Impacts of Social Media Usage on the Outcomes of Students’ Everyday Life Information Seeking

Sei-Ching Joanna Sin
Nanyang Technological University
31 Nanyang Link, Singapore
joanna.sin@ntu.edu.sg

Kyung-Sun Kim
University of Wisconsin-Madison
600 N Park St., Madison WI
kskim@slis.wisc.edu

ABSTRACT
University students’ social media use for everyday life information seeking (ELIS) opens up opportunities for seeking information from weak ties, but it may exacerbate issues such as information overload. Currently, it is unclear whether social media use affects the outcome of ELIS. The current study surveyed undergraduate and graduate students to test whether the frequent uses of (a) social networking sites (SNS), (b) microblogs, (c) social question and answer sites (Social Q&A), and (d) Web search engines affect (a) level of satisfaction with the quality of ELIS results and (b) level of difficulty in ELIS. Gender and study level were included as control variables. ANOVA tests of the 1,144 responses found that the frequent use of SNS, microblogs, and Web search engines each had significant effects on ELIS satisfaction level. Frequent microblog use had a significant effect on ELIS difficulty. Interestingly, the effects of SNS, microblogs, and Web search engine usage showed a U-shaped relationship. The heavy-users as well as non-users of social media experienced higher level of satisfaction and lower level of difficulties. It was the occasional users who were more troubled, as were underclassmen and master’s students. These user groups could benefit from more social media information literacy training. The current study shows that social media use does make a difference in ELIS. Future studies may further test the influence of social media use on specific types of ELIS problems.

Keywords
Students’ information behavior, social media, ELIS, satisfaction, information seeking difficulties.

INTRODUCTION
There is increasing evidence that many individuals, particularly those from the younger generations such as university students, use social media (e.g., Facebook, Twitter, Yahoo! Answers) for everyday life information seeking (Head & Eisenberg, 2011; Kim, Sin, & Yoo-Lee, 2014). This has raised consternations among library and information professionals (LIS). Many students have already been found to lack the skill or motivation to properly seek and evaluate information (Chowdhury, Gibb, & Landoni, 2011; Connaway, Dickey, & Radford, 2011; Rieh & Hilligoss, 2008; University College London, 2008). The increasing use of social media may exacerbate problems such as misinformation and information overload (Bawden & Robinson, 2009; Denning, 2006; Savolainen, 2007), owing to the ease and speed with which misinformation can be transmitted to a large audience (Karlova & Fisher, 2013). However, social media may also facilitate information seeking. Individuals can build social capital through social media (Ellison, Steinfield, & Lampe, 2007), which makes it easier to seek information and advice from weak ties or even virtual strangers worldwide. This may result in better information seeking outcomes. For example, among international students, those who used SNS frequently are more likely to report that the information they found are useful in meeting their daily needs than did infrequent users (Sin & Kim, 2013).

As social media offers both opportunities and challenges for information seeking, empirical studies are needed to test the influence of social media on the outcome of ELIS, such as the level of difficulty in finding everyday information. Although the use of Wikipedia for academic tasks has drawn attention, few information behavior (IB) studies have examined how students used a broader range of social media platforms for ELIS (Williamson, Qayyum, Hider, & Liu, 2012). Rarer still are studies that examine a large group of students (beyond undergraduates) and investigate the outcome of social media use. Without such research, LIS professionals would be hindered in gauging how students’ changing information horizon affects their IB. It will limit the ability of LIS professionals to develop up-to-date information literacy trainings for a large segment of their constituents who are increasingly turning to social media for information seeking.

RESEARCH QUESTIONS
In light of the above research gap, this study investigated the impact of social media use on ELIS outcomes. The study analyzed three types of social media: SNS such as
Facebook and LinkedIn, microblogs such as Twitter and Tumblr, and Social Q&A such as Yahoo! Answers and Stack Exchange. These types were selected for their popularity, and the ease in which users can engage in active conversation and post questions. In addition, a popular non-social media information source, Web search engines (such as Google), was included in the study to serve as a comparison against the three social media types. The specific research questions were: (1) Does the frequent use of (a) SNS; (b) microblogs; (c) Social Q&A; and (d) Web search engines contribute to increasing the overall satisfaction level with the quality of everyday information found? and (2) Does the frequent use of (a) SNS; (b) microblogs; (c) Social Q&A; and (d) Web search engines contribute to a lower level of difficulty in finding everyday life information?

METHODS

Data were collected using an online questionnaire. The sampling frame was undergraduate and graduate students from a large U.S. public university. After the questionnaire was pilot tested and finalized, invitations to participate in the survey were emailed to all students through the university’s mass emailing service. Participation was voluntary, and the resultant sample could not be considered representative of the university population. The findings should be interpreted with this caveat in mind.

