

Electronic Word of Mouth and Knowledge Sharing on Social Network Sites: A Social Capital Perspective

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Abstract

Social network sites (SNSs) have attracted millions of users who interact with each other and with companies. However, few studies have examined the impact of knowledge sharing through electronic word of mouth (eWOM) in the context of SNSs. This paper investigates the relationship among the use of SNSs, users' social capital, knowledge sharing, and eWOM. The results show that the intensity of use of SNSs is positively related to trust and identification which have a positive effect on eWOM quality. In addition, eWOM quality has a positive effect on knowledge sharing. Female users feel more strongly about eWOM quality when they trust others, or when they perceive that they belong to their SNS community when they use their SNS. Furthermore, female users feel more strongly about knowledge sharing when they perceive that eWOM quality is good. This study provides the theoretical framework of the relationship between eWOM and knowledge sharing on SNSs from the perspective of social capital. Practitioners could use this study as a rationale to utilize SNSs internally for organizational use, and externally for marketing purposes.

Keywords: Electronic word of mouth (eWOM), eWOM quality, Knowledge sharing, Social network sites (SNSs), Social capital

1 Introduction

We have entered a period of socio-economic change that has the potential to be as monumental as the industrial revolution. The Internet has been the most influential factor for this change. The Internet is not only for the medium of information or communication. Web 2.0 has changed the Internet paradigm [80], since it involves the user as a creator of content. Users help organize it, share it, remix it, and critique it [63]. Web 2.0 offers new business approaches and supports knowledge management [55]. One of Web 2.0's most utilized services is social media which encompass social network sites (SNSs) [18].

The rise of SNSs has changed the way people interact and network. SNSs are Internet Websites "in which participants create a self-descriptive profile and make links to other members" [25] p. 71. SNSs make it possible for users to keep track of their existing relationships and to build new ones. SNSs also make it possible to overcome the traditional richness-reach trade-off. Richness means "the quality of information," and reach means "the number of people who participate in the sharing of that information" [27] p. 23. In the traditional richness-reach tradeoff, the quality of the information decreases with increasing the number of people who participate in the sharing of that information [23]. However, SNSs allow users to have same rich interactions with many other people. SNSs have attracted millions of users since their introduction, and many of these users have integrated these sites into their daily practices [65]. Besides, a large portion of the traffic on online shopping sites and other Web 2.0 sites comes from SNSs [65]. These facts suggest that SNSs have the potential to (1) create social capital, (2) facilitate knowledge sharing, (3) be an effective medium of electronic word of mouth (eWOM) and (4) be utilized by organizations for internal and external outcomes. Social capital is "the resource available to actors as a function of their location in the structure of their social relations" [1] p. 18. WOM is one of the most important interpersonal communication methods among varied channels for receiving information [33]. There are various forms of WOM such as traditional offline WOM and Internet facilitated online WOM (eWOM) [70]. Even though the motives for traditional WOM can be expected to be relevant for eWOM [43], there are differences between them. While traditional WOM involves an immediate conversation, eWOM involves asynchronous interactions among people separated by time and space [70]. This study focuses on eWOM, since it examines social networking environments, and SNSs are an ideal tool for eWOM [18].

Organizations have utilized SNSs for networking and collaboration. For example, social networking tools have strengthened weak ties among colleagues at IBM and Microsoft [48]. IBM has used social networking tools for keeping employees connected, bridging the generation gaps, and innovating through collaboration [58]. Social networking tools are the technology to help people interact with others from anywhere at any time [58]. Firms aim to integrate customers into their innovation processes [56]. Social networking tools also allow organizations to increase interactions with their customers for crowdsourcing. At Starbucks, SNSs have been used for connecting with customers, notifying them of promotions, receiving product suggestions and monitoring consumer-to-consumer conversation [29]. Dell and Starbucks have been using suggestions, discussions, and votes on thousands of new product and service ideas from a large customer community. However, research indicates that there are both positive and negative factors influencing the idea generation process, and the results of the idea generation are not always beneficial [7].

Organizations are utilizing SNSs to encourage customer communication which builds brand loyalty. Employees may use SNSs for knowledge sharing for problem solving their tasks. To leverage SNSs effectively, we need to understand how knowledge is shared in SNSs and how eWOM leads to knowledge sharing. In addition, organizations are interested in building social capital, since it generates a positive effect of interaction among employees [66]. Researchers from various disciplines have examined SNSs, their meaning and usage, within cultural differences, and their practical usage. However, few studies have examined the relationships between SNSs, social capital, knowledge sharing, and eWOM. We believe that trust, norms, obligations, and identification play an important role in sharing knowledge and affect eWOM quality in online social networking environments. Even though [26] explore the relationship between the use of Facebook and the formation and maintenance of social capital, the relationships between SNSs, social capital, knowledge sharing, and eWOM remain unresolved. There is little research that examines eWOM's underlying sources of effectiveness, which limits understanding of the medium [49]. In addition, there is little discussion on the concept of eWOM quality. Although prior studies have found that WOM quality has a positive effect on online trust [5], the context has not been SNSs. Furthermore, there are few studies, which have examined the effects of social capital knowledge sharing through eWOM in the context of SNSs. Thus, this paper closes these research gaps by exploring whether the intensity of use of SNSs is positively related to users' relational social capital (trust, norms, obligations, and identification), and knowledge sharing and eWOM. The research questions are (1) Does the use of SNSs build social capital? (2) Does social capital facilitate knowledge sharing in SNSs? (3) Is social capital positively related to eWOM quality in SNSs? (4) Is eWOM quality positively related to knowledge sharing in SNSs?

