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THE DIMENSIONS OF ONLINE SOCIAL SUPPORT ON SOCIAL NETWORKING SITES AND THEIR EFFECTS

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Abstract

Social networking sites (SNSs) allow users to connect with each other by overcoming geographical and temporal boundaries and thus empower people to search for social support from online. Social support has been considered a key social value that online users can obtain from social networking sites. Research has shown that social support may reduce stress and promote well-being among diverse populations. Despite its significance to society, the online social support function of SNSs has been surprisingly under-investigated. Some fundamental questions—such as (1) What are the dimensions of online social support on SNSs? and (2) How does online social support influence other factors on SNSs?—have not been answered. This study is one of the first to attempt to answer those questions. Specifically, this study aims to first identify the definitional dimensions of online social support on SNSs through an extensive review of the literature. Second, this study uses these dimensions to model online social support and test its effects on other SNS factors: commitment and continuance intention. Eventually, the results support all proposed hypotheses. The theoretical contributions and managerial implications of this study are discussed at the end.

Keywords: social support, online social support, social networking sites, commitment, continuance intention.
1. INTRODUCTION

Social networking sites (SNSs) are “web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system” (Ellison 2007, p. 198). By late 2011, SNSs reached 1.2 billion users worldwide, or 82% of the world’s online population (Nabi et al. 2013). Such online social networks are not simply forums where individuals congregate. More important, these networks create substantial value for the participating individuals or organizations, as well as the larger societies, in multiple ways, such as providing social support (Agarwal et al. 2008). As such, SNSs allow users to connect with each other by overcoming geographical and temporal boundaries and thus empower people to search for social support from online. Social support has been considered a key social value that online users can obtain from social networking sites. However, in the context of SNSs, online social support has not been clearly defined. Therefore, it is crucial for researchers to understand the social impact of SNSs, which is a main motivation for this study.

Social support is defined as “information leading the subject to believe that he [or she] is cared for and loved, esteemed, and a member of a network of mutual obligations” (Cobb 1976). Research has shown that social support has an important role in reducing stress and predicting good health among diverse populations (Brown and Riley 2005; Davidson and Demaray 2007). For example, when social support exists, strain among Information Systems (IS) managers is significantly lower (Weiss 1983). Because of such positive effects of social support, it is important to understand its nature and impact over the most popular online communication platforms people use today (i.e., online SNSs). Surprisingly, this area has been understudied by IS scholars. Even some of the fundamental questions—such as (1) What are the dimensions of online social support on SNSs? and (2) How does online social support influence factors associated with SNSs?—have not been answered.

This study is one of the first attempts to answer those questions. Specifically, this study aims to first identify the definitional dimensions of online social support on SNSs through an extensive review of the literature. Second, this study uses these dimensions to model online social support and test its effects on other SNS factors: commitment and continuance intention. Although these two factors have been investigated in a number of prior studies in the context of SNSs, few studies have examined how online social support affects them.

The remainder of the paper is organized as follows. First, we discuss the relevant literature and theories, from which we identify the three dimensions of online social support on SNSs and develop our research model. Then, data analysis and results are presented. Finally, we conclude with a discussion of our main findings as well as our future research goals.

2. THEORY AND HYPOTHESIS DEVELOPMENT

The concept of social support was first brought up by Cobb (1976) as “information leading the subject to believe that he [or she] is cared for and loved, esteemed, and a member of a network of mutual obligations.” Online social support has been studied in the field of information and communication technologies in recent years. Earlier research in this field focused on “online support groups that were formed via ‘older’ modes of computer-mediated communications (CMC) such as Usenet newsgroups, electronic bulletin boards, and mailing lists that are characterized by text-based, asynchronous, and anonymous interactions” (Xie 2008). There is evidence that different modes of CMC may have different effects on perceived social support. For instance, Swickert et al. (2002) find that a significant relationship exists between social support and interaction via Instant Messaging and online game playing. Yet the same study finds no significant correlations between social support and interaction via other modes of CMC, including electronic bulletin boards, chat rooms, and emails. Motivated by this finding, we explore online social support via the SNS platforms.

