share common attributes that make them highly similar; participation in both is entirely voluntarily and in the form of intellectual contribution; furthermore, interaction with others is a vital component of contribution. In fact, one can see open source software development as a social network of collaboration among software developers (Madey, Freeh, & Tynan, 2005).

Third, one can use the framework used to answer the questions of "why", "how", and "for what outcome" people participate in SNS. Motivations derive behavior and explain why individuals conduct behavior. In our case here, motivations explain why people use SNS. Behavior is the external appearance of motivation and describes how people pursue their motivations. In the SNS context, one can observe participation in different forms such as sharing and collaboration, and that participation specifies what users can do to achieve their desired outcomes. Performance is the ultimate outcome of the behavior and illustrates for what outcome people act in a specific manner. In the SNS context, performance is what users want to achieve by their SNS participation in both their daily life and their career. Because of the above reasons, we believe it suitable to use the framework as an overarching theory to provide a holistic view of SNS use.

2.3 SNS Motivation

Motivations are general characteristics that elicit, control, and sustain actions taken to fulfill a need or want (Bolar, 2009). Uses and gratifications (U&G) paradigm (Katz, 1959) explains motivations for why individuals adopt media. Researchers have successfully used this theoretical paradigm to identify user motivation for adopting information and communication technologies (Dholakia, Bagozzi, & Pearo, 2004; Kuehn, 1994; Rafaeli, 1984; Stafford et al., 2004). According to U&G, users are goal oriented and select specific media based on their needs. Early research on the U&G paradigm found two broad dimensions of user motivation characterized as content gratifications and process gratifications (Cutler & Danowski, 1980; Stafford & Stafford, 1996). Content gratifications concern the messages carried by the medium (e.g., news), and process gratifications concern the values derived from the actual using the medium (e.g., joy of browsing the Web) (Cutler & Danowski, 1980). Later, given the significant potential of the Internet for social communications, Stafford et al. (2004) added social gratification as a third dimension.

In terms of drivers of content gratifications, one can also broadly classify SNS users' motivation as utilitarian and hedonic (Gu, Fan, Suh, & Lee, 2010; Hyllegard, Ogle, Yan, & Reitz, 2011). Utilitarian motivation deals with the use of SNS for goal-oriented, mission-critical, rational, and decision-effective user tasks (Gu et al., 2010; Hyllegard et al., 2011; Lin & Lu, 2011b), while hedonic motivation refers to the use of SNS in the search for happiness, fantasy, awakening, sensuality, and enjoyment. The benefit of hedonic motivation is experiential and emotional. The reason that hedonic SNS users like to use SNS is because they enjoy experiential and emotional pleasure derived from doing so (Gu et al., 2010; Lin & Lu, 2011b; van der Heijden, 2004).

Recent SNS tend to be both utilitarian and hedonic, and people use them for the both purposes (Gu et al., 2010; Hyllegard et al., 2011). For example, teenage users prefer to use SNS mainly for entertainment, while employees in workplace spend much time on SNS for job-related purposes (Gu et al., 2010; Hyllegard et al., 2011; Lin & Lu, 2011b). Examples of using SNS for hedonic purposes include finding entertaining content (e.g., videos and photos), following celebrities, and playing games. Examples of using SNS for utilitarian purposes include organizing events, working with others in groups, and following recent news.

Along with hedonic and utilitarian motivations, social motivation plays an important role in why individuals adopt and use SNS. Individuals derive social motivation from social benefits that result from establishing and maintaining social interaction with others (Dholakia et al., 2004), and social motivation is essential in SNS (Kim, Kim, & Nam, 2010). SNS expand the possible meeting places of human networks formed through face-to-face meetings (Bulmer & DiMauro, 2009). People are becoming accustomed to forming and maintaining close and appropriate relationships with various individuals in cyberspace (Kho, 2007). Previous research has looked at different types of social motivation for adopting SNS including seeking friends (Chang & Zhu, 2011; Kim et al., 2011), meeting new people (Chang & Zhu, 2011), getting social support (Kim et al., 2011), presenting personal identity (Hyllegard et al., 2011), developing reputation (Wasko & Faraj, 2005), maintaining relationships (Hsu & Lin, 2008), and helping others (Lin, 2007). Other research has looked at social motivations such as social influence (Tsai & Bagozzi, 2014), social ties (Chai et al., 2011; Chai & Kim, 2011), sense of belonging (Chai & Kim, 2011), social identity (Cheung & Lee, 2010; Kwon & Wen, 2010; Tsai & Pai, 2014), social presence (Xu et al., 2012), telepresence (Kwon & Wen, 2010), social capital (Ross et al., 2009; Valenzuela et al., 2009), and so on. Although research shows common motivations for SNS use across cultures, these motivations may have different weights in different cultures (Kim, 2008; Kim et al., 2011).

One can broadly categorize social motivation into two types: vertical social motivation and horizontal social motivation. Vertical social motivation refers to the need for forward and backward linkages with existing close connections such as family and close friends. Recent studies suggest that individuals who use Facebook-style SNS in general do so primarily with vertical social motivation (Boyd & Ellison, 2007; Stefanone, Lackaff, & Rosen, 2011). Horizontal social motivation refers to acquiring and/or expanding social networks through new connections with people who have similar interests and objectives (Boyd & Ellison, 2007; Byrd & Jasny, 2010). Many individuals use SNS to connect to other people through shared connections. If one wants to connect to someone on LinkedIn with whom one has a shared connection, for example, one can ask their shared connection to introduce them to the other person. Eventually, one can expand their personal and/or professional networks through the horizontal social linkages and encourage information sharing among people from different social environments based on shared interests, political views, or activities (Boyd & Ellison, 2007). Vertical social motivation concerns bonding social capital, while horizontal social motivation concerns bridging social capital (Gittell & Vidal, 1998).

A combination of different motivations influence what actions each user takes on SNS. For example, many users share information on SNS to build their image (Kaplan & Haenlein, 2010) based on social motivations. In another example, one might use SNS to ask others for a recommendation on a purchase decision based on utilitarian motivations, although social motivations may also be a driver (e.g., asking for a recommendation about a luxury product to build one's image). Another popular action on SNS is watching and sharing entertaining content (e.g., funny videos), which one can assume they do based on hedonic motivations. However, in addition to hedonic gains, a user may also receive social benefits from sharing entertaining content (e.g., image building by looking fun to others).

2.4 SNS Participation

Some scholars argue that SNS are open online platforms used to share thoughts, experiences, and viewpoints (Chai & Kim, 2011; Gunawardena et al., 2009). Others claim that SNS are also expanding the interactive collaboration of human networks that individuals form through face-to-face meetings online (Bulmer & DiMauro, 2009). Although different SNS have slightly different features, most SNS support functions for general information sharing and collaboration for both personal and professional purposes (Boyd & Ellison, 2007)[2].

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[2] There are other specific forms of SNS participation such as voting, liking, and commenting. Liking or voting is a trivial form of SNS participation that signals that a user likes a certain content shared on SNS. Commenting is another common participation activity in SNS, which allows users to share their thoughts on a specific issue using short or long texts or even multimedia. Because

Individuals share information to make it available to others (Olorunniwo & Li, 2010). SNS facilitates the distribution of content and enables people to share their ideas, knowledge, and digital content such as photos, music, and video with other SNS users (Boh & Wong, 2013; Boyd & Ellison, 2007; DiMicco et al., 2008; Gunawardena et al., 2009). Although privacy concerns significantly determine the level that individuals share information on SNS (Salehan, Mousavizadeh Kashipaz, & Xu, 2013), many people and organizations maintain public profiles through which they broadcast information to the general audience. Depending on one's privacy settings, other users may or may not be able to comment on the shared information. Hence, individuals share information mainly to broadcast it to the general public or a specific group of people.

Collaboration refers to individuals' working together to achieve certain goals (Seonghee & Boryung, 2008). Collaboration facilitates continuous and collective effort to achieve goals, aims, and objectives among different participants by accelerating learning and building consensus. Different people in different areas can use SNS to collaborate. For example, scientists can collaborate on scientific research (Barabási et al., 2002; Newman, 2001), staff members can collaborate to coordinate projects (Cross, Borgatti, & Parker, 2002), individuals and health professions can collaborate on healthcare (Eysenbach, 2008), and organizations can collaborate to connect to their customers (Gupta, Armstrong, & Clayton, 2011)[3].