This study will introduce a theoretical model tested with empirical data for researchers to study the utilization of SNSs; and could provide rationale for practitioners to utilize SNSs internally for organizational networking and organizational learning, and externally for marketing purposes such as increasing customers' loyalty and spreading information about products.

This paper is organized as follows. The literature review of the research of SNSs, social capital, knowledge sharing, and eWOM is presented followed by the model and the hypotheses. And then, the methodology designed to test the hypotheses is presented followed by the results and discussion. The implications of this study are discussed next. Finally, the conclusion with limitations of this study and future research are presented.

2 Literature Review

The literature review of the research of SNSs, social capital, knowledge sharing, and eWOM is discussed.

2.1 Social Network Sites

SNSs are defined as web-based services that allow users to “(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” [12] p. 211. There have been many SNSs supporting various interests and practices. While their basic technologies are similar, the features of SNSs are varied. Most of the SNSs support the existing social networks, and some allow strangers to connect to new networks based on interests. Even though some SNSs organize communities by interests, the majority are primarily organized based on people, not on interests. SNSs are unique in that they enable social networks to be visible to people, and enable people to articulate their social networks [42].

A theoretical lens for viewing SNSs is that of social ties. Social ties are “the links that bind individuals to other individuals, as manifested in the frequency and kinds of communications among individuals” [64] p. 480. A social tie exists between individuals wherever they exchange goods and services, or share information [41]. One can distinguish between strong and weak social ties by four dimensions: time, emotional intensity, mutual confidence and reciprocity [35]. Strong ties are maintained by frequent and emotional communication, shared confidences, and reciprocity between individuals over time. On the contrary, weak ties are maintained by less frequent and less emotional communication, and it does not require shared confidences or reciprocity [35]. Computer networks draw on weak ties connecting people across time and distance, and make it easier to reach more people with weak-tie contacts [21].

SNSs have been examined along multiple dimensions including usage [25]; security and privacy [37], [52]; social ties [26], [54]; cultural differences [44]; and natural disaster management [72]. Table 1 shows the previous research about SNSs. Although [26] examined the relationship between the use of SNSs and social capital, and found that there was a strong association between the use of SNSs and social capital; their study focused on bridging and bonding rather than the theoretical relational dimension.

Table 1: Research about SNSs

Authors	Research
[25]	Social implications of the public display of one's social network
[37]	The patterns of information revelation in online social networks and their privacy implications
[52]	The way how phishing attacks can be honed by means of publicly available personal information from social networks
[26]	A strong association between use of Facebook and social capital, with the strongest relationship being to bridging social capital
[54]	The relationship between profile structure and number of friends, and how it works to encourage connections and articulated relationships between users
[44]	The use of mobile phone for SNS usage in South Korea
[72]	The use of SNSs in the 2007 southern California wildfires

2.2 Social Capital

Social capital has various definitions in different disciplines [1]. It is considered both as a cause and an effect [81]. Social capital refers to the resources accumulated through the relationships among people [19]. Social capital cannot be separated from the relationships among people [61]. Furthermore, social capital is developed through interactions when the parties in the relationship facilitate those interactions. Social capital increases the quality and quantity of knowledge transfer through constant social interaction [48].

There are three dimensions of social capital [61]. The structural dimension includes network ties (access, timing, and referrals), network configuration, and appropriable organization. The cognitive dimension includes shared codes and language, and shared narratives. Finally, the relational dimension includes trust, norms, obligations and identification. The organizational enabling conditions stated for supporting social capital creation are four fold: (1) creating

opportunities for exchange, (2) creating an expectation that such combinations and exchanges will have value, (3) creating motivation for both sides to participate and (4) creating structural norms and symmetries to support combination capability [61]. The components of the organizational enablers construct are: (1) Bridging, where individuals are brought together purposely for collective work, (2) Bonding, where cognitive norms and implicit understanding is developed by personnel on both sides, and (3) Linking, where structural connections are established for jointly owning ongoing activities [23].

The resources from relationships can differ in form and function. Social capital may induce negative influences, but in general social capital has a positive influence on interaction among participants [66]. Bridging social capital is linked to weak ties [66]. In this perspective, weak ties are loose connections between individuals who may provide information or new perspectives for each other without emotional connection [35]. The importance of Internet-based linkages for weak ties has been emphasized, which can serve as the foundation of bridging social capital [79]. Social capital and relationship building can occur in SNSs [25]. Bridging social capital may be increased by SNSs [25], [79]. SNSs can increase the weak ties because technology enables such ties cheaply and enables them to be easily maintained [25].

