# Social Media as Information Sources: Use and Evaluation of Information from Social Media

**Kyung-Sun Kim**
School of Library and Information Studies, University of Wisconsin-Madison
kskim@slis.wisc.edu

**Sei-Ching Joanna Sin**
Wee Kim Wee School of Communication and Information, Nanyang Technological University
Joanna.sin@ntu.edu.sq

**Final Report**
**2013 OCLC/ALISE Library and Information Science Research Grant Project**
12 May 2014

## 1. Introduction

With recent advances in technology, more information has become available to the public through a wide range of channels. Users can now access information not only from traditional printed sources, but also from various sources on the Web. Social media, defined as "forms of electronic communication (as Web sites for Social Networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (as videos)," (Merriam Webster, 2012) are gaining popularity among users. Recent research shows that some types of social media, such as Wikipedia (Head & Eisenberg, 2010) and YouTube (Pew, 2012), have emerged as important information sources. It is also found that about 50% of online teens (Pew, 2009) and over 80% of college students (Head & Eisenberg, 2009, 2010) use social media for their academic as well as everyday life research.

While such social media sources are increasingly popular, the quality of information available through them is often questionable and difficult to assess. The prevalent usage of social media despite quality concerns has triggered a discussion that the critical evaluation of social media sources should be an important aspect of information literacy (IL) or new literacies/IL 2.0 (Farkas, 2011; Rainie, 2011). An empirical study is urgently needed to better understand how users evaluate and use the information from these social media, and to provide help for the effective use of such sources. Focusing on the undergraduates, the study aims at understanding the current usage of social media as information sources, and identifying commonly used and effective strategies for evaluating these social media sources. Suggestions are made to help improve IL education and also information systems design (including system features/tools and metadata elements/facets) for better retrieval and evaluation of information from social media sources.

## 2. Background

The rise of social media has not only changed how people stay connected, but also brought about considerable potentials and challenges to information professionals and educators (Dohn, 2009; Kaplan & Haenlein, 2010; New Media Consortium, 2012). College students in particular are heavy users of social media, especially social networking sites (SNS) such as Facebook (Zickuhr, 2010). For example, a 2011 Pew report found that over 80% of the college student respondents used SNS (Smith, Rainie, & Zickuhr, 2011). Many information professionals and librarians have actively leveraged social media to communicate with users and to reach out to potential audiences (Chua & Goh, 2010; Gardois, Colombi, Grillo, & Villanacci, 2012; Mahmood & Richardson Jr., 2011).

In addition to transforming the means of communication and marketing, there are signs that some social media types and platforms are changing students' information behavior. Studies show that students may be using several social media platforms as channels to satisfy their academic and everyday life information needs (Head & Eisenberg, 2011; Kim, Yoo-Lee, & Sin, 2011). These changes in information seeking behavior indicate that there is a growing need for understanding students' behaviors and abilities in evaluating and using the information obtained from social media.

Students' usage of various social media as an information source is a concern for IL librarians and educators, in part due to the varying quality of information available via these forms of media. In a way, issues of the questionable quality of social media information are similar to those of open Web information. Social media, however, may bring additional challenges to information evaluation when compared to open Web resource evaluation. Several social media platforms have intentionally limited their message lengths. In addition, partly due to the ease of forwarding messages (usually requiring only one click), many information snippets can be forwarded almost instantly via one's social networks without much critical evaluation. Rumors and inaccurate information can be spread over a large number of users worldwide rather quickly (Ball & Lewis, 2011). Seeing the same information on many channels and from a number of different individuals, unsuspecting readers may misevaluate the information as credible.

The aforementioned concerns aside, social media also possess exciting potentials. Social media facilitate interactive and collaborative knowledge production and sharing. They can provide local and current information, and serve as outlets of viewpoints and voices not conveyed by traditional or dominant media outlets (Bertot, Jaeger, & Grimes, 2010; Srinivasan, 2006). The popularity of social media, similar to that of the Web, has again prompted the need for reflective discussion on the goals and scope of IL.

There is a general consensus that the focus of IL should not be restricted to learning technological skills or solely following a check-list approach. The focus instead has been on cultivating higher order critical thinking skills, such as the capabilities to engage with information in a collaborative environment and from a different medium and the sensitivities to potential power relationships in information production and dissemination.