In summary, although users can participate in SNS activities in many ways (e.g., uploading pictures, adding multimedia content, modifying their profile, posting blog entries, commenting on the postings, searching for others with similar interests, and compiling and sharing list of contacts among others), sharing and collaboration are umbrella terms that cover different SNS participation activities. Although sharing and collaboration are distinct constructs, they are interdependent. In other words, individuals may collaborate through sharing information with others, while sharing may also lead to collaboration with others though feedback and exchange of ideas. Hence, one can reasonably assume that sharing and collaboration reflect SNS participation. As a result, in this study, we model participation as a second-order reflective construct with two first-order dimensions: sharing and collaboration (Freeze & Raschke, 2007).

3 Research Model and Hypothesis Development

3.1 Research Model

Drawing on the general theory of motivation and performance (Campbell & Pritchard, 1976) and the motivation-participation-performance framework that Roberts et al. (2006) suggest as our overarching theories, we propose a research model to investigate why, how, and for what outcome people use SNS. Based on the U&G paradigm, we identify three motivations for SNS use: utilitarian, hedonic, and social. Further, we conceptualize social motivation as a second-order construct with two first-order dimensions (i.e., vertical and horizontal social motivation)[4]. Because we identify two major activities of SNS participation (i.e., sharing and collaboration) and two levels of performance (i.e., individual and professional/job performance), we also conceptualize participation and performance as higher-order reflective and formative constructs, respectively[5]. We used age, gender, education, income, length of usage, and length of hours of use as control variables. Figure 1 depicts a nomological network of our research model.

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commenting and voting/liking are the ways SNS users can share their idea or experience for collaboration purposes in a broad sense, one can consider them as forms of sharing and collaboration activities.

[3] Facebook-style SNS are extensively used for collaboration. A survey of 1000 C-level executives, business unit leaders, and senior decision makers in the IT departments in organizations of 1000 employees or more of more than 15 countries showed that Facebook was the most popular social collaboration platform (Avanade, 2013). Facebook groups support collaboration by allowing users to share documents, chat, send message to other members, and organize events. With these features, one can form a private hidden group and invite the people one wants to work with.

[4] Using higher-order constructs allows us not only to make more a theoretical parsimonious and less complex model but also to match the level of abstraction for predictor and criterion variables (Edwards, 2001). We expect the model with higher-order constructs to fit well to the overarching theories.

[5] In many cases, choosing between a reflective and a formative indicator may not be an easy task because the directionality of the relationship is not always straightforward. When one can view indicators as causing rather than being caused by the latent variable measured by the indictors, one should operationalize the indicators by formative means (MacCallum & Browne, 1993). Because one can measure social motivation and individual performance on SNS as a combination of two different types of first-order reflective constructs (i.e., vertical social motivation and horizontal social motivation for social motivation and personal performance and professional/job performance for individual performance), we handled them as second-order formative constructs, so the direction of causality was from subelements to a higher-construct (i.e., formative) and did not qualify for reflective modeling (Edwards, 2001).
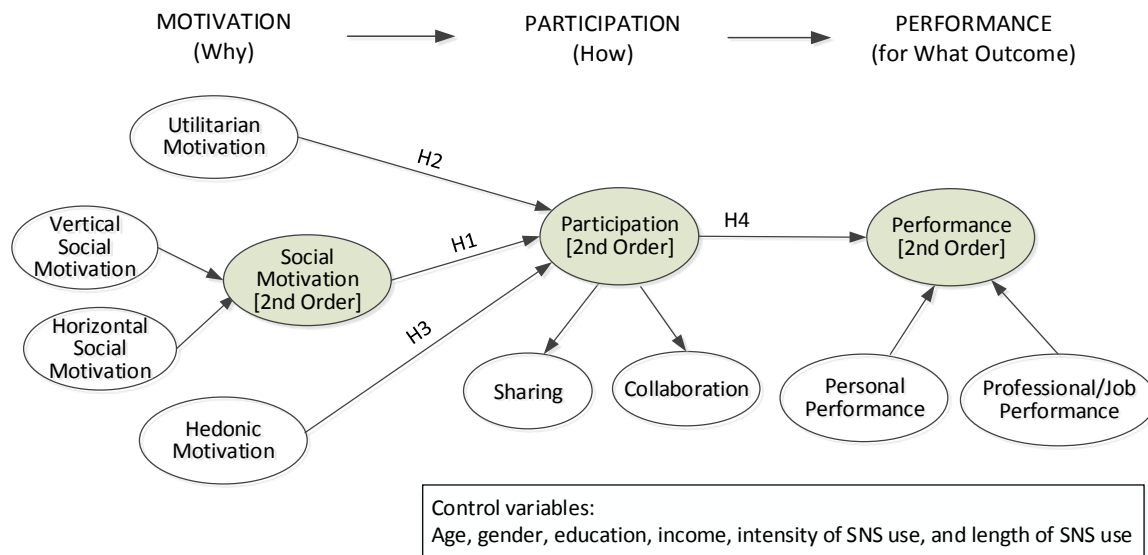
Figure 1. Research Model

3.2   Motivations behind Participation

Many users participate in SNS activities mainly because of social motivation, which mainly comprises two types of motivation: vertical and horizontal social motivation[6]. The former concerns maintaining existing intimate social relationships such as family and friends, and the latter concerns making new social connections to extend the network of friends, professionals, and business partners (Valenzuela et al., 2009). The underlying rationale for social motivation is gaining social benefits that result from establishing and maintaining social interaction with others (Dholakia et al., 2004).

With the growing popularity of online social media, SNS enable people to share various kinds of personal information with a variety of groups (Stefanone et al., 2011). As an example of vertical social motivation, many users use Facebook-style SNS to maintain their strong ties with people whom they already know, such as family and friends (Valenzuela et al., 2009). Sharing photos and status messages, for instance, helps many individuals to keep close emotional proximity with close friends and family especially when the physical distance between them is considerable (Stefanone et al., 2011).

SNS also support the horizontal social linkages and encourage people from different social environments to share information among themselves based on shared interests, political views, or activities (Boyd & Ellison, 2007). In fact, one major strength of SNS is their capability to connect individuals to an increasing number of weak ties (Choi, Palmer, & Horowitz, 2014). According to signaling theory, individuals showcase their capabilities to signal imperfectly observable productivity characteristics to current and future employers (Spence, 1976). Sharing on SNS is an increasingly important method for people to show their qualities (Utz, 2010). Moreover, one can use sharing as a method to display one's knowledge to peers and gain increased expert power over them (Robbins, Judge, & Education, 2003). Hence, many SNS users share knowledge with their colleagues (Ardichvili, Page, & Wentling, 2003).

Sharing is not the only way of socializing with weak ties on the SNS. Social motivation often leads to collaboration on SNS. Individuals can signal their qualities to their current and future employers by collaborating with others on SNS in different ways such as providing feedback comments, answering questions, and participating in projects. Users also collaborate with their strong ties on SNS. An example is social gaming, which is an increasingly popular form of SNS collaboration. Some SNS games provide a bonus to the players if they invite their friends. Often, some users start playing a game just to help their close friends to make progress in it. As such, we expect social motivation to be an important determinant of SNS participation. Therefore, we propose the following hypothesis:

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[6] We do not posit that vertical social motivation and horizontal social motivation compete with each other. Hence, we cannot propose any consequential differences about the effect of horizontal and vertical social motivation on participation activities.

H1: A SNS user's social motivation is positively related to that user's SNS participation.

Utilitarian motivation positively drives users' participation activities in SNS. Many users participate in SNS to share not only personal information but also professional knowledge and experience (Ransbotham & Kane, 2011). For example, some users post personal information (e.g., daily activities and personal events) on Facebook-style SNS, while others share job-related information (e.g., technical tips and know-hows) with coworkers. Some others use SNS as an instrument for advancing their career and gaining the ability to convince others to support ideas and projects (DiMicco et al., 2008). One can also use SNS for professional purposes and to expand professional knowledge base, share ideas, maintain professional relationships, and establish collaborations on common fields of interest. One can use SNS as a reference source and/or a problem-solving tool that allows one to post personal and professional questions and receive answers (Ardichvili et al., 2003). As a result, utilitarian motivations may facilitate SNS users' sharing of information, knowledge, documents, files, and user-generated content (Lamont, 2011).

Utilitarian motivations also have a positive influence on collaboration activities. Examples include providing feedback and suggestions and responding to other users' information requests and knowledge needs (Gregg, 2010; van der Heijden, 2004). A more specific example of SNS collaboration is Wikipedia. Wikipedia pages result from the joint collaboration of many users. Based on collaboration activities such as discussing different viewpoints and revising Wikipedia pages on a certain issue, collaborative work ultimately reaches at a conclusion, which a webpage later displays (Wikipedia, 2013).