However, "not all dimensions of social capital are mutually reinforcing" [61] p. 251. One of the barriers to the transfer of best practice within organizations is the existence of constant relations between the source and the recipient [74]. Key aspects of social capital, which are related to the context for knowledge exchange, belong to the relational dimension [53]. Furthermore, the relational dimension of knowledge sharing has not been fully understood, with many fragmentary results [11]. Thus, this study focuses on the relational dimension of social capital which concerns why and when people share knowledge. This study follows the manifestations of the relational dimension from [61], which are trust, norms, obligations, and identification.

Trust has been studied in various disciplines [8], and there have been many definitions of trust [47]. In this study, trust is "an expectation that others one chooses to trust will not behave opportunistically by taking advantage of the situation" [31] p. 54. This study concentrates on interpersonal trust. Trust has also been viewed as behavioral intentions that result from specific beliefs in competence, integrity, and benevolence [59]. Trust is the main source for the social capital that contributes to the value of relationship [82]. Trust is also crucial in social interactions, especially in online environments [31]. People are more willing to engage in social interaction, when trust is high in relationships [66]. On the contrary, as members participate in the community, it is positively related for members to trust each other [69]. These indicate that there is a positive relationship between social interactions and trust. Besides, SNSs allow social networks to be visible to people, and enable people to articulate their social networks [42]. Connections in SNSs are based on users' existing networks, and they join each other's networks by mutual agreement. These may influence the credibility of their networks, and increase trust. E-commerce-based systems have been used to build trust [5], [60]. In addition, a study found that electronic communities represent an important vehicle for developing trust [57]. Accordingly, we hypothesize the following:

H1a: The SNS usage intensity increases trust in SNSs.

A norm exists when others, not an actor, hold the socially defined right to control an action [61]. A norm constitutes a form of social capital when it exists and is effective [19]. As members participate in the community, it is positively related to evolve social norms that govern their interactions [69]. People participate and interact in SNSs. On the contrary, norms motivate members to participate in virtual communities [49]. These indicate that there is a positive relationship between participation and norms. Collaborative norms facilitate coordination and cooperation for mutual benefit [66]. A norm is an accepted way in a community, which is facilitated by SNSs beyond shared geography. Thus, we hypothesize the following:

H1b: The SNS usage intensity increases norms in SNSs.

Obligations are like credit and represent "a commitment or duty to undertake some activity in the future" [61] p. 255. People feel durable obligations from feelings of thankfulness, and respect or from feelings of the membership in a family, a school, or an organization [61]. Obligations are differentiated from norms by relating to more personal relationships. SNSs offer users their own unique space [30], which can be oriented towards obligations in personal relationships such as connecting those with common interests [26]. As members participate in the community, it is positively related for them to define expectations and obligations [69]. In addition, a study found that electronic communities represent an important vehicle for developing obligations [57]. Consequently, we hypothesize the following:

H1c: The SNS usage intensity increases obligations in SNSs.

Finally, identification is "the process whereby individuals see themselves as one with another person or group of people" [61] p. 256. Identification influences the expectation of value to be achieved [61]. As members participate in the community, they develop an identity for the community [69]. On the contrary, identification motivates members to participate in virtual communities [49]. These indicate that there is a positive relationship between participation and identification. People join SNSs for feelings of affiliation, belonging, and goal achievement [68]. Users join each other's networks from their existing networks, and/or they go through profiles to find any similarities between them;

which may increase identification. These indicate that there is a positive relationship between the usage of SNSs and identification. Therefore, we hypothesize the following:

H1d: The SNS usage intensity increases identification in SNSs.

In the next section, we discuss knowledge sharing and eWOM quality as it relates to social capital in SNSs.

2.3 Knowledge Sharing and eWOM Quality

It is said that our society has been turning into a knowledge society [62]. Knowledge is defined as “a justified belief that increases an entity’s capacity for effective action” [2] p. 109. Knowledge sharing is defined as “the combination of one or both parties seeking knowledge in response to the request, such that one or both parties are affected by the experience” [32] p. 4. In this study, we explore knowledge sharing through eWOM. eWOM is “any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet” [43] p. 39. eWOM conveys users’ experiences both positive and negative [73]. WOM is informal, person-to-person communication between an individual and another in regard of a product, brand, organization, or service [3]-[4], [40]; which can be expected for eWOM. WOM quality has largely been studied in marketing, especially in retailer websites. However, there is little research on eWOM quality, while there are many studies about eWOM. WOM quality has been viewed as the degree to which the WOM platform on the Website is considered to be relevant, helpful, or useful [5]; which can be expected for eWOM quality.