The data were analyzed using ANOVA tests. Specifically, the study used a 3-way ANOVA design for each research question. Previous studies on students’ general social media use suggested that individual differences, particularly gender and study level can be a significant factor (Kim, Sin, & Tsai, 2014). In this study, gender and study level (i.e., underclassmen, upperclassmen, master’s students, and doctoral students) were included as control variables. This helped test the main and interaction effects of social media usage, after accounting for potential gender and study level effects. The ANOVA tests were conducted using SPSS.

FINDINGS

Respondent Characteristics and Descriptive Data

The study received 1,144 useable responses. Underclassmen (i.e., juniors and seniors) constituted the largest share of the sample (n = 397, 34.7%), followed closely by upperclassmen (i.e., freshmen and sophomores) (n = 394, 34.4%). There were 154 master’s students (13.5%) and 199 doctoral students (17.4%). More female students responded (n = 799, 69.8%) than male students (n = 345, 30.2%). Respondents’ academic backgrounds were diverse. The top categories were natural sciences (n = 192, 16.8%), social sciences (n = 184, 16.1%), and medical sciences (n = 143, 12.5%).

The frequency of social media use for ELIS (hereafter, referred to as “frequency of use”) was the independent variable (IV) in this study. Among the four sources, Web search engines were used the most frequently (M = 4.71, with 5 indicating that the source is used for ELIS “all the time,” SD = 0.62), followed by SNS (M = 4.00, SD = 1.22), Social Q&A (M = 3.04, SD = 1.28), and microblogs (M = 2.52, SD = 1.59). Female respondents used all four sources more frequently (Figure 1). For all three social media sources, the frequency of use decreased as the study level increased. In contrast, the frequency of Web search engine use for ELIS was similar across study levels (Figure 1).

Figure 1. Frequency of social media and Web search engine use for ELIS by gender and study level

The dependent variable (DV) for RQ1 was the overall level of satisfaction with the quality of everyday life information found (hereafter, referred to as “satisfaction level”). The response was on a scale of 1 to 5, with 5 indicating “very satisfied.” Overall, the respondents were relatively satisfied with the everyday information found (M = 3.78, SD = 0.67). For RQ2, the DV was the average level of difficulty in finding everyday information (such as shopping, entertainment, health, and finance-related information). The response scale was from 1 to 5, with 5 being “very difficult.” Overall, finding everyday life information was not very difficult for the respondents (M = 2.19, SD = 0.58).

RQ1: Impact on Satisfaction with Quality of Everyday Life Information Found

Four ANOVA tests were conducted, one for each type of information source. The IVs for each ANOVA test were: frequency of using a source type for ELIS, gender, and study level. The results for each source type varied (Figure 2). For SNS (RQ1a), two significant main effects were found: study level [F (3,1100) = 3.34, p = .019] and frequency of SNS use [F (4,1100) = 4.22, p = .002]. The general trend was that students at higher study levels were more satisfied with the quality of information found. Master’s students were an exception; they had the lowest average satisfaction level. In terms of frequency of use, interestingly, those on the two extreme ends of the scale (i.e., “never” use SNS for ELIS or “all the time”) reported higher satisfaction levels with everyday information than occasional users (Figure 3). For microblog (RQ1b), the only
significant effect was that of the frequency of microblog use \( [F(4,1100) = 5.91, p = .000] \). Generally, the higher the frequency of microblog use, the higher was the satisfaction level. However, occasional users, who were found to have the least average satisfaction, were an exception to this trend. For Social Q&A (RQ1c), no significant effect was found. The result for Web search engines (RQ1d) was similar to that of microblogs (RQ1b), in which the frequency of use was the only significant factor \( [F(3,1108) = 5.78, p = .001] \). The most frequent users reported the highest satisfaction level, whereas occasional users showed a lower satisfaction level.

![Figure 2. Summary: ANOVA results on satisfaction level](image)

Note: Shaded areas indicate significant effects (p < .05). Notation in the shaded area shows the user group with the highest satisfaction level.