Following the line of discussion above that casts our sight beyond technological know-how, information professionals may play an even bigger role in students' education by examining in more detail the challenges and potentials of social media platforms in students' information seeking and use. In addition, one of fruitful areas of expansion would be to use research findings to inform the design of effective systems. This will include identifying system features and tools and also metadata elements and facets that can help with the evaluation and the use of social media sources. Features allowing readers' rating of postings (e.g., rating of helpfulness: "Do you find this helpful?") and metadata about reviewers (e.g., reviewers' age, experience level) are some examples.

Investigating actions that students take to assess the quality of the information available via social media, the study helps IL professionals identify gaps in students' information evaluation strategies and could inform the development of IL training materials. It could also help identify system features and tools and also metadata elements and facets that could aid effective retrieval and evaluation of information from social media.

## 3. Research Questions
The study has four research questions: (1) Which types of social media do undergraduates use, to satisfy what kinds of information needs? (2) In what contexts do they use different social media as information sources? (3) What actions do they take for evaluating the information provided by different social media? and (4) What kinds of system features and metadata elements can support users' evaluation of information from social media?

The goal of the study is two-fold. First, the study aims at illuminating the current trend of using social media as information sources and evaluating information from social media sources. Second, it aims at identifying IL strategies, system features, and metadata elements that can help with effective evaluation of information from social media sources.

## 4. Methods

Web surveys and focus-group interviews were used to collect data from undergraduate students in two different countries: Singapore and the United States (US). All the data were collected in 2013.

### 4.1. Data collection

### 4.1.1. Phase 1: Survey

To capture the current trend of using social media as information sources, we collected data using a Web survey. A survey questionnaire was developed starting in January, 2013. The questionnaire was developed through the following steps.

Step 1: The questionnaire development began with the compilation of a list of features and tools (e.g., Wikipedia's edit history, disclaimer; social Q&A's answer rating by readers) and metadata elements and facets (e.g., author/poster [age, gender, level of expertise/experience]; usage context [purpose, level of use]) that can be used for the evaluation of information quality or usefulness. The first step started with a content analysis of various social media types. We, the investigators, developed an inventory list of existing features and data elements. In addition, students and librarians who have substantial experience with social media were invited to brainstorm and develop a list of features and metadata elements they think useful for evaluation, including those that are currently available and also those that the users would like to have social media provide. From each country, five students and five librarians were recruited for this brainstorming task. A fairly exhaustive list of features and elements was developed for each social media type, which was incorporated into the survey questionnaire. The lists from three different groups – investigators, students, librarians – also contained features and metadata elements unique to each social media type, which was later used when formulating focus-group interview questions in Phase 2.

Step 2: Based on the list developed in Step 1 and the question items used in the exploratory study conducted in 2011, we developed a survey questionnaire, and made it available on the Web using Qualtrics (www.qualtrics.com/).

Step 3: We pilot tested and finalized the questionnaire developed in Step 2. Ten students participated in the first round of pilot testing. A revised questionnaire underwent the second round of pilot testing with a new group of students (ten more participants). After the second round of pilot testing, the questionnaire was finalized. Pilot-test participants were students recruited from different graduate and undergraduate classes.

Step 4: A call for participation was distributed to undergraduate students in two universities (one in Singapore and the other in the US). Data from each country were collected separately through the Web survey questionnaire. Participation was voluntary. To increase the response rate in the US, the PI offered a bookstore

gift card to those selected via a random drawing. Participants interested in entering the drawing pool were asked to provide their e-mail addresses upon the completion of the survey. In Singapore, such drawing was not encouraged. Thus, US$10 was given to each participant as incentive for participation.

### 4.1.2. Phase 2: Focus-group interviews

Following the Web survey, focus-group interviews were conducted for an in-depth investigation of the fourth research question: "What kinds of system features and metadata elements can support users' evaluation of information from social media?"

Step 1: Based on the findings from Phase 1, questions for focus-group interviews were developed. Questions were designed to further explore what data elements and what kinds of system features they use when evaluating information from different social media platforms. To ensure the uniformity of procedures, a guideline for these interviews was developed.

Step 2: In each country, three focus-group interviews (with a total of twenty participants) were conducted. All the participants were undergraduate students from different class levels (freshmen, sophomore, junior, and senior). Focus- group participants were recruited through two different methods. One was to recruit volunteers from survey participants in Phase 1. Upon the completion of the survey in Phase 1, the participants interested in focus-group interviews were asked to provide their contact information in a form separate from the survey. Those who left contact information were contacted and invited to participate in focus-group interviews. The other method was to solicit participants via snowball technique. If an undergraduate student with extensive experience with social media was referred by others, he or she was also contacted and invited to participate in the focus-group interviews. For these interviews, the PI and Co-PI were the moderators and graduate assistants were there to assist in the interview. An interview guideline with a set of questions developed in step 1 was used to ensure the uniformity of procedures.