WOM usually involves information [3]-[4], [40], [43], [71], [73]. However, eWOM may involve more than information, since eWOM usually involves personal experiences and opinions [22] through the written word [71]. Written communication is more logical than oral communication; since a word follows a word in an orderly manner in writing, and logic is embedded in the step-by-step linear process [36]. Opinion-passing behavior is an enhanced dimension of eWOM in SNSs [18]. SNS users tend to get valuable information about products from others’ knowledge of the products, which facilitates eWOM behavior in SNSs [18]. Besides, information from personal sources is custom-tailored in eWOM [71]. People willingly exchange tacit knowledge about personal experiences of products and brands in virtual communities [49].

Individuals need to be willing to share knowledge, since it cannot be forced effectively [10]. Communities are a knowledge sharing entity, and communities and social networks are where people feel membership and commitment [50]. Social capital provides the conditions that facilitate knowledge sharing [38], [51], [53]; and knowledge benefits are derived from high level of social capital [61]. The use of the Internet supplements social capital [79]. Especially, the relational dimension of social capital concerns the motivation to share knowledge [66]. Besides, people are more likely to share knowledge when social relationships are strong [74].

Trust is necessary for knowledge sharing and eWOM quality, since we believe that trust is the first essential to people both in face-to-face environments and online environments. Trust influences the effectiveness of knowledge sharing and organizational learning [75]. Mutual trust has a positive influence on knowledge transfer [50], and mutual trust among the members of an organization is a critical factor for knowledge sharing [17]. Trust also protects against opportunism and obstruction of sharing knowledge [74]. Trust is important in knowledge sharing in virtual communities [16], [46]-[47]. In the same way, there may be a positive relationship between trust and knowledge sharing when people use SNSs. Trust promotes mutual understanding and increases information exchange [82]. E-commerce-based WOM platforms have been used to build trust [5], [60]. Trust is positively associated with knowledge quality [16]. An online medium is an important communication channel for building customer trust, which facilitates eWOM [22]. Trust is a key determinant of eWOM in SNSs [18]. Moreover, trust has a positive effect on WOM [67]. Trust also provides means of generating effective eWOM (49). Trust may have same influence on eWOM quality when people use SNSs. Accordingly, we hypothesize the following:

H2a: Trust increases knowledge sharing in SNSs.

H2b: Trust is positively related to eWOM quality in SNSs.

Norms are important in this study, since norms are suggested to have a moderating role in knowledge exchange [20]. Collaborative norms have played a critical role in facilitating knowledge seeking [9]. Similarly, norms may play a role in knowledge sharing in online social networking environments. As far as we know, there has been little research studying the relationship between norms and eWOM quality in SNSs. However, social structure and cooperation are effective for WOM in information transfers [28]. Norms are sources of effective eWOM (49). In the similar manner, collaborative norms may be effective for eWOM when people use SNSs. Thus, we hypothesize the following:

H3a: Norms increase knowledge sharing in SNSs.

H3b: Norms are positively related to eWOM quality in SNSs.

Obligations are also important in this study, since members’ knowledge sharing is motivated by moral obligation in online communities [78]. Weak ties, which are maintained by less frequent and less emotional communication, do not require shared confidences or reciprocity [35]. However, a newcomer in an organization feels an obligation to reciprocate when she/he receives knowledge [34]. Even though most of the interactions in SNSs are private, people

may feel an obligation to reciprocate when they receive knowledge in SNSs. As far as we know, there have been very few studies examining the relationship between obligations and eWOM quality. However, obligations may play a role to influence eWOM quality, since eWOM activity may address the need to give something to the receiver [24]. Customers are motivated to engage in eWOM to give the company to return for a good experience [43]. That may be similar when people use SNSs. Consequently, we hypothesize the following:

- H4a: Obligations increase knowledge sharing in SNSs.
- H4b: Obligations are positively related to eWOM quality in SNSs.

Identification is an important antecedent of knowledge sharing and eWOM quality, since it has been studied as a major motivator for sharing knowledge. Identification influences the motivation to exchange knowledge [61]. In SNSs, users tend to search for people with whom they have connections [54]. From these, people would not unsparingly share knowledge unless they identify themselves with other people. There is a positive relationship between social identification and knowledge sharing [77]. In addition, identification is positively related to the quantity of knowledge sharing [16]. Besides, customer identification leads to positive WOM through customer commitment [14]. Customers may engage in eWOM communication for reasons of identification and social integration. They perceive these benefits when they participate in and belong to online communities [60]. Therefore, we hypothesize the following:

- H5a: Identification increases knowledge sharing in SNSs.
- H5b: Identification is positively related to eWOM quality in SNSs.

As far as we know, the relationship between eWOM quality and knowledge sharing has not been studied directly. However, knowledge quality is positively related to system trust, and system trust is positively related to knowledge sharing behavior through users' intention to share knowledge [15]. We believe that eWOM quality plays an important role to share knowledge, especially in online social networking environments. We posit that if SNS users feel that SNS content is relevant or helpful for them, then they may want their friends to have the same benefits. As a result, we hypothesize the following:

- H6: eWOM quality is positively related to knowledge sharing in SNSs.