Scientific researchers use Facebook-style SNS as a communication tool to connect to people with whom they share the same professional interests, to disseminate their scientific research results, to discuss issues, to find partners for collaboration, and so on (De Roure, Goble, & Stevens, 2009). Health health professionals and health consumers also use SNS to collaborate on health and medical issues (Kordzadeh & Warren, 2012; Kordzadeh, Zhechao Liu, Au, & Clark, 2014). As such, we argue that SNS users' utilitarian motivations will strongly predict their participation in SNS. Therefore, we hypothesize that:

H2: A SNS user's utilitarian motivation is positively related to that user's SNS participation.

Hedonic motivations tend to encompass the values derived from an SNS user's experiential benefits and pleasure-related elements, which sets such motivations apart from productivity-related utilitarian motivations (Gu et al., 2010). Users with hedonic motivations seek self-fulfilling value and enjoyment in information systems (van der Heijden, 2004). Sharing on SNS can be quite fun. Sharing entertaining content such as photos and videos on SNS is usually accompanied by feedback from other users in the form of liking and commenting. In times, even the feedback takes the form of a small conversation about relevant or irrelevant topics. Moreover, sharing is a means for self-presentation and impression management (Boyd & Ellison, 2007). Sharing "selfies", a type of self-portrait photograph, on SNS is now an important way for people to manage the impression of others toward themselves. The most retweeted message over Twitter was a picture of a group of actors and actresses taken in the 2014 Academy Awards and shared on Twitter (Fallon, 2014). This example indicates the strength of the hedonic aspect of SNS. Even politicians have started taking and sharing selfies during political events (Larson, 2013; Weinthal, 2014). As a result, sharing behavior can fulfill users' hedonic motivation.

Hedonic motivation not only leads to sharing but also drives collaboration on SNS. Currently, many SNS groups serve to fulfill the common hedonic interests of their users. A very prominent example is the increasingly popular concept of online social gaming (Balint, Posea, Dimitriu, & Iosup, 2011; Putzke, Fischbach, Schoder, & Gloor, 2010). Gamers use SNS to connect and collaborate with others interested in the same game. In this case, collaboration can arise in various forms such as playing online games with other members and exchanging informational in groups and forums. It is understandable that such collaboration, which is a collective goal-oriented effort, is mostly for enjoyment and people don't expect any explicit utility from it. Therefore, we hypothesize that:

H3: A SNS user's hedonic motivation is positively related to that user's SNS participation.

3.3   Relationship between Participation and Performance

SNS participation activities influence users' performance in terms of personal and professional/job perspectives. At a personal level, SNS can possibly enhance individuals' daily life. Although some studies report the negative effects of SNS use on individuals' personal lives (e.g., Salehan & Negahban, 2013; Zhou, Fang, Vogel, Jin, & Zhang, 2012), SNS has a wide magnitude of beneficial impacts such as increased social

relationships, enhanced social image, improved social trust, enhanced personal life satisfaction and enjoyment, and increased civic and political participation (Chen & Sharma, 2013; Valenzuela et al., 2009).

SNS can improve the performance of users' personal lives in several ways. SNS helps people to maintain their current relationships, make them stronger, and build new ones. People can gain trust and psychological stability by sharing information about their daily lives with like-minded people (Boyd & Ellison, 2007; Du, Xuan, & Wu, 2010). Individuals can achieve higher levels of personal productivity by seeking and sharing information and knowledge on SNS (Lamont, 2011). Moreover, SNS are good places for finding knowledge experts in related fields. Finally, people can communicate with others about their personal issues and receive solutions or empathy. Many users share status messages on a daily basis about their feelings, experiences, and needs. The feedback from other users may help them achieve a solution for their problems or help them accepts the things as they are.

From a professional/job perspective, SNS can improve job performance in multiple ways. SNS has become a major communications platform for professional/business networks to establish electronic connections with customers and professionals; many companies have even shown interest in adopting SNS for business purposes (Vannoy & Palvia, 2010). The primary objective for enterprises to adopt SNS is to improve the communication and collaboration among individuals and business partners through different means such as content contribution (Gunawardena et al., 2009; Suh, Shin, Ahuja, & Kim, 2011; Tang, Gu, & Whinston, 2012). Because SNS enable businesses to be both agile and proactive in responding to customer needs and market opportunities, they have also influenced business outcomes by enhancing the likelihood of high levels of performance (Thomas, Whitman, & Viswesvaran, 2010). As SNS become an essential component of businesses, managers are seeking evidence that support the positive effect of SNS on job performance and business outcomes (Yang, Hsu, & Tan, 2010).

Employees participate in SNS in order to enhance personal and job performance, to support their products, to build and enhance their brand, and to generate new products ideas (Crawford, 2011; Lamont, 2011). SNS promote the sharing of knowledge by decreasing the amount of effort required to find information and communicate with other people (Kim et al., 2010). Continuously information sharing with other SNS users in the work environment improves knowledge accumulation and organizational intelligence (Du et al., 2010). Moreover, SNS knowledge sharing among organizational members increases the quality of intellectual works, which, in turn, has a positive influence on job performance (Chai & Kim, 2011). One can achieve increased productivity by sharing information in different forms such as sharing work-relevant photos, videos, and notes; joining a wide variety of groups; applying task-related information; and exchanging electronic documents (Boyd & Ellison, 2007; Kim et al., 2010). Finally, those who use SNS tend to prefer to know more about their colleagues' lives. They use this kind of information to facilitate social interactions that both directly and indirectly support job-related tasks (Ellison et al., 2009). Therefore, information and knowledge sharing can increase individual performance.

SNS collaboration may also improve individuals' performance. Collaboration between SNS users reduces the psychological distance between them, which, in turn, can impact the users' outcomes and improve them (Brown, Broderick, & Lee, 2007). Such collaboration may occur inside the organization with employees, outside of it with customers and partners (Lamont, 2011), or with friends and family. SNS users' collaboration through SNS might impact their personal performance by helping them to effectively learn about the latest information through mutual interactions, which, in turn, may lead to improved social relationships (Bulmer & DiMauro, 2009; Lin & Lu, 2011b; Ransbotham & Kane, 2011). For example, people who discuss social issues on SNS will have a better understanding of the issues by listening to different viewpoints on the same topic. Such understanding may help them in their personal lives and when dealing with different people.

In addition to improved personal performance, SNS collaboration may also lead to improved job performance. SNS provide employees with several types of collaboration via blogging and online work-related interactions (Lin & Lu, 2011b). SNS allows different forms of collaboration such as intra-organization (in the organization), inter-organization (with other organizations) (Sanders, 2007), and viral marketing (with customers) (Leskovec, Adamic, & Huberman, 2007). In terms of intra-organization activities, SNS users' collaboration can have a remarkable influence on job productivity in that they can allow employees to get answers to work-related questions and to build task-related connections (Bulmer & DiMauro, 2009; Ransbotham & Kane, 2011). From an inter-organizational standpoint, SNS collaboration improves job performance both directly through enhanced relationships with other organizations (Gilbert, 2002) and indirectly through improved intra-organizational collaboration (Sanders, 2007). Finally, SNS collaboration can improve relationships with customers through enhanced word of mouth (De Bruyn & Lilien, 2008).

Different people have different reasons to use SNS. Some SNS users may use SNS purely for either their personal/social connections or for business purposes. Others may use it for both personal and professional purposes. Therefore, we conceptualize SNS performance as a second-order construct that comprises two first-order reflective dimensions (i.e., personal performance and professional/job performance). Therefore, we hypothesize that:

    H4: A SNS user's participation is positively related to that user's individual performance.

4   Research Methodology and Data Collection

We used a survey to collect data and empirically test the proposed theoretical relationships.

4.1   Measures

We used multiple items with a five-point Likert scale with anchors ranging from strongly disagree to strongly agree to measure each construct. To increase their validity, we adopted most measurement items from previously tested measures in existing literature. We derived utilitarian motivation measures from Strahilevitz and Myers (1998), Zeithaml (1988), Gu et al. (2010), and van der Heijden (2004). We adopted the items we used to measure hedonic motivation from Agarwal, Sambamurthy, and Stair (2000), Boyd and Ellison (2007), and van der Heijden (2004). The items we used to measure social motivations were inspired by the measurement scales of Boyd and Ellison (2007), Valenzuela et al. (2009), and Stefanone et al. (2011) for vertical social motivation and De Roure et al. (2009), Byrd and Jasny (2010), and Rubin (1981) for horizontal social motivation. We assessed the sharing activity of SNS participation by items from Lévy (1997), Solomon and Schrum (2007), and Du et al. (2010). We adopted the items we used to assess collaboration from Brown et al. (2007), Sanders (2007), and Lin and Lu (2011b). Finally, the items we used to measure performance were inspired by Miller (1996) and Viswesvaran, Sanchez, and Fisher (1999) for personal performance and Papacharissi and Rubin (2000) and Wright and Cropanzano (2000) for job performance.