Step 3: Data collected through focus group interviews were transcribed and analyzed by graduate assistants. The PI and Co-PI were also involved in the data analysis.

### 4.2. Participants

### 4.2.1. Survey participants

United States: The US survey collected 1,355 responses. About 60% of them were female and 40% were male. A majority of the respondents (67%) were aged 20-24. This is followed by those who were under 20 years old (31%), and those who were 25 years old and above (2.7%). In terms of their academic major, the largest share of respondents were in science and engineering (39%), followed by social sciences (37%), arts & humanities (11%).

Singapore:  The Singapore survey collected 194 usable responses. The respondents consisted of 51% female and 49% male students. A majority of the respondents were aged 20-24 (79%), 19% were 25 years old and above, and 2% were under 20 years old. The largest share of respondents were majoring in science and engineering (46%), followed by social sciences (25%), and arts & humanities (21%).

### 4.2.2. Focus-group participants

United States: A total of twenty students participated in the focus-group interviews. Twelve of the participants were female and eight were male students. A majority of the participants were sophomore (n=11), followed by senior (n=7) and junior (n=2).  Regarding their academic backgrounds, three of the participants were from arts and humanities, four from sciences and the rest were from social science areas. On average, the participants tended to use SNS, Media-sharing services, Wikis, User reviews, and Q&A sites, at least sometimes.

Singapore: A total of twenty students participated in the focus group interviews. Eleven participants were female and nine were male students. A majority of the participants were senior (n=14), followed by junior (n=5), and sophomore (n=1). Regarding their academic backgrounds, three of the participants were from arts and humanities, four from social sciences, four from engineering and the rest were from sciences. On average, they used SNS, Media-sharing services, and Wikis, at least sometimes.

### 5. Results

### 5.1. Survey results

### 5.1.1. Results of research question 1

Survey data were analyzed to answer research question 1: In what contexts do undergraduates use different social media as information sources?

### *US Results*
The respondents were asked how often they used social media as information sources in the academic and the everyday contexts. The answer scale ranged from 1 to 5, with 5 indicating 'almost always.'  In academic context (Table 1), the top three most frequently used sources were: Wikis (M = 3.58), Q&A sites (M = 2.53), and Media sharing services (M = 2.24). The least-used platform was Social bookmarking / Scrapbooking (M = 1.32). In everyday-life information seeking (ELIS) context, the rankings differed (Table 2). The most frequently used source was Social networking sites (M = 3.88). This is followed by Media-sharing services (M = 3.56), and Wikis (M = 3.31). The least-used platform was Internet Forums (M = 2.00). Both in academic and ELIS contexts, Wikis and Media-sharing services were among the top three sources. A difference was that Q&A sites were among the top three sources in the academic context, and Social networking sites in ELIS.

When comparing the frequency of using social media in academic and ELIS contexts, the latter involved more frequent usage (Figure 1). The average frequency of use across the nine social media platforms in the academic context was 1.91, whereas the average frequency in ELIS context was 2.83. Also worth noting is that the average frequency of use was more divergent in the academic context than in the everyday context. In the academic context, the top source, Wikis, was used notably more often than the second-ranked source. The difference between the first and second ranked sources was more than 1 point on a 5-point scale. The difference between the top- and the lowest-ranked platforms was 2.26. In contrast, for ELIS context, the top two platforms did not differ as markedly (0.32 point). The difference between the top- and lowest-rank platforms was 1.88, which is again less than the difference found in the academic context.

Table 1. Frequency of using social media for information seeking in academic context (US respondents)

| Platform | N | Min. | Max. | M | SD |
|---|---|---|---|---|---|
| Wikis | 1355 | 1 | 5 | 3.58 | 1.13 |
| Q&A Sites | 1355 | 1 | 5 | 2.43 | 1.27 |
| Media-Sharing Services | 1355 | 1 | 5 | 2.24 | 1.06 |
| Internet Forums | 1355 | 1 | 5 | 1.73 | 1.01 |
| Blogs | 1355 | 1 | 5 | 1.57 | 0.89 |
| Social Networking Sites | 1355 | 1 | 5 | 1.49 | 0.85 |
| User Reviews | 1355 | 1 | 5 | 1.47 | 0.83 |
| Microblogs | 1355 | 1 | 5 | 1.36 | 0.80 |
| Social Bookmarking / Scrapbooking | 1355 | 1 | 5 | 1.32 | 0.74 |