Figure 1 shows the conceptual model.

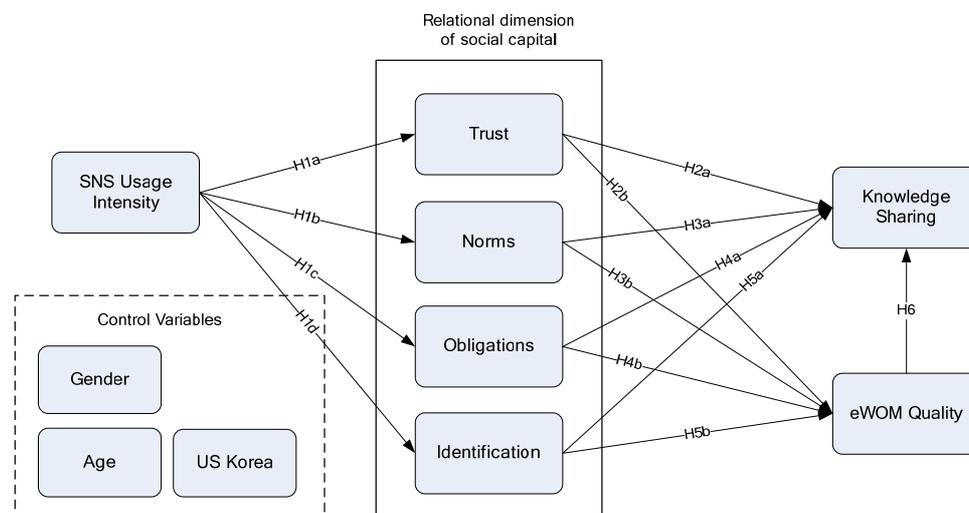


Figure 1: Conceptual model

3 Methodology

To examine whether the intensity of use of SNSs is positively related to users' relational social capital, and knowledge sharing and eWOM, a survey was employed.

3.1 Measurement Development

As with other research, this study is subject to biases resulting from item and measurement. To reduce the common method bias, we tried to develop more concrete survey items. The measures used to operationalize the seven constructs, which are SNS Usage Intensity, Trust, Norms, Obligations, Identification, Knowledge Sharing and eWOM Quality, were adapted and modified from previous research. Most of the items were examined in SNSs, virtual

communities, or online environments. This is important, since the way how people interact in online social networking environments may be different from that in traditional face-to-face environments. The initial items on the SNS Usage Intensity were based on [26]. The initial items on Trust were based on [81] and [47]. The initial items on Norms were based on [53]. The initial items on Obligations were based on [15]. The initial items on Identification were based on [16], [26], and [46]. The initial items on Knowledge Sharing were based on [53]. Finally, the initial items on eWOM Quality were based on [5] and [16].

A pretest of fifty-one items, excluding three demographic items, was performed by five IS researchers and four marketing researchers. They categorized and prioritized the initial items. They evaluated how favorable (from 1 as the lowest to 7 as the highest) each item was with regard to the construct. Three items were removed from the questionnaire, since five of the judges categorized them differently. Besides, twelve items were removed from the questionnaire, since the judges gave low scores for them with regard to the construct. We removed any items from the questionnaire that even one judge had categorized differently, or even one judge had given equal or below 4. We used strict criteria for selecting the items to make the survey items clear, even though the initial items were adapted and modified from previous research. As a result, thirty-nine items including three demographic items were selected for the questionnaire in the Appendix A. A Seven-point Likert scale with anchors ranging from Strongly Disagree (1), Neutral (4), to Strongly Agree (7) was used.

Finally, one item of Trust and two items of eWOM Quality were removed, since they substantially affected reliability (Cronbach's alpha). Two items of Obligations and one item of Knowledge Sharing were removed, since they substantially affected reliability (factor loadings). The final questionnaire is in the Appendix A.

3.2 Control Variables

Culture determines the identity of a human group [45]. There are differences and similarities among the culture patterns among countries [45]. Facebook was launched in the U.S., and it is the first SNS which has been spread over the world. Koreans had intensively used their SNS, CyWorld, since 1999 before Facebook became a fad. However, more and more Koreans have been spending more time on Facebook than CyWorld. We think it would be interesting to compare the users who spread Facebook to the world and the users who have had longer experience in using SNSs. Therefore, we controlled for the two regions to find whether there would be differences between them. We also controlled for gender and age.

3.3 Survey Administration

The study sample was taken from undergraduate and graduate students who were using Facebook in two university campuses during January 2012 in South Korea, and three mid-western university campuses during February 2012 in the U.S. Facebook is the most popular SNS in the world that it would be a logical platform for this study. Students are frequent users of SNSs. Thus, we assume that they are representative of the populations we are interested in.