SNSs are indeed different from and have a greater impact than the “traditional” modes of CMC. Today’s SNSs are virtual worlds that allow users to exchange information and establish global
relationships with people with whom they might otherwise never have had contact. It allows individuals to present themselves, articulate their social networks, and establish or maintain connections with others, and thus it is an ideal place to seek and offer support. Prior studies show that people join SNSs to seek different kinds of support. For example, informational support and emotional support were received by the breast cancer-related groups on Facebook (Bender et al. 2011). College students may seek and find support from classmates via the SNS platforms for academic problems. In addition, people can maintain their social ties by interacting with other people in their networks over the SNSs.

As suggested by prior research, social support is a multidimensional construct and is dependent on context and the way people use it. Different classifications of social support have been developed in prior studies. For example, House (1981) categorizes social support into four types: emotional, instrumental, informational, and appraisal. Klemm et al. (1997) studied online cancer support groups and identified several support types: information giving/seeking, encouragement/support, personal experience, personal opinion, prayer, thanks, humor, and miscellaneous. Despite all these different classifications, informational and emotional support have been generally concluded as the most common types of social support (Pfeil 2009). After the synthesis of the literature on social support, online social support, and SNSs, we eventually identified three dimensions of online social support that are specific to the SNS context. They are information seeking and acquiring, emotional support, and network maintaining. We define and discuss these three dimensions as follows.

Information seeking and acquiring is the process of seeking and acquiring relevant information in the world of SNSs in order to answer a question, solve a problem, or make a decision. Today’s SNS have a much larger user base compared with the traditional online social groups. For example, as of January 2014, Facebook had about 1.2 billion monthly users around the globe (Zuckerberg 2014). As pointed out by Butler (2001), in larger social structures it is more likely that there is a member who knows the requested information, has the ability to provide such information, or has the time to coordinate collective efforts in order to seek and acquire such information. As an outcome of the scale of SNSs, we see an explosion of user-generated content. Moreover, SNSs ability to connect individuals, interest groups, and organizations makes it much easier to search for and acquire either personal or professional information.

Emotional support is the expression of care, empathy, understanding, trust, respect, and even love between individuals exchanged over an SNS. The interactive nature of today’s SNSs allows users to reach out to others for emotional support. For example, SNS users are able to manage their social network and classify their friends into different categories based on closeness, interest, age, etc. This feature makes it possible for users to reach out to the right person when emotional support is needed. SNSs incorporate novel mechanisms for communication, such as text messages, voice messages, video calls, “likes,” “tags,” “shares,” etc. Human emotions are complex and sometimes text messages alone do not sufficiently express how people feel. With support from multimedia and other creative ways of communication, SNS platforms can facilitate communication and assist people in expressing their true feelings.

We define network maintaining as the maintaining of existing social ties on SNSs. Research has supported the view that people on SNSs are primarily communicating with people who are already a part of their extended social network (Ellison 2007; Ellison et al. 2007). For example, Ellison et al. (2007) suggest that intense Facebook use is closely related to the formation and maintenance of social capital. Also, prior studies provide concrete evidence that CMC can indeed help form and maintain online relationships that can facilitate the exchange of social support (Constant et al. 1996; Eastin and LaRose 2005). SNSs are social platforms based on the Internet and thus remove the limitation of geographic distance. Moreover, SNSs usually provide a combination of communication mechanisms for users to interact free of charge (e.g., emails, instant messaging, voice/video chat). Therefore, and naturally, SNSs serve as the online platforms for people to maintain their social network at a relatively low cost (i.e., the main cost for using SNSs is time). Furthermore, modern SNSs also provide “recommendation” functions that recommend friends to the users based on their existing social relationships on SNSs. Such functions are extremely helpful for individuals who wish to find and connect to people they know but who do not have a social relation on SNSs yet, and thus this helps
people manage and maintain their existing social ties. To summarize, these dimensions are three components that collectively define the construct of online social support on SNSs. Therefore, we propose the following hypotheses:

- **H1a**: Information seeking and acquiring is positively related to online social support of SNSs.
- **H1b**: Emotional support is positively related to online social support of SNSs.
- **H1c**: Network maintaining is positively related to online social support of SNSs.