To improve the validity of the research instrument, we asked a panel of experts to review the instrument for any issues on clarity and validity of measures. The panel members comprised several professionals including university professors, researchers, managers of business firms, and members of public organizations. Based on the feedback, we dropped some measures and added others, and we revised some items' wording to fit into the research context. After we made these changes, we conducted a pilot test to further refine the survey before collecting data for field test. We distributed the questionnaire to 50 people who had used SNS before. We assessed the reliability and validity of the measures using the data collected from the pilot-test, which confirmed that there were no reliability and validity issues with the measures. Appendix B summarizes the final measurement items.

4.2   Data Collection

To collect data for the field test, we conducted email surveys over a three-month period. We obtained email addresses for the email survey from users on Cyworld.com, Facebok.com, Twitter.com, and other social networking services. Cyworld.com is a Korean SNS that has features similar to Facebook. We distributed a total of 4,100 survey questionnaires and asked the respondents to report any social networking services they had used before. We collected a total of 789 questionnaires (i.e., a response rate of 19.2%). However, we excluded 78 invalid responses (41 were incomplete, and the other 37 indicated they had no prior experience with social networking services).

The sample suggests that SNS users are generally in late 20s and 30s and have graduated from university. About 39 percent of the respondents said that they used Cyworld, 25.7 percent used Facebook, and 19.8 percent used Twitter. Further, 28 percent of the respondents visited SNS three times a day or more, 27 percent used SNS twice a day, and 34.8 percent used it once a day. Also, 26.3 percent were early adopters and 73.7 percent were later adopters; 63 percent of the subjects had used SNS for longer than two years. Appendix C summarizes the demographic characteristics of the sample.

To validate the proposed model, we dropped the respondents who reported they had not used Facebook-style SNS (i.e., Facebook and Cyworld) before because using diversified types of SNS in a single study may not produce meaningful results. Later, we dropped the responses of 24 college students because we suspected that they may not have had experience with professional/job-related SNS use. The final sample comprised 329 subjects. To assess the non-response bias of the sample, we compared the data from the

last three weeks with that of the first 4 weeks by conducting a t-test using respondents' age and education level. The results, combined with the representativeness of the sample, showed reasonable evidence that response bias was not an issue in this study.

5   Data Analysis and Results

We used the structural equation modeling (SEM) technique to analyze the data for both the measurement model and the structural model. Compared to a conventional regression analysis that ignores the interrelationships between latent constructs measured by multiple measurement items (Bollen, 2014; Chin, 1998b), SEM is a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to analyzing causal relationships among latent constructs (i.e., a structural theory) (Byrne, 2001). There are two families of SEM techniques: covariance-based techniques (e.g., AMOS) and variance-based techniques (e.g., partial least squares). In this study, we used partial least squares (PLS) and SmartPLS version 2.0.M3 to test both the measurement model and the structural model. We chose PLS analysis over other analytical techniques for several reasons. First, PLS simplifies the modeling of formative and reflective constructs (Chin, 1995, 1998a) and makes handling second-order constructs easy (Wetzels, Odekerken-Schröder, & Van Oppen, 2009). Second, it simultaneously tests both the measurement model and the structural model (Wixom & Watson, 2001). Finally, it reports composite reliability (CR) and average variance extracted (AVE) for content and discriminant validity.

5.1   Measurement Model Testing

To assess the psychometric properties of the instrument, we tested it for reliability and validity before the structural model testing. In terms of reliability assessment, one should treat formative and reflective constructs differently (Wixom & Watson, 2001). For all the reflective constructs, the assessment of the measurement model includes the estimation of internal consistency for reliability, convergent validity, and discriminant validity (Kabir, 2013). Formative measures do not need the above assessments because they neither correlate with one another nor exhibit internal consistency (Chin, 1998b). Analyzing the reflective constructs showed that all items loaded significantly on their corresponding constructs (Gefen & Straub, 2005) and had a loading on their corresponding constructs higher than the cutoff point of 0.4 (Hulland, 1999). Appendix D shows the result of the exploratory factor analysis.

We used Cronbach's alpha and Fornell's composite reliability (Fornell & Larcker, 1981) to test internal consistency of the measurement model. The values of the Cronbach's reliability coefficients ranged from 0.816 to 0.931, which are higher than the minimum cutoff score of 0.7 (Nunnally & Bernstein, 1994). Composite reliability should be greater than the benchmark of 0.7 to be considered adequate (Fornell & Larcker, 1981); the lowest composite reliability was 0.816, which is higher than the cutoff point of 0.7, indicating adequate internal consistency. All AVEs were higher than 0.5 (Fornell & Larcker, 1981). The pattern of loadings and cross-loadings supported internal consistency and discriminant validity. Table 1 shows the summarized reliability indices.

To examine discriminant validity of the constructs, we used the procedure proposed by Fornell and Larcker (1981). This procedure recommends comparing the average variance extracted (AVE) to the variance shared between the construct and other constructs. The vales of AVE for all constructs were above 0.50 and the root square of AVE was higher than the correlation of the corresponding construct with other constructs (Fornell & Larcker, 1981), which indicates adequate discriminant validity. The relatively high correlations between some of the constructs provide empirical support for the presence of higher-order factor models (Bollen, 2014; Marsh & Jackson, 1999) that we introduce in this study. The correlations between horizontal and vertical motivation, sharing and collaboration, and job and personal performance were all above 0.6. Table 2 shows the result of discriminant validity analysis.

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Use of Online Social Networking Services from a Theoretical Perspective of the Motivation-Participation-Performance Framework

Table 1. Descriptive Statistics and Reliability Coefficients for Constructs

Constructs	# of items	Mean (SD)	Alpha	CR	AVE	Scales adapted from
Vertical social motivation	4	3.56 (.806)	0.845	0.890	0.619	Boyd & Ellison (2007), Valenzuela et al. (2009), Stefanone et al. (2011)
Horizontal social motivation	4	3.175 (.845)	0.879	0.917	0.735	De Roure et al. (2009), Byrd & Jasny (2010), Chai & Kim (2011), Cheung, Chiu, & Lee (2011)
Hedonic motivation	4	3.244 (1.063)	0.816	0.878	0.644	Gu et al. (2010), van der Heijden (2004)
Utilitarian motivation	4	3.334 (.912)	0.846	0.897	0.685	Gu et al. (2010), van der Heijden (2004)
Sharing	4	3.502 (.808)	0.859	0.899	0.640	Kim et al. (2010), Du et al. (2010), Chai & Kim (2011)
Collaboration	5	3.214 (.828)	0.879	0.912	0.675	Brown et al. (2007), Sanders (2007), Lin & Lu (2011b)
Personal performance	6	3.400 (.852)	0.895	0.919	0.655	Viswesvaran et al. (1999), Wright & Cropanzano (2000)
Job performance	6	3.196 (.933)	0.913	0.931	0.658	Viswesvaran et al. (1999), Wright & Cropanzano (2000)
Note: SD: standard deviation, Alpha: Cronbach's alpha, CR: Fornell's composite reliability						

Table 2. Discriminant Factor Analysis

	1	2	3	4	5	6	7	8
1. Vertical	**0.787**							
2. Horizontal	0.617	**0.857**						
3. Hedonic	0.395	0.415	**0.803**					
4. Utilitarian	0.331	0.435	0.288	**0.828**				
5. Sharing	0.516	0.535	0.373	0.570	**0.800**			
6. Collaboration	0.438	0.466	0.267	0.528	0.633	**0.822**		
7. Personal performance	0.446	0.493	0.313	0.638	0.663	0.595	**0.809**	
8. Job performance	0.457	0.479	0.285	0.601	0.591	0.595	0.730	**0.811**
Note: the bold values are square root of AVE value for the corresponding constructs.								

Because survey methodologies may be subject to common method bias (CMB), we ran a PLS test for CMB using the common factor approach that Liang, Saraf, Hu, and Xue (2007) describe. We created a common method construct with all the items associated with it. We then modeled each of the 37 indicators as a single-indicator construct and created paths between them, the common method construct, and the theoretical constructs. Appendix E summarizes the results of the CMB analysis. The results showed that loadings on the theoretical constructs were both high and highly significant. Loadings on the common method construct were low and, in almost all cases, non-significant. This finding indicates that CMB was not a problem in this research (Liang et al., 2007).