The questionnaire had been originally developed in English, and distributed in English to the U.S. subjects. It had been translated in Korean for the Korean subjects. However, two English-Korean bilinguals confirmed the translation to ensure the meanings of the questions held true. Researchers stood on campuses and asked people if they wanted to take the survey and if they were using Facebook, then handed them the survey to complete on paper and give back to researchers at that time. Responses were received from 227 students. However, six responses were removed because of missing values. Responses from 221 students were analyzed. 52.5% of the respondents were female students (116) and 47.5% of the respondents were male students (105). 19.9% of the respondents were younger than 21 (44), 53.8% of the respondents were between 21 and 30 years old (51), 23.1% of the respondents were between 31 and 40 years old (17), and 3.2 % of the respondents were older than 40 (7). Finally, 45.7 % of the respondents lived in the U.S. (101), and 54.3% of the respondents lived in South Korea (120). Table 2 shows the descriptive statistics.

Table 2: Descriptive statistics

Gender	Response
Female	116 (52.5%)
Male	105 (17.5%)
Age	Response
Younger than 21	44 (19.9%)
21-30	51 (53.8%)
31-40	17 (23.1%)
Older than 40	7 (3.2%)
Location	Response
US	101 (15.7%)
South Korea	120 (54.3%)

4 Results

The partial least squares (PLS) method was used to examine the hypotheses, since PLS focuses on prediction of the constructs rather than explanation of the relationships between items and it works with a wider range of sample sizes than the structural equation model (SEM) [39]. The data were analyzed with PASW version 18 and PLS-Graph build 1130.

Table 3 shows the reliability of constructs. The composite reliability ranges from .71 to .93. The reliability of all constructs is adequate since they are above .7. These results support construct validity of the model.

Table 3: Reliability of constructs

Construct	Composite Reliability	Number of Items
Intensity	.93	3
Trust	.84	5
Norms	.71	3
Obligations	.91	4
Identification	.84	5
Knowledge Sharing	.86	5
eWOM Quality	.84	5

Table 4 shows the correlation estimates between the constructs, and the square root of average variance extracted (AVE) on diagonal values. The AVEs are between .50 and .82, which are above the required value of .50. The square roots of AVEs which are from .71 to .90 are higher than the absolute value of correlation estimates which are from .01 to .70. Only the correlation estimate between Trust and eWOM Quality (.72) is high. However, there is no cross-loading among the measured variables. Taken all together, these results support the discriminant validity of the model.

Table 4: Correlations of constructs

Construct	Intensity	Trust	Norms	Obligations	Identification	Knowledge Sharing	eWOM Quality
Intensity	.90						
Trust	.51	.72					
Norms	.11	-.19	.71				
Obligations	-.11	-.01	.17	.85			
Identification	.51	.70	-.16	-.02	.71		
Knowledge Sharing	.45	.61	-.15	.03	.65	.74	
eWOM Quality	.56	.72	-.19	.01	.70	.69	.71

Table 5 summarizes the results of the hypotheses supported, and Figure 2 shows the analysis of the structural model. Hypothesis 1a, the SNS usage intensity increases trust in SNSs, is supported; .51, $t = 10.02$. Hypothesis 1d, the SNS usage intensity increases identification in SNSs, is supported; .51, $t = 9.90$. Hypothesis 2b, trust is positively related to eWOM quality in SNSs, is supported; .66, $t = 12.52$. Hypothesis 5b, identification is positively related to eWOM quality in SNSs, is supported; .30, $t = 6.05$. Finally, hypothesis 6, eWOM quality is positively related to knowledge sharing in SNSs, is supported; .82, $t = 5.01$. The R^2 values show that eWOM Quality is explained the most ($R^2 = .91$), Knowledge Sharing the second most ($R^2 = .49$), Identification the third most ($R^2 = .26$), and Trust the fourth most ($R^2 = .25$).

Table 5: Hypotheses supported

Hypothesis	Supported	Estimates	t-statistics
SNS Usage Intensity → Trust	Yes	.51	t = 10.02
SNS Usage Intensity → Norms	No	.11	t = 1.32
SNS Usage Intensity → Obligations	No	-.11	t = 1.22
SNS Usage Intensity → Identification	Yes	.50	t = 9.90
Trust → Knowledge Sharing	No	.03	t = 0.12
Trust → eWOM Quality	Yes	.66	t = 12.52
Norms → Knowledge Sharing	No	-.02	t = 0.25
Norms → eWOM Quality	No	-.02	t = 0.57
Obligations → Knowledge Sharing	No	.02	t = 0.32
Obligations → eWOM Quality	No	.03	t = 1.09
Identification → Knowledge Sharing	No	.16	t = 1.00
Identification → eWOM Quality	Yes	.30	t = 6.05
eWOM Quality → Knowledge Sharing	Yes	.82	t = 5.01

For control variables, there is no significant difference among age. There is no significant difference between the U.S. and South Korea, either. In addition, gender does not affect the relationship between the SNS usage intensity and trust, and the relationship between the SNS usage intensity and identification. However, female students experience stronger relationship between trust and eWOM quality in SNSs, $t = 10.34$, $r = .57$. Female students also experience stronger relationship between identification and eWOM quality in SNSs, $t = 6.88$, $r = .42$. Finally, female students experience stronger relationship between eWOM quality and knowledge sharing in SNSs, $t = 3.53$, $r = .23$.