![Figure 3. Relationships between satisfaction level and frequency of use for the three significant sources](image)

**RQ2: Impact on Difficulty in Finding Everyday Life Information**

Four ANOVAs were conducted for RQ2 (Figure 4). The IVs are the same as those in RQ1. For SNS (RQ2a), the study level was the only significant factor \( [F(3,1103) = 3.09, p = .026] \). Underclassmen experienced the highest average difficulty \( (M = 2.27) \), followed by master’s students \( (M = 2.23) \), upperclassmen \( (M = 2.16) \), and doctoral students \( (M = 2.08) \). For microblogs (RQ2b), both the study level and the frequency of microblog use had significant effects. Similar to the pattern found for RQ1b, frequent microblog users reported lower levels of difficulty, whereas occasional users reported the highest difficulty. The results for Social Q&A (RQ2c) were similar to that for SNS (RQ2a), where only the study level effect was significant. Web search engines (RQ2d) showed a unique pattern compared with the other sources. Gender was the only significant factor found for Web search engines \( [F(1,1111) = 3.95, p = .047] \). Male respondents encountered greater difficulty \( (M = 2.37) \) than did female respondents \( (M = 2.24) \).

![Figure 4. Summary: ANOVA results on difficulty level](image)

Note: Shaded areas indicate significant effects (p < .05). Notation in the shaded area shows the group who reported the highest level of difficulty.

**DISCUSSION**

The study provides a new insight that social media use is impactful on ELIS outcomes. The frequency of use for all but one source tested here influenced the satisfaction level with the quality of everyday life information found. This influence holds even after accounting for individual differences including gender and study level. Especially interesting is the non-linear, almost U-shaped curve between the frequency of use and the satisfaction level (Figure 3). Similarly, an inverted-U curve describes the relationship between the frequency of microblog use and the difficulty in finding everyday information (RQ2b).

Currently, LIS professionals are understandably concerned about students who heavily use social media sources that often contain inaccurate information. The study shows, however, that these frequent social media users are, in general, doing fine in their ELIS. It is the occasional users who reported the lowest satisfaction and the highest difficulties. A hypothesis for this non-linear relationship is that two different forces are at play. The users who have never used social media are not considerably affected by the issues exacerbated by social media (such as an overload of inaccurate information). Frequent social media users, on the other hand, may have increased familiarity with the norms and peculiarities of a specific social media platform, in addition to having built social bonds in a specific online social community. This may contribute to skill improvement and social capital building, which facilitates better ELIS outcomes. Further research is needed to test these hypotheses. Meanwhile, a practical implication is that LIS professionals may need to invest more effort in reaching out to individuals who use social media occasionally and provide them with suitable training on social media information seeking and use.

Another group that will need greater attention is master’s students who tend to receive less attention than other groups such as undergraduates in IB literature. The study finds that generally, students at higher study levels report higher satisfaction and less difficulty, but master’s students are the exception. A possible reason is that master’s programs tend to be shorter, usually lasting 2–3 years. In this sense, master’s students are similar to underclassmen in that they are likely to be newer to the academic program, university, and town in which they pursue their degree. Adjusting to a new environment may complicate ELIS.
Further research is needed to investigate the influence of college adjustment and life-stage changes on individual IB and ELIS outcomes.

Another notable finding concerns Social Q&A. It is the only source for which the frequency of use had no significant effect on either the satisfaction or the difficulty level. This is noteworthy given the high level of research interest among scholars in LIS and computer science fields, where Social Q&A is considered to have strong potential for better collaborative information seeking (Gazan, 2011; Shah, Oh, & Oh, 2009). The reasons behind this finding will need more in-depth investigation. The non-significant results suggest that the potentials of Social Q&A have not been fully realized. Another possible explanation is that different social media types may better suit different domains of everyday life questions (Morris, Teevan, & Panovich, 2010). Discussions posted on Social Q&A sites are generally more formal and lengthy than messages on SNS and microblogs. Possibly, the respondents use Social Q&A for a narrower range of questions such as technical or factual questions. The current study investigated satisfaction and difficulty levels in general, but not for specific domains of information search. It is possible that certain benefits of Social Q&A in specific ELIS domains (e.g., health) may have been averaged out. Considering that the current study has demonstrated the influence of social media use on the overall ELIS outcome, it would be fruitful to develop detailed studies on this topic. Future studies may test: (1) How does the use of each social media platform affect the outcome of ELIS in a specific domain? (2) What are the specific types of ELIS difficulties that individuals encounter when using different social media platform?

CONCLUSION
The trend toward the frequent use of social media for not only social networking but also ELIS will likely continue. The current study shows that social media information seeking does make a difference, and that frequent social media use is not as detrimental as thought to be thus far. However, a few user groups (e.g., master’s students, occasional social media users) could benefit from more tailored information literacy training. This necessitates deeper understanding of how students’ changing information horizons and IBs influence their ELIS outcomes. Different research design such as transaction log analysis may be used to collect more objective outcome measures to complement subjective measures such as self-reported data. Further research examining a wider range of social media platforms, information domains, types of information seeking difficulties, and outcome measures will be most beneficial for addressing this research gap.

REFERENCES