Scale used: 1- Never, 5 – Almost always

Table 2. Frequency of using social media for information seeking in everyday-life context (US respondents)

| Platform | N | Min. | Max. | M | SD |
|---|---|---|---|---|---|
| Social Networking Sites | 1355 | 1 | 5 | 3.88 | 1.28 |
| Media-Sharing Services | 1355 | 1 | 5 | 3.56 | 1.14 |
| Wikis | 1355 | 1 | 5 | 3.31 | 1.23 |
| User Reviews | 1355 | 1 | 5 | 2.81 | 1.13 |
| Microblogs | 1355 | 1 | 5 | 2.77 | 1.57 |
| Social Bookmarking / Scrapbooking | 1355 | 1 | 5 | 2.59 | 1.49 |
| Q&A Sites | 1355 | 1 | 5 | 2.51 | 1.11 |
| Blogs | 1355 | 1 | 5 | 2.04 | 1.16 |
| Internet Forums | 1355 | 1 | 5 | 2.00 | 1.15 |

Scale used: 1- Never, 5 – Almost always

### Singapore Results

In the academic context (Table 3), the top three most frequently used sources among the Singapore respondents were: Wikis (M = 4.03), Media sharing services (M = 2.59) and Q&A sites (M = 2.56). The least-used platform was the same as the one used by US respondents: Social bookmarking / Scrapbooking (M = 1.44). In ELIS context (Table 4), the top three platforms included: Media-sharing services (M = 4.10), Social networking sites (M = 4.07), and Wikis (M = 3.47). The least-used platform was still Social bookmarking / Scrapbooking (M = 1.92). Similar to the US findings, Wikis and Media-sharing services were among the top three sources in both academic and ELIS contexts. Q&A sites were among the top three sources in the academic context, and Social networking sites in ELIS.

When comparing the two contexts, similar to the US findings, ELIS context again involved more frequent usage. The average frequency of use across the nine platforms was 2.20 in academic context, and 3.01 in ELIS context. The average frequency of use was more divergent in academic than in ELIS context. Wikis again outpaced the second ranked source in the academic context with a 1.44 point difference. The difference between the highest and lowest ranked sources was 2.59 in the academic context, and 2.18 in ELIS. Overall, the Singapore respondents used social media platforms as information sources slightly more frequently than the US respondents (Figure 1).

Table 3. Frequency of using social media for information seeking in academic context (Singapore respondents)

| Platform | N | Min. | Max. | M | SD |
|---|---|---|---|---|---|
| Wikis | 194 | 1 | 5 | 4.03 | 1.03 |
| Media-Sharing Services | 194 | 1 | 5 | 2.59 | 1.24 |
| Q&A Sites | 194 | 1 | 5 | 2.56 | 1.18 |
| Internet Forums | 194 | 1 | 5 | 2.24 | 1.19 |
| Social Networking Sites | 194 | 1 | 5 | 1.87 | 1.04 |
| Blogs | 194 | 1 | 5 | 1.80 | 0.99 |
| User Reviews | 194 | 1 | 5 | 1.76 | 0.99 |
| Microblogs | 194 | 1 | 5 | 1.55 | 0.86 |
| Social Bookmarking / Scrapbooking | 194 | 1 | 5 | 1.44 | 0.86 |

Scale used: 1- Never, 5 – Almost always

Table 4. Frequency of using social media for information seeking in everyday life context (Singapore respondents)

| Platform | N | Min. | Max. | M | SD |
|---|---|---|---|---|---|
| Media-Sharing Services | 194 | 1 | 5 | 4.10 | 1.05 |
| Social Networking Sites | 194 | 1 | 5 | 4.07 | 1.20 |
| Wikis | 194 | 1 | 5 | 3.47 | 1.29 |
| Microblogs | 194 | 1 | 5 | 2.85 | 1.52 |
| Q&A Sites | 194 | 1 | 5 | 2.75 | 1.18 |
| Internet Forums | 194 | 1 | 5 | 2.67 | 1.28 |
| User Reviews | 194 | 1 | 5 | 2.65 | 1.21 |
| Blogs | 194 | 1 | 5 | 2.61 | 1.29 |
| Social Bookmarking / Scrapbooking | 194 | 1 | 5 | 1.92 | 1.20 |