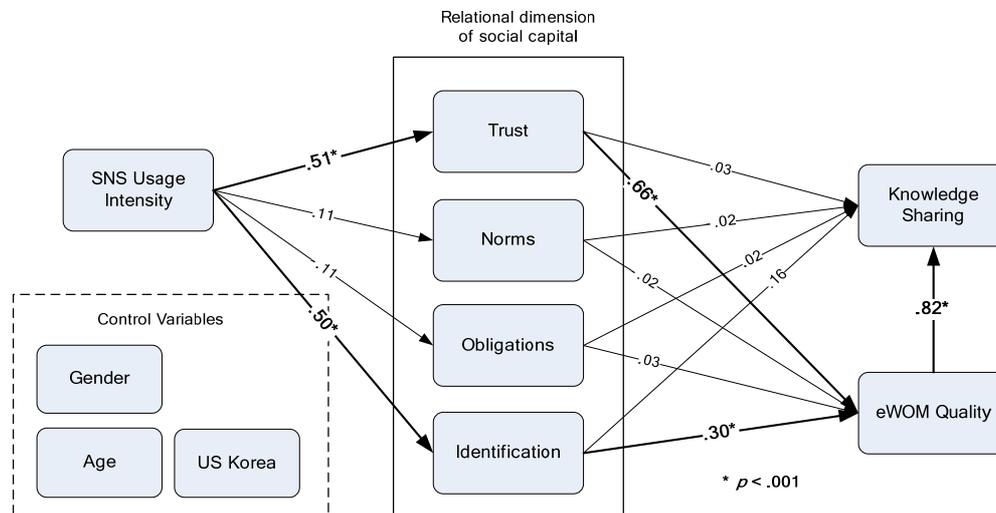


Figure 2: Structural model

5 Discussion

The results show that the SNS usage intensity increases trust and identification. The results also show that trust and identification are positively related to eWOM quality. In addition, eWOM quality is positively related to knowledge sharing. Therefore, returning to our hypotheses, we are able to state that there is a positive relationship between SNS use and some of the aspects of relational social capital (trust and identification). However, the results show that people, students in this study, do not feel that they use their SNS for norms or obligations. This could be because they are using SNSs in their private environments, rather than in work environments. Norms are more important in organizations since they form the basis for the organizational culture. Obligations might be more important in formal relationship than amongst casual friends and family in SNSs. We are also able to state that the trust and identification aspects of relational social capital have positive influence on eWOM quality in SNSs. However, norms and obligations do not have influence on eWOM quality in SNSs. There are two types of relational social capital. One is based on identification and trust and is relevant to the use of SNSs. The other is based on norms and obligations and is not relevant to the student sample used in this study. Previous studies found the same results in traditional communities and in online communities [31], [49], [67], [69]. People feel the same in SNSs. Connections in SNSs are based on users' existing networks, and/or they go through profiles to find any similarities between them for joining each other's networks. These may increase trust and identification, and in turn, increase the reliability of their personal experiences and opinions.

The results also show that people do not feel the need to share knowledge just because of trust, norms, obligations, or identification; when they use their SNS. This also could be because they are using SNSs in their private environments, rather than in work environments. Even though, there is no relationship between the relational social capital and knowledge sharing in SNSs, eWOM quality has a positive effect on knowledge sharing in SNSs. When students in this study feel that the content in SNSs are relevant, helpful, accurate, reliable, or timely; they want their friends to have the same benefits. Consequently, they spread the benefits, and they perceive that they share knowledge in SNSs.

One interesting result is that female students experience stronger relationship between trust and eWOM quality, between identification and eWOM quality, and between eWOM quality and knowledge sharing in SNSs than male students. This result indicates that female students feel more strongly about eWOM quality when they trust others, or when they perceive that they belong to their SNS community when they use their SNS. In addition, female students feel more strongly about knowledge sharing when they perceive that eWOM quality is good. This may be because females emphasize maintaining relationships more and communicate with one another more than males [13], [76]. Besides, females are more likely to share their information with others and change their behavior based on interactions with others [13].

6 Implications

This research finds that the SNS usage intensity is positively related to some of the aspects of users' relational social capital (trust and identification) which have a positive effect on eWOM quality. This study examines trust, norms, obligations, and identification, rather than examining relational social capital as a whole. This enables us to understand the relationship between the relational social capital and eWOM more clearly. In addition, eWOM quality has a positive effect on knowledge sharing. The results of this study provide a theoretical model for researchers to test the framework for modeling and examining SNSs, especially on eWOM and knowledge sharing. As far as we know, this study is the first to find empirical support for the positive effect of eWOM quality on knowledge sharing in SNSs. Further research on this topic using the model would enable a theoretical understanding of the potential to leverage eWOM and knowledge sharing on SNSs for business, education and society. In addition, further research using the model would enable a theoretical understanding of the issues that need to be resolved between eWOM quality and knowledge sharing in SNSs.