The objective of this study is not only to identify the dimensions of online social support on SNSs but also to test their effects on other factors of SNSs. We are particularly interested in two factors: continuance intention and commitment. Continuance intention is an important dependent variable in the field of SNSs. It has been associated with antecedents such as perceived usefulness, perceived ease of use, perceived control, enjoyment, reputation, and many other factors (Lin et al. 2013). In general, it is a result of users’ satisfaction with a particular service (Liao et al. 2007). Given the evidence that social support may provide reduced stress, improved health, and many other benefits to diverse populations (Brown and Riley 2005; Davidson and Demaray 2007), it is reasonable to speculate that online social support provided by SNSs also increases users’ satisfaction with the SNS platforms, which therefore leads to users’ continuous use intention. Therefore, we propose the following:

- **H2**: Online social support is positively related to users’ continuance intention.

The other dependent variable, commitment, is defined as the perception of belonging and being involved in an SNS (van den Hooff and De Ridder 2004). It indicates a psychological state that occurs when an ongoing relationship with a service provider is so important that maximum efforts are guaranteed in order to maintain it (Liang et al. 2011). Commitment has been demonstrated as an important factor that affects people’s behavior such as knowledge sharing within an organization (van den Hooff and De Ridder 2004). In the context of SNSs, a magnet community will more significantly attract users’ interests and attentions than other communities (Wang et al. 2012). Trust, commitment, and satisfaction are three intertwined factors that represent a user’s overall attitude toward a social networking service provider and therefore are positively related to continuance intention (Liang et al. 2011). It is reasonable to speculate that online social support provided by SNSs strengthens the relationship between SNSs and the users, which results in users committing to an SNS platform. Therefore, we propose:

- **H3**: Online social support is positively related to users’ commitment to SNSs.
- **H4**: Commitment is positively related to users’ continuance intention to SNSs.

The proposed hypotheses and the research model are summarized in Figure 1. The research method used to test this model is discussed in the next section.
3. RESEARCH METHOD

3.1 Data Collection

We conducted the research study at a large university in the northwestern United States. The survey was posted online, and about 100 college students were invited to participate in this study. A total of 90 responses were received, resulting in a 90% response rate. The ratio of sample size to independent variables, including gender, is 15:1, which exceeds the rule of thumb of 10 for the sample size requirement (Vittinghoff and McCulloch 2007). Participants were asked questions about their perceptions of online social support and SNS usage. They received nominal course credit for participating in this study. Table 1 summarizes the respondents’ demographic profile.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Items</th>
<th>Freq.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td>35</td>
<td>38.9%</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>55</td>
<td>61.1%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 22</td>
<td>14</td>
<td>15.6</td>
<td></td>
</tr>
<tr>
<td>23–28</td>
<td>35</td>
<td>38.9</td>
<td></td>
</tr>
<tr>
<td>29–35</td>
<td>20</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>35+</td>
<td>21</td>
<td>23.3</td>
<td></td>
</tr>
<tr>
<td>Computer experience (AVG.)</td>
<td>16.8 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNS experience</td>
<td></td>
<td>12</td>
<td>13.3</td>
</tr>
<tr>
<td>Less than 2 years</td>
<td></td>
<td>13</td>
<td>14.4</td>
</tr>
<tr>
<td>2–5</td>
<td></td>
<td>65</td>
<td>72.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Demographic characteristics of the respondents