We also checked the VIF of independent constructs to assess multicollinearity by examining tolerance and the variance inflation factor (VIF). As a general rule of thumb in multicollinearity evaluation, each of predictor construct's VIF value must be lower than 5, and a small tolerance value less than 0.1 indicates that the variable under consideration is almost a perfect linear combination of independent variables already in the equation and that it should not be added to the regression equation (Mansfield & Helms, 1982). As Table 3 shows, all of the VIF values ranged from 1.297 to 2.275—clearly below the threshold

value of 5. The tolerance values of all indictors were higher than the suggested value of 0.1, which means that multicollinearity was not an issue in this study.

Table 3. Multicollinearity Analysis

Construct	Tolerance	VIF
Vertical social motivation	0.544	1.806
Horizontal social motivation	0.514	1.928
Hedonic	0.771	1.297
Utilitarian	0.517	1.616
Sharing	0.418	2.275
Collaboration	0.476	1.937

5.2 Structural Model Testing and Results

We also analyzed the structural model using SmartPLS. Given that we used second-order constructs in the research model, we assessed the proposed second-order constructs following the methodology that Pavlou and Gefen (2005) used. More specifically, for the second-order formative constructs (i.e., social motivation and performance), we modeled the coefficients for each first-order factor in a formative relationship with the corresponding second-order factor. For the second-order reflective construct, participation, we modeled the relationships between first order-factors and second-order factor as reflective. The results indicate that all first order-factors were significantly related to their corresponding second-order factor ($p < 0.01$), which supports our using second-order constructs in this study. Figure 2 summarizes the results of the structural model testing.
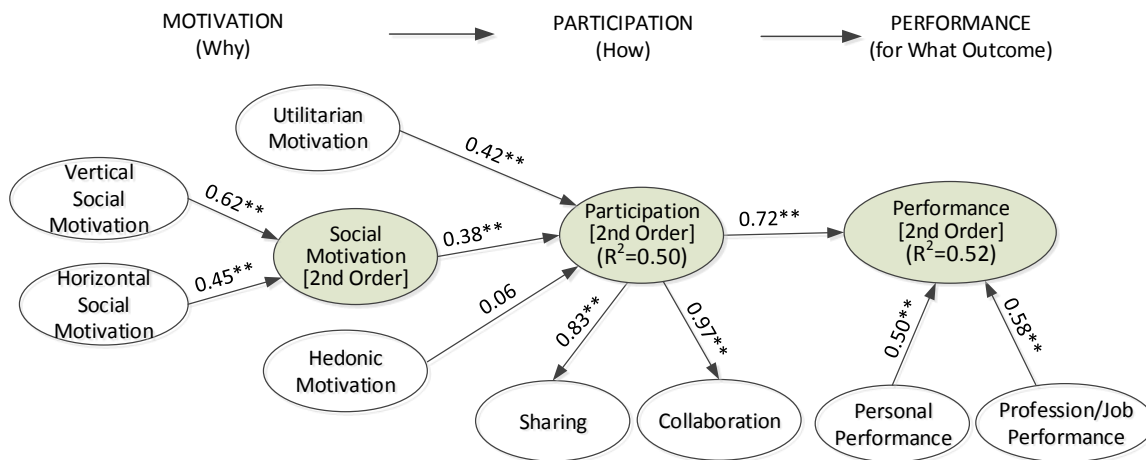
Note: * Significant at 0.05 level, ** significant at 0.01 level

Figure 2. PLS Analysis Result

The analysis shows that social motivation positively affected participation ($\beta = 0.38$, $p < 0.01$), which supports H1. Utilitarian motivation was a significant predictor of participation ($\beta = 0.74$, $p < 0.01$), which supports H2. However, the hypothesized relationship between hedonic motivation and participation was not significant ($\beta = 0.06$, $p > 0.05$), which does not support H3. The model explained 50.0 percent of the variation in participation on SNS. The results also show that participation significantly affected individual performance ($\beta = 0.72$, $p < 0.01$), which supports H4. The model explained 52 percent of variance in individual performance.

We used age, gender, education, income, intensity of SNS use, and length of SNS use as control variables, and none had a significant effect on either participation or performance. None of the control variables had any significant relationship with the three motivations. The only exception was SNS intensity—measured as a second-order formative construct that comprised the number of SNS used, number of hours spent on SNS daily, and number of daily SNS visits—which was positively related to

social, hedonic, and utilitarian motivations. Table 4 summarizes the effects of control variables on the main research constructs. Table 5 summarizes the hypothesis testing results.

Table 4. Control Variables

	Social motivation	Hedonic motivation	Utilitarian motivation	Participation	Performance
Age	-0.11	-0.10	0.08	-0.04	-0.01
Gender	0.01	0.07	-0.02	-0.03	-0.01
Education	0.01	-0.05	0.01	0.03	0.01
Income	0.14	0.16	-0.01	0.06	0.01
Intensity of use	0.30**	0.28**	0.22**	0.05	0.08
Length of SNS use	0.08	-0.04	-0.09	-0.02	0.05
Note: * Significant at 0.05 level, ** significant at 0.01 level					

Table 5. Hypothesis-testing Results

Hypothesized relationship	Estimates (t-value)	Results
H1. social motivation → participation	0.38 (8.04)	Supported**
Vertical social motivation → participation	0.24 (5.03)	Supported**
Horizontal social motivation → participation	0.19 (3.91)	Supported**
H2. utilitarian motivation → participation	0.42 (11.21)	Supported**
H3. hedonic motivation → participation	0.06 (1.54)	Not supported
H4. participation → performance	0.72 (29.25)	Supported**
Note: * Significant at 0.05 level and ** significant at 0.01 level		

5.3   Post Hoc Analyses

Because hedonic motivation did not show any significant effect on participation, we conducted a post hoc analysis using a structure model with two separated first-order dimensions of participation (i.e., sharing and collaboration) to further examine if there was any difference at the first-order level. The results indicate that hedonic motivation significantly affected sharing but not collaboration. In contrast, utilitarian motivation was a more important predictor of SNS use than hedonic motivation. Figure 3 shows the results of the post hoc analysis. We also ran the research model without social motivation to see if the presence of social motivation influenced the effect of hedonic motivation on participation. The results show that, in absence of social motivation, hedonic motivation was significantly related to participation (β = 0.20, p < 0.01).

In addition, because it is important to check how participation mediated between motivations and performance, we conducted a set of Sobel tests (Sobel, 1982) to examine whether the second-order participation fully mediated the effects of the four motivations (i.e., independent constructs) on the second-order performance (i.e., the dependent variable). To compare the mediating effects of the first-order and the second-order participation constructs, we also tested the effects of sharing and collaboration as first-order constructs that mediated the relationship between the four motivations and performance. Table 6 summarizes the results of the Sobel Z tests and Appendix 6 shows the details of them.
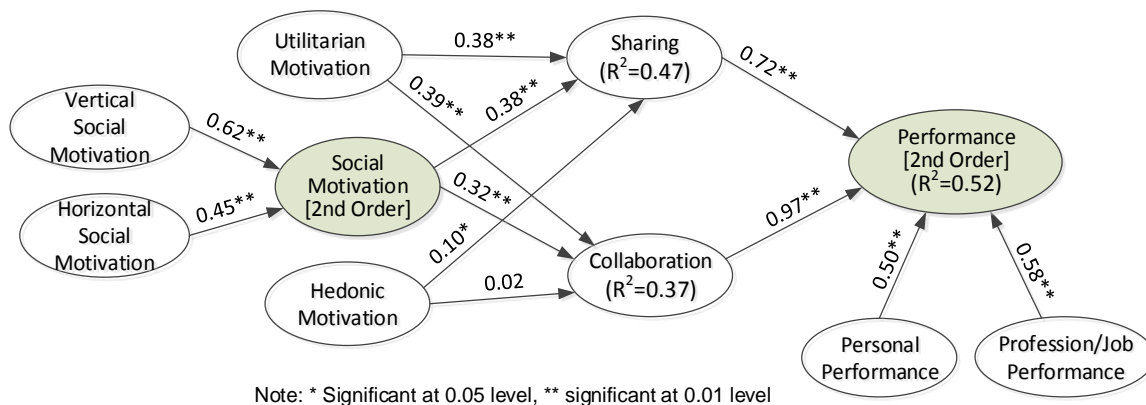
Note: * Significant at 0.05 level, ** significant at 0.01 level

Figure 3. Post Hoc Analysis Results

Table 6. Sobel Test Results

	Sharing		Collaboration		Participation (second-order)	
	Sobel Z	Mediation	Sobel Z	Mediation	Sobel Z	Mediation
Vertical	4.44**	Partial	3.85**	Partial	4.70**	Full
Horizontal	4.69**	Partial	3.74**	Partial	4.75**	Full
Hedonic	3.36**	Full	2.42*	Full	3.30**	Full
Utilitarian	4.08**	Partial	3.78**	Partial	4.75**	Partial
Note: * Significant at 0.05 level, and ** significant at 0.01 level						

The results show that sharing and collaboration partially mediated all the relationships between the motivations and performance except for hedonic motivation, which both sharing and collaboration fully mediated. Later, we tested the mediation effect of the second-order construct (i.e., participation) on performance. The results show that participation fully mediated the relationship between motivations and performance. The only exception was utilitarian motivation, which participation partially mediated. One plausible explanation of this result is that, for SNS users with high utilitarian motivation, the level of SNS participation is less important and even low levels of SNS participation may significantly increase their performance. Such people focus on performance and use their time on SNS wisely rather than wasting it for hedonic purposes. Hence, a direct relationship between motivation and performance exists. After comparing the mediating effects of the first-order and the second-order participation models, we can conclude that the second-order model better fits the motivation-performance theory.