Although our study uses students, employees in organizations are likely to similarly develop trust and identification using SNSs internally; which would help employees to become more interested in the business of the firm [60]. Further research could provide rationale for practitioners to utilize eWOM on SNSs internally for organizational networking and organizational learning. Social networking environments offer an opportunity for organizations and customers to have rich interactive content [73]. If an organization facilitates use of SNSs amongst its employees, then it could use SNSs as a tool to promote trust among employees and enhance identification to the organization. It is similar to implications of [30], which indicate that there is a positive relationship between the need to belong and attitudes toward SNSs. Finally, employees could use SNSs for knowledge sharing through eWOM related to problem solving their tasks, such as software coding and technical support. Proprietary versions of social networking software are becoming available, such as Chatter from Salesforce.com.

Practitioners have the potential to utilize eWOM on SNSs externally as a marketing tool. Since customers perceive SNSs as a more reliable source than companies [18], organizations could utilize SNSs to increase customers' loyalty to its brand by communicating through SNSs. People want to try a product or service that their friends or family recommend, and SNSs could be a good medium for conveying those recommendations. SNS use could also facilitate knowledge sharing through eWOM among customers. Managers are interested in knowledge sharing through eWOM, since it affects customer behavior [6], [33] [43]. Some organizations are taking notice of feedback from customers. The feedback might influence correction of product flaws or provide inspiration for new product development or new services. On the other hand, many challenges need to be faced. For example, organizations should recognize that they are engaging in interactions, not controlling the customers' opinions [29].

7 Conclusion

A research framework of social capital to study knowledge sharing and eWOM in SNSs is provided. The framework is important, since it provides the theoretical basis of the relationship between eWOM and knowledge sharing on SNSs from the perspective of social capital.

However, there are limitations in this study. First, this study focuses on SNS use in private non-corporate environments using students. Future research should find out whether there are similar results in corporate and other working environments using other users, too. Second, this study concentrates on Facebook users. Future research should also consider other SNS users. Third, this study focuses on the relational dimension of social capital, leaving future research to investigate the structural dimension (network ties, network configuration, and appropriable organization) and cognitive dimension (shared codes and languages, and shared narratives) of social capital in the context of SNSs. Fourth, this study focuses on collaborative norms. Future research needs to explore other norms such as reciprocity. Finally, future research needs to examine the relationships between the relational dimension constructs of social capital.

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Appendix A: Questionnaire

General
What is your gender?
What is your age?
Where is your location?
SNS Usage Intensity
About how many total Facebook friends do you have?
In the past week, on average, approximately how many minutes per day have you spent on Facebook?
Facebook has become part of my daily routine
Trust
There are several people in my Facebook I trust to help solve my problems
There is someone in my Facebook I can turn to for advice about making very important decisions (Lowering Cronbach's alpha)
When I feel lonely, there are several people in my Facebook I can talk to
I can talk freely to my Facebook friends about my personal issues
If I share my problems with my Facebook friends, I know they will respond constructively and caringly
I know most of my Facebook friends are honest
Norms
It seems to me that there is a norm of cooperation when interacting with my Facebook friends
It seems to me that there is a norm of collaboration when interacting with my Facebook friends
It seems to me that there is a norm of teamwork when interacting with my Facebook friends
Obligations
I feel committed to undertake activities of my Facebook groups when interacting with my Facebook friends (Loading below .5)
I feel obliged to contribute to my Facebook groups when interacting with my Facebook friends (Loading below .5)
I feel my Facebook friends expect contribution from me when interacting with them
My Facebook friends believe that helping others is part of being Facebook members
My Facebook friends believe that helping Facebook community to operate is part of being members
My Facebook friends believe that helping Facebook community to accumulate or enrich knowledge is part of being members
Identification
I feel I am part of my Facebook community
I feel a sense of belonging towards my Facebook community
I have the feeling of togetherness or closeness with my Facebook friends
I have close relationships with my Facebook friends
I know my Facebook friends on a personal level
Knowledge Sharing
I enjoy sharing my knowledge with my Facebook friends
It seems to me that my Facebook friends enjoy sharing their knowledge with others
It seems to me that Facebook facilitates sharing knowledge among people
It seems to me that my Facebook friends share the best knowledge that they have
I come to my Facebook community to share knowledge I know about a particular subject
I come to my Facebook community to share my skills (Loading below .5)
eWOM Quality
Facebook content is relevant for me
Facebook content is helpful
Facebook content is usually the information I need (Lowering Cronbach's alpha)
Facebook content is accurate
Facebook content is complete (Lowering Cronbach's alpha)
Facebook content is reliable
Facebook content is timely