3.2 Construct Measurements

The measurement items were adapted from prior studies. Each item was measured using a 7-point Likert scale with “strongly disagree/agree” anchors. The measurement items and their sources are shown in Table 2. The social support construct was modeled as a second-order formative construct, the rationale of which will be discussed in the next section.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Seeking &amp; Acquiring (INFOSA)</td>
<td>INFOSA 1. I frequently use SNSs to seek information I need. INFOSA 2. I regularly use SNSs to seek information I need. INFOSA 3. I often use SNSs to seek information I need. INFOSA 4. Using SNSs enables me to get the knowledge/information I need. INFOSA 5. Using SNSs provides me with easy access to knowledge/information I need.</td>
<td>Phang et al. (2009); Davis (1989)</td>
</tr>
<tr>
<td>Emotional Support (EMS)</td>
<td>EMS 1. When faced with difficulties, some people on SNSs are on my side. EMS 2. When faced with difficulties, some people on SNSs comforted and encouraged me. EMS 3. When faced with difficulties, some people on SNSs listened to me talk about my private feelings. EMS 4. When faced with difficulties, some people on SNSs expressed interest in and concern for my well-being.</td>
<td>Liang et al. (2011)</td>
</tr>
<tr>
<td>Network Maintaining (NETM)</td>
<td>NETM 1. I maintain close social relationships with others on SNSs. NETM 2. I spend a lot of time interacting with others on SNSs. NETM 3. I know other people on SNSs on a personal level. NETM 4. I have frequent communication with others on my SNSs.</td>
<td>Chai et al. (2011)</td>
</tr>
<tr>
<td>Commitment (COMMIT)</td>
<td>COMMIT 1. I am proud to be a member of an SNS. COMMIT 2. I feel a sense of belonging as a member of an SNS. COMMIT 3. I care about the long-term success of an SNS.</td>
<td>Liang et al. (2011)</td>
</tr>
</tbody>
</table>
SNS Continuance Intention (CINTENT)

1. I intend to continue using an SNS rather than discontinue its use.
2. I will continue using an SNS rather than using alternative social network sites.
3. I will frequently return to an SNS in the future.

Table 2. Constructs, items, and source

4. DATA ANALYSIS AND RESULTS

The measurement model was estimated using factor analysis. The structural model was analyzed by partial least squares (PLS) using SmartPLS. PLS is a preferred analytical technique for this study because PLS works well with small- to medium-sized samples (Chin 2010). Using PLS to analyze the data involves two stages (Gefen and Straub 2005). The first stage is “the assessment of the reliability and the validity of the measurement model,” and the second stage is “the assessment of the structural model” (Hulland 1999). SmartPLS 2.0 was used to analyze the research model (Ringle et al. 2005).

4.1 Measurement Model Testing

The reliability and validity of the measurement instrument was evaluated using established reliability and validity criteria (Hair et al. 2006). A factor analysis shows that all item loadings are higher than the cutoff value of 0.60 (see Table 3), indicating an acceptable level of convergent validity. In regard to discriminant validity, the square root of average variance explained (AVE) from the constructs should be greater than the inter-scale correlation (Slyke et al. 2010). We used the formula provided by Fornell and Larcker (1981) to calculate the square root of AVE (see Table 4). The elements along the diagonal are much greater than the off-diagonal elements, which ensures the discriminant validity of each scale. Table 4 also displays the constructs’ composite reliability. They were all greater than the commonly used cutoff of 0.70 (Slyke et al. 2010), which confirms the internal consistency of each scale. Thus, overall, our measures have demonstrated good psychometric properties.

Table 3. Factor analysis
### Table 4. Correlations between constructs and CR of constructs

In addition to considering some relatively high correlations among some variables, we checked for multicollinearity by calculating the variance inflation factor (VIP). The resulting VIP values are all below the critical value of 3.0, indicating that multicollinearity is not a problem in the data of this study.