6 Discussion and Conclusion

6.1 Discussion of the Findings

This study has several findings. Our first finding, which possibly answers our first research question, concerns how different motivations lead to participation in social networking services. We identified four motivations of SNS use: utilitarian, hedonics, vertical social, and horizontal social motivations. Most motivations except hedonic significantly explained why SNS users participate in SNS. The finding supports that assertion that people use SNS based on different motivations and expectations. Some people use SNS to get in touch with their close friends, relatives, and family (i.e., for vertical social motivation). Some others are more interested in connecting to their weak ties and increasing the size of their social network (i.e., for horizontal social motivation). Some users may be interested in hedonic aspects of SNS, which allows them to enjoy sharing information with their social networking group. For other people, SNS is a tool that helps them increase their utilitarian value. It is noteworthy that SNS users possibly have multiple motivations to use SNS at the same time. Some users may use SNS for not only utilitarian but also social and hedonic purposes.

Although previous research has reported that hedonic motivation is an important predictor of SNS use (Zhou et al., 2012), interestingly, our results do not confirm the significant effect of hedonic motivation on

the second-order participation construct. Because we did not expect this finding, we further investigated why it occurred through a post hoc analysis with two separate first-order dimensions of participation (i.e., sharing and corroboration). The analysis result partially supported the effect of hedonic motivation on participation: that is, that hedonic motivation strongly leads to sharing but not collaboration.

One can interpret this unexpected but interesting result in two ways. First, hedonic motivation of SNS users may be associated with sharing activities, such as sharing personal photos, videos, and selfies, because current Facebook-style SNS are well equipped with sharing features for hedonic purposes but not with collaborative ones. In fact, collaboration for hedonic purposes (e.g., collaboration for gaming) is a relatively new concept in Facebook-style SNS. Thus, it seems that many SNS users are not yet familiar with hedonic forms of SNS collaboration; they mainly work together in SNS for utilitarian purposes rather than hedonic ones.

Another possible interpretation is that the effect of hedonic motivation may diminish as time passes. Indeed, Xu et al. (2012) supports this interpretation: they found that, although hedonic motivation is important in initial stages of SNS adoption, its importance decreases as time passes. In our study, hedonic motivation's effect on participation was possibly diminished because almost 80 percent of the respondents had used SNS for more than one year.

We also ran the research model without social motivation and found that, in the absence of social motivation, hedonic motivation became a significant predictor of participation. Hence, it seems that the effect of hedonic motivation on participation significantly diminished with the presence of social motivation. In other words, social motivation mainly absorbs hedonic motivation because SNS users' motivations for vertical and horizontal social connections are clearly more important in Facebook-style SNS, which one can observe in the social gaming context in particular. Social games allow players to collaborate and socialize at different levels such as forming groups, chatting, sending gifts, jointly planning for the game, and playing jointly in teams. Although researchers have always categorized games as hedonic (Li et al., 2015), the motivation for social gaming seems to be both hedonic and social. There are instances in which a player grows tired of the game but keeps playing due to a sense of belonging to the group (Olganon.org, 2009). In such cases, the social motivation for participation may even be greater than the hedonic one.

Another finding concerns the second research question: how users' participation in SNS affects their personal life and professional job performance. The results show that, when users actively participated in SNS, they perceived higher performance in terms of personal life and work. Participation in SNS can help people improve their personal and professional life in several ways such as improving social relationship, receiving up-to-date information, effectively completing personal tasks, and finding experts in their areas of interest.

6.2   Theoretical and Practical Contributions

This study contributes to both theory and practice. First, from a theoretical perspective, this study contributes to the SNS literature by proposing a theoretical framework that describes why, how, and for what outcome people use Facebook-style SNS. Using the theoretical lenses that Roberts et al. (2006) and Campbell and Pritchard (1976) provide as overarching theories in the context of Facebook-style SNS, this study provides a relatively holistic view of how SNS users' different motivations lead to their participation and how their participation influences their personal and job performance.

In addition, most previous studies that have examined SNS have done so in general (e.g., Boyd & Ellison, 2007; Brown et al., 2007; Chai & Kim, 2011; Chang & Zhu, 2011; Cheung & Lee, 2010) or particularly focus on a single SNS such as Facebook or Twitter (e.g., Ellison, Steinfield, & Lampe, 2007; Lin & Lu, 2011a; Stieglitz & Dang-Xuan, 2013; Valenzuela et al., 2009; Young & Quan-Haase, 2009). This study, in contrast, focuses on Facebook-style networking services, the most popular type of SNS for social connections. We suggest that it is important for SNS research to distinguish between different types of SNS because each SNS type has specific applications and user demographics.

Second, this study identifies different motivations as important predictors of SNS participation, including utilitarian, hedonic, and social motivation. Further, we classify social motivation into two types: vertical social motivation and horizontal social motivation. Although previous studies (e.g., Kim et al., 2010) show that social motivation is an important predictor of SNS adoption, we are, to the best of our knowledge, the first to categorize social motivations into two different subtypes. We believe that this classification is important because social media is suitable not only to connect to strong ties but also to connect to weak ties. Hence, identifying and considering both dimensions of social motivation are important when measuring social motivation.

Third, this study conceptualizes SNS participation as a reflective second-order construct by identifying sharing and collaboration as two major participation methods in Facebook-style SNS. While most previous studies have mainly focused on SNS sharing, to the best of our knowledge, this is the first study that operationalizes collaboration in the context of SNS and combines it with sharing in order to measure SNS participation as a high-order construct. We also introduce another second-order construct, individual performance, which comprises two subdimensions: personal and professional/job performance. While previous studies have investigated the effect of SNS use on either personal performance or professional/job performance separately, this study proposes a higher-order formative construct (i.e., performance) that combines personal performance and professional/job performance as two first-order constructs. We argue that doing so provides a broader view of SNS performance because many people use Facebook-style SNS for both personal and professional/job purposes. Moreover, we further validate the new higher-order constructs using the empirical data collected from Facebook-style SNS users.

Conceptualizing social motivation, participation, and performance as higher-order constructs may facilitate building cumulative knowledge in the area of Facebook-style SNS. As Edwards (2001) argues, we confirm that the model with higher-order constructs fits well into the motivation-participation-performance framework in terms of theoretical parsimony and reduced model complexity. Moreover, the existence of higher-order social motivation, participation, and performance constructs may foster the integration of results from the theory domain (i.e., Facebook-style SNS in this study) and help grow a cumulative body of knowledge, which we believe is another unique contribution of this study.

Fourth, the analysis results show interesting interactions between different motivations for participation. Particularly, we found complicated interactions between hedonic and social motivation for SNS collaboration. A prominent example of hedonic collaboration is social gaming where players work together to make progress in the game. However, our findings suggest that such collaboration may not be merely derived by hedonic motivation and that social motivation may also be a key factor. Future research may take a deeper look at this issue by comparing motivations for hedonic collaboration at different stages of use. For example, hedonic motivation may be more important for new players, while social motivation may play a greater role for experienced players.

Finally, following Grover and Lyytinen's (2015) guidelines for enriching theory building, we move past instantiating and modifying theory and look at how the studied phenomenon affects the nature of the constructs adapted in this study. One quick look at our research model reveals that we develop and use several second-order constructs. We believe that the proposed and tested second-order constructs not only enrich the application of the reference theory to the context of information systems but also broaden our view of the higher-order nature of constructs. Information systems are increasingly shaping our lives and integrating the world around us, and individuals use them for a variety of reasons. Hence, a multidimensional view of information systems and their effects seems to be necessary for future research.

This study also contributes to practice in several ways. From an SNS provider's perspective, it is important to notice that motivations derive SNS participation. Hence, SNS providers need to focus on user motivations in order to increase SNS use. The results show that people use Facebook-style SNS not just for one single reason but as a result of a variety of motivations. Because users' needs and their motivations are diverse, in order to retain their users, SNS providers should develop various new services beyond the boundary of a simple personal networking platform. In particular, the results show that utilitarian motivation is a more important predictor of Facebook-style SNS use than hedonic motivation. As people are demanding a more personalized multipurpose SNS to improve their utilitarian value, SNS providers may offer an SNS platform with a diverse selection of applications and services across multiple devices. To provide a successful SNS platform, we recommend that SNS providers build an ecosystem by opening their platform to third-party application developers to develop applications that can address different types of user motivations. Additionally, the results suggest that hedonic collaboration on SNS may not be well known to many SNS users. SNS providers may increase their traffic by introducing new forms of hedonic collaboration and educating their users regarding this aspect of SNS participation. An increased number of third-party applications may help SNS providers to expedite this process.

This study has implications for organizations as well. SNS users share information and collaborate with others to gain benefits not only for personal but also for professional/job-related reasons such as improved skills and knowledge, improved professional network, and, ultimately, improved professional/job performance. Hence, business organizations may gain benefits from their employees' using SNS. Thus, we recommend managers of organizations that have a policy to block SNS access in their workplace to

reevaluate their policy because SNS may provide a potential opportunity for organizations to outperform competitors through innovative ways of sharing and collaboration among employees.

From an SNS user's perspective, this study provides a macro picture of SNS and its applications. We provide numerous examples of how individuals currently use SNS for hedonic, utilitarian, and social purposes. While our results suggest that many users are not quite familiar with different ways they can use SNS (e.g., hedonic collaboration), this study provides insights regarding how individuals can use SNS in different forms to improve their personal and work performance.

6.3   Limitations and Future Directions

Although this study provides some interesting results and insights, it has its limitations. First, while different SNS exist, this study mainly focuses on Facebook-style SNS. Thus, one should be careful about generalizing the results beyond the scope of the research context. Future research could expand on the current findings using different types of SNS.

Second, while our research shows different motivations for SNS use from a micro-level viewpoint, one may consider SNS users' activities as social ones in a broad sense. In addition, this study does not handle motivations for specific sharing or collaboration actions (e.g., sharing very personal photos, tagging friends' photos, posting a specific message, etc.). Thus, it would be an interesting future study to investigate this issue by examining which motivations lead to what specific actions.

Third, in this study, we look at motivations related to both content and social gratification and not motivations related to process gratification. Some motivations related to process gratification (e.g., killing time) have negative effects on individuals' performance (e.g. mobile dependence) (Salehan et al., 2013) and, thus, may diminish the positive effects of SNS use. Future research could look at the joint effect of all three types of gratification on individual performance and provide a clearer picture of potential harms/benefits of SNS use.

Fourth, the empirical data collected for this study came from individuals in a single country, and, therefore, the study has limited cultural diversity. Future research with a more diverse sample may provide better insights regarding different motivations to use SNS. Furthermore, like other survey-based studies, this study uses self-reported data, which are subject to social desirability response bias (Arnold & Feldman, 1981). With the development of more objective measures of SNS performance, future research should further expand the research boundary of performance measures of SNS.

Acknowledgments

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Appendix A: Comparisons of SNS Motivation Studies from the Motivation-Participation-Performance Framework Perspective

Study	Motivation	Participation	Performance
Lin & Lu (2011b)	Perceived complementarily	Continued intention to use	Usefulness, enjoyment
Wasko & Faraj (2005)	Reputation, enjoy helping	Knowledge contribution	None
Hsu & Lin (2008)	Expected relationships	Intention to use	None
Pavlou & Gefen (2005)	Social interaction, identification	Knowledge sharing	None
Lin (2007)	Enjoyment in helping others, organizational rewards	Knowledge sharing	Firm innovation capability
Mostaghimi & Crotty (2011)	None	Knowledge sharing	Firm innovation, operational performance, financial performance
Tsai & Bagozzi (2014)	Social influence, emotional influence	Contribute to the friendship group	None
Chai & Kim (2011)	Social ties, sense of belonging	Knowledge sharing	None
Spence (1976)	Initial motivation	Sustained participation	None
Cheung & Lee (2010)	Social identity	SNS use	None
Tsai & Pai (2014)	Affective social identity, cognitive social identity	Participation	None
Olganon.org (2009)	Perceived relative advantage	Knowledge sharing	Knowledge utilization, Community promotion
Li et al. (2015)	None	Participation	Consumption of niche products
Xu et al. (2012)	Hedonic motivation, utilitarian motivation, loneliness, social presence	SNS use	None
Tong et al. (2013)	Intrinsic motivation, extrinsic motivation, internalized intrinsic motivation, internalized extrinsic motivation	Contribution to online reviews	None
Kaplan & Haenlein (2010)	Shopping enjoyment	Use of collaborative online shopping	None
Chang & Zhu (2011)	Information, entertainment, connecting with old friends, meeting new people, conformity	Pre-adoption intention	None
Valenzuela et al. (2009)	None	SNS intensity, Facebook group use	Life satisfaction, civic participation, political participation
Kwon & Wen (2010)	Social identity, altruism, telepresence	Actual use	None
Ross et al. (2009)	CMC motivation	Time spent on Facebook	None

Chiu, Hsu, & Wang (2006)	None	Quantity of knowledge sharing, Knowledge quality, Social Interaction ties	Personal outcome expectations, Community-related outcome expectations
Zhou et al. (2012)	Utilitarian value, hedonic value, relational capital, personalization, learning	Continuance intention	Satisfaction
Chai et al. (2011)	Social ties, reciprocity	Knowledge sharing	None
Kim et al. (2011)	Seeking friends, social support, entertainment, information, convenience	SNS adoption	None
Wasko et al. (2004)	Individual motivation, social controls	None	Knowledge contribution
Kim et al. (2010)	Social motivation, non-social motivation	SNS use	Satisfaction
Current study	Utilitarian, hedonic, social vertical, social horizontal	Participation (sharing, collaboration)	Performance (personal performance, job performance)

Appendix B: Measurement Items

Construct	Measurement items
Vertical social motivation	The reasons that I use the SNS are - VSM1: To interact with people that I know personally well VSM2: To maintain a closed friendship with people that I know personally well VSM3: To intimate relationship with school friends and colleagues at work VSM4: To interact with people that I know who have the same thoughts or opinions VSM5: To reconnect people I had forgotten (dropped)
Horizontal social motivation	HSM1: To form a new personal online network in general HSM2: To expand human network to online social network in general HSM3: To strengthen my personal network in general HSM4: To form social relationship with general others
Hedonic motivation	HEM1: To do something interesting HEM2: To escape from everyday boring life HEM3: To get excited HEM4: To feel enjoyment
Utilitarian motivation	UTM1: To obtain useful information UTM2: To be helpful in my work UTM3: To be useful for my business UTM4: To improve my personal work
Sharing	Using the SNS, SHA1: I can share my knowledge with many others SHA2: (dropped) SHA3: (dropped) SHA4: I can actively participate in sharing knowledge and experience with others SHA5: I can get different knowledge about the same matters from experienced others SHA6: I can participate in a special interest group for sharing opinions
Collaboration	Using the SNS, COL1: I can collaborate with others to create knowledge COL2: I can jointly perform tasks effectively COL3: I can plan group events or activities efficiently COL4: I can easily collaborate with others to finish tasks COL5: (dropped) COL6: I can actively collaborate with others who have different backgrounds and experiences
Personal performance	Based on my experience with the SNS, PPE1: (dropped) PPE2: I can improve my social relationships PPE3: I can effectively update my information for my life PPE4: I can complete my personal tasks more effectively PPE5: I can easily share personal information with others PPE6: I can easily find people who have expert knowledge for my personal interests PPE7: I can effectively communicate with others about various personal issues
Job Performance	Based on my experience with the SNS, JPE1: I can improve business processes JPE2: I can improve job performance JPE3: (dropped) JPE4: I can improve communication in work JPE5: I can improve my understanding about the organizational goals and objectives JPE6: I can find a better way to do business activities JPE7: I can easily learn new knowledge and information needed for business