### 4.2 Structural Model Testing

In the structural model, the online social support construct is specified as a second-order formative construct that is formed from Information Seeking & Acquiring (INFOSA), Emotional Support (EMS), and Network Maintaining (NETM). As discussed earlier, INFOSA, EMS, and NETM are the dimensions that collectively define online social support (OSS). These dimensions each represent a unique facet of OSS and will not necessarily covary; therefore, they should be specified as formative indicators (Kim et al. 2010). Figure 2 summarizes the path coefficients of the model. Table 5 shows the results of data analysis.

![Figure 2: Research results](image-url)

**Figure 2. Research results**

### Table 5. Results of hypotheses testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Coefficient (SE)</th>
<th>t-value</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a INFOSA → OSS</td>
<td>0.39 (0.08)</td>
<td>9.65***</td>
<td>Supported</td>
</tr>
<tr>
<td>H1b EMS → OSS</td>
<td>0.44 (0.05)</td>
<td>11.51***</td>
<td>Supported</td>
</tr>
<tr>
<td>H1c NETM → OSS</td>
<td>0.41 (0.06)</td>
<td>10.86***</td>
<td>Supported</td>
</tr>
<tr>
<td>H2 OSS → CINTENT</td>
<td>0.59 (0.14)</td>
<td>6.53***</td>
<td>Supported</td>
</tr>
<tr>
<td>H3 OSS → COMMIT</td>
<td>0.58 (0.08)</td>
<td>7.99***</td>
<td>Supported</td>
</tr>
<tr>
<td>H4 COMMIT → CINTENT</td>
<td>0.17 (0.11)</td>
<td>2.062**</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: OSS = Online Social Support; ** 0.01 significance; ***0.001 significance; NS = statistically not significant.

### 4.3 Research Results and Findings

The results show that all proposed hypotheses are supported. H1a, H1b, and H1c are statistically significant. They confirm that the three dimensions—seeking and acquiring information, providing
emotional support, and maintaining networks—are indeed significant facets of online social support on SNSs. These dimensions have about the same effect size (0.39 ~ 0.44) on OSS, indicating that they are equally important aspects of online social support on SNSs. H2 confirms that online social support is indeed positively associated with the users’ continuous intention to use SNSs. This is consistent with prior research on continuous use of technology (Lin et al. 2013). The path coefficient of H2 is 0.59, a quite substantial effect size, which means online social support is an important antecedent of continuance intention. We believe this is another important finding of this study because online social support as an antecedent of continuance intention is rarely mentioned in prior studies. H3 suggests that online social support also strengthens the relationship between SNSs and their users. It drives users to create strong connections with, or commitments to, SNS platforms, which further lead users to use the SNS service continuously (H4). Further, the results are robust after controlling for age, computer knowledge, and experience using SNSs. None of these control variables significantly affects SNS continuance intention for female and male groups.

5. CONCLUSION AND FUTURE RESEARCH

Our study contributes to existing literature by clearly revealing the multidimensional aspects of online social support on SNSs and testing its role in SNS usage. Specifically, in the evaluation of online social support, information seeking and acquiring, emotional support, and network maintaining all play important roles. This study is one of the first to discuss explicitly online social support in the context of SNSs. The findings of this study may have important implications for future research. For example, researchers interested in e-commerce may further investigate the impacts of SNS usage in consumer behavior from an online social support perspective.

As a research-in-progress, this study has the following future research goals. First, our dataset is relatively small. This may be a limitation of this study, and future research may test the research model using a larger dataset. Second, social networking sites are in a global environment; thus, it is desirable to conduct cross-cultural studies. Third, we have only shown effects of social support on commitment and continuance intention. The next step is to explore other potential factors that may be influenced by social support. Fourth, besides information seeking and acquiring, emotional support, and network maintaining, we will investigate more dimensions of online social support over SNS. Lastly, additional tests/analyses (e.g., Cronbach’s alpha) will be conducted to show robustness of our results.

References