Appendix C: Demographic Analysis

Category		Freq.	Ratio (%)	Category		Frequency	Ratio (%)
Gender	Man	245	69.4	Age	20~25	36	10.2
	Woman	108	30.6		26~30	87	24.6
	Total	353	100.0		31~35	103	29.2
Education	Under high school	2	0.6		36~40	65	18.4
	High school graduates	65	18.4		Over 41	62	17.6
	College students	24	6.8		Total	353	100.0
	College graduates	238	67.4	Annual income (Unit: 10,000 won)	Less than 1,100	10	2.8
	Graduate school students	2	0.6		1,101~3,300	124	35.1
	Graduate school graduates	19	5.4		3,301~6,600	178	50.4
	Others	3	0.8		Over 6,601	41	11.6
	Total	353	100.0		Total	353	100.0
SNS usage type	Cyworld	253	38.2	Length of hours to Use	Less than 15 minutes	101	28.6
	Facebook	171	25.7		15 - 30 minutes	97	27.5
	Twitter	131	19.8		30 – 60 minutes	105	29.7
	Me2day	28	4.2		1 - 2 hours	95	9.3
	Youtube	61	9.2		Over 2 hours	17	4.8
	Qqspace	6	0.9		Total	353	100.0
	Other	13	2.0	Number of visits	Sometimes	33	9.3
	Multiple responses (total)*	663 (353)	100.0		Once a day	123	34.8
					Twice a day	97	27.5
Length of usage	Less than 1 year	72	20.4		Three times a day	54	15.3
	1 - 2 years	58	16.4		Over three times a day	46	13.0
	2 - 3 years	47	13.3		Total	353	100.0
	3 - 4 years	46	13.0	User trend	Early adopter	93	26.3
	Over 4 years	130	36.8		Later adopter	260	73.7
	Total	353	100.0		Total	353	100

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Use of Online Social Networking Services from a Theoretical Perspective of the Motivation-Participation-Performance Framework

Appendix D: Results of Exploratory Factor Analysis

	Vertical	Horizontal	Hedonic	Utilitarian	Sharing	Collaboration	Personal performance	Job performance
VSM1	**0.800**	0.499	0.297	0.161	0.360	0.316	0.299	0.324
VSM2	**0.845**	0.574	0.303	0.305	0.453	0.403	0.416	0.432
VSM3	**0.835**	0.505	0.343	0.228	0.383	0.387	0.310	0.348
VSM4	**0.714**	0.424	0.375	0.358	0.444	0.312	0.347	0.326
HSM1	0.447	**0.828**	0.359	0.402	0.438	0.382	0.429	0.384
HSM2	0.528	**0.882**	0.346	0.395	0.465	0.418	0.419	0.393
HSM3	0.561	**0.890**	0.378	0.384	0.461	0.426	0.418	0.423
HSM4	0.578	**0.826**	0.341	0.309	0.470	0.370	0.427	0.442
HEM1	0.408	0.345	**0.808**	0.189	0.337	0.223	0.250	0.218
HEM2	0.170	0.276	**0.741**	0.293	0.247	0.209	0.232	0.206
HEM3	0.248	0.312	**0.782**	0.205	0.245	0.215	0.197	0.226
HEM4	0.403	0.389	**0.873**	0.249	0.351	0.214	0.313	0.262
UTM1	0.289	0.327	0.305	**0.776**	0.541	0.438	0.531	0.462
UTM2	0.284	0.372	0.190	**0.873**	0.480	0.458	0.536	0.501
UTM3	0.241	0.347	0.205	**0.850**	0.414	0.424	0.531	0.525
UTM4	0.275	0.395	0.246	**0.808**	0.434	0.420	0.509	0.505
SHA1	0.443	0.476	0.353	0.483	**0.783**	0.447	0.528	0.463
SHA4	0.349	0.388	0.321	0.419	**0.786**	0.487	0.531	0.460
SHA5	0.392	0.419	0.269	0.455	**0.829**	0.529	0.565	0.486
SHA6	0.434	0.387	0.213	0.376	**0.757**	0.544	0.487	0.481
COL1	0.373	0.425	0.276	0.507	0.631	**0.812**	0.548	0.528
COL2	0.380	0.382	0.230	0.408	0.492	**0.837**	0.466	0.476
COL3	0.361	0.372	0.209	0.441	0.462	**0.864**	0.464	0.464
COL4	0.296	0.351	0.218	0.403	0.485	**0.807**	0.464	0.458
COL6	0.379	0.374	0.158	0.396	0.511	**0.786**	0.491	0.508
PPE2	0.368	0.372	0.258	0.508	0.540	0.447	**0.787**	0.578
PPE3	0.353	0.378	0.255	0.494	0.519	0.475	**0.813**	0.612
PPE4	0.361	0.401	0.229	0.535	0.559	0.493	**0.840**	0.604
PPE5	0.345	0.425	0.279	0.554	0.489	0.514	**0.824**	0.614
PPE6	0.368	0.440	0.235	0.510	0.547	0.497	**0.791**	0.564
PPE7	0.367	0.380	0.265	0.498	0.556	0.464	**0.800**	0.577
JPE1	0.365	0.415	0.275	0.547	0.513	0.484	0.639	**0.854**
JPE2	0.370	0.359	0.221	0.491	0.513	0.476	0.620	**0.852**
JPE4	0.375	0.360	0.211	0.374	0.430	0.419	0.513	**0.751**
JPE5	0.336	0.349	0.190	0.490	0.429	0.446	0.570	**0.761**
JPE6	0.359	0.388	0.205	0.468	0.462	0.485	0.585	**0.822**
JPE7	0.410	0.410	0.230	0.491	0.482	0.542	0.580	**0.796**

Appendix E: Common Method Bias Testing

Indicator	Theoretical construct loading	T-stat	P-value	Common method factor loading	T-stat	P-value
VSM1	0.89	36.32	P < 0.001	-0.11	3.47	P < 0.001
VSM2	0.80	16.56	P < 0.001	0.07	1.38	P > 0.05
VSM3	0.88	30.03	P < 0.001	-0.06	1.64	P > 0.05
VSM4	0.62	12.15	P < 0.001	0.10	1.94	P > 0.05
HSM1	0.84	30.11	P < 0.001	-0.01	0.22	P > 0.05
HSM2	0.90	41.80	P < 0.001	-0.03	1.14	P > 0.05
HSM3	0.90	41.19	P < 0.001	-0.01	0.30	P > 0.05
HSM4	0.79	23.21	P < 0.001	0.05	1.1	P > 0.05
HEM1	0.77	33.00	P < 0.001	0.03	1.08	P > 0.05
HEM2	0.77	26.12	P < 0.001	-0.03	0.78	P > 0.05
HEM3	0.83	34.96	P < 0.001	-0.05	1.67	P > 0.05
HEM4	0.84	48.08	P < 0.001	0.04	1.57	P > 0.05
UTM1	0.64	15.00	P < 0.001	0.14	3.21	P < 0.001
UTM2	0.91	32.04	P < 0.001	-0.04	1.24	P > 0.05
UTM3	0.93	38.32	P < 0.001	-0.08	2.51	P < 0.01
UTM4	0.82	25.79	P < 0.001	0.00	0.06	P > 0.05
SHA1	0.71	13.38	P < 0.001	0.08	1.38	P > 0.05
SHA4	0.84	17.41	P < 0.001	-0.06	1.09	P > 0.05
SHA5	0.87	21.61	P < 0.001	-0.04	0.95	P > 0.05
SHA6	0.76	14.47	P < 0.001	0.00	0.08	P > 0.05
COL1	0.64	11.86	P < 0.001	0.21	3.94	P < 0.001
COL2	0.88	26.91	P < 0.001	-0.05	1.36	P > 0.05
COL3	0.97	37.04	P < 0.001	-0.13	3.73	P < 0.001
COL4	0.87	23.05	P < 0.001	-0.07	1.71	P > 0.05
COL6	0.73	14.82	P < 0.001	0.06	1.18	P > 0.05
PPE2	0.77	14.72	P < 0.001	0.02	0.26	P > 0.05
PPE3	0.85	14.82	P < 0.001	-0.04	0.63	P > 0.05
PPE4	0.87	19.44	P < 0.001	-0.04	0.77	P > 0.05
PPE5	0.84	18.42	P < 0.001	-0.01	0.25	P > 0.05
PPE6	0.73	11.79	P < 0.001	0.07	1.16	P > 0.05
PPE7	0.78	18.13	P < 0.001	0.01	0.29	P > 0.05
JPE1	0.77	18.34	P < 0.001	0.08	1.84	P > 0.05
JPE2	0.84	23.30	P < 0.001	0.01	0.37	P > 0.05
JPE4	0.83	17.13	P < 0.001	-0.09	1.79	P > 0.05
JPE5	0.77	14.81	P < 0.001	-0.01	0.05	P > 0.05
JPE6	0.86	22.72	P < 0.001	-0.05	1.35	P > 0.05
JPE7	0.68	13.46	P < 0.001	0.12	2.42	P < 0.01

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