Scale used: 1- Never, 5 – Almost always

Figure 1. Frequency of using social media platforms for information seeking
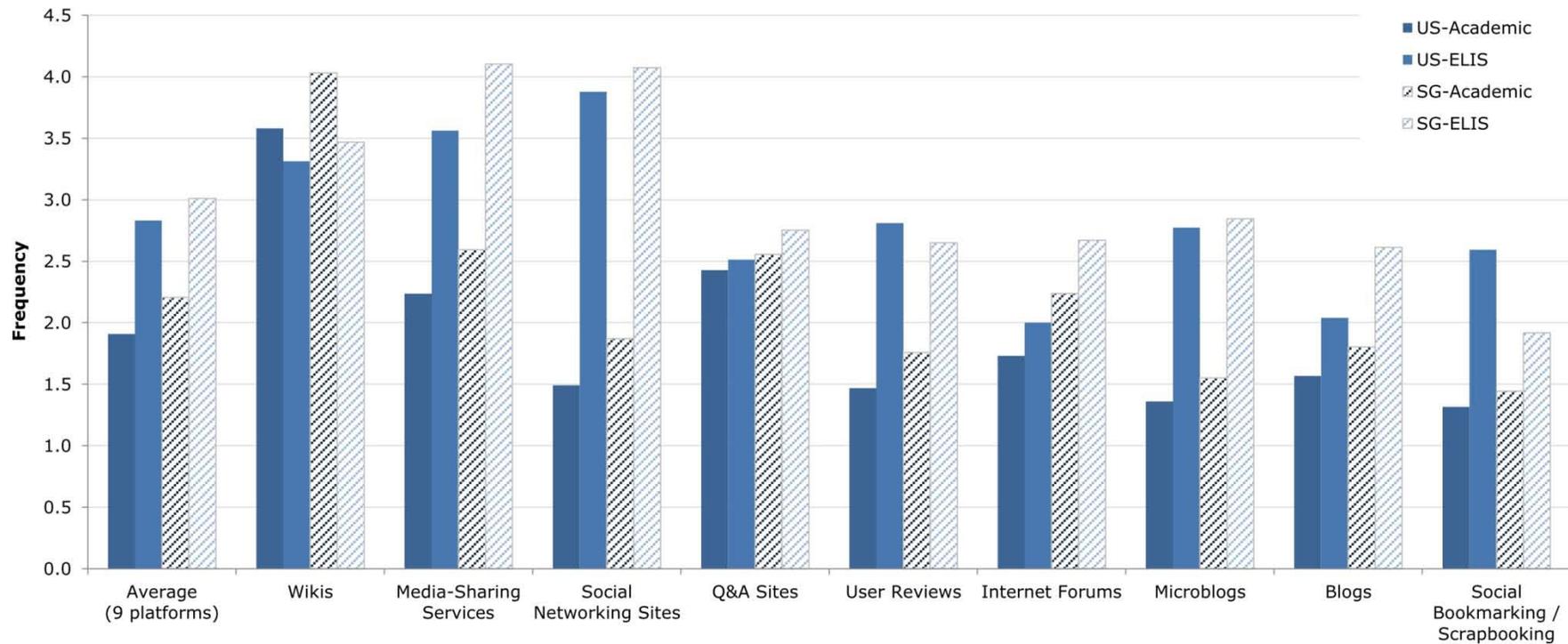
### 5.1.2. Results of research question 2

Survey data were analyzed to answer research question 2: What types of social media do they use for what purposes?

#### *US Results*

The respondents were asked whether they used each of the nine platforms for different purposes, at least several times a month. Summing across all nine platforms (Table 5), the top three purposes were:  Obtain opinions (selected by 33% of US respondents), Get background info (29%), and Follow popular trends (28%). The least common purpose was: Collect e-objects (16%). When purposes for using each platform were examined, the results were diverse (Table 6). For Wikis, the top purpose was Get background info. For SNS, it was Maintain relations. Media-sharing sites, Social bookmarking/Scrapbooking, and Microblogs, all three had Follow popular trends as the top purpose. For User reviews and Blogs, Obtaining opinions was the top purpose. For Q&A sites and Internet forums, Finding solutions was the top purpose.

Table 5. Purpose of using social media (US respondents)

| Rank | Purpose | % of all respondent |
|------|---------|---------------------|
| 1 | Obtain opinions | 33.1 |
| 2 | Get background info | 28.9 |
| 3 | Follow popular trends | 27.9 |
| 4 | Find solutions | 27.4 |
| 5 | Share info | 23.5 |
| 6 | Get updates/news | 23.3 |
| 7 | Maintain relations | 22.6 |
| 8 | Cultivate online identity | 21.3 |
| 9 | Build communities | 19.0 |
| 10 | Check factual info | 17.9 |
| 11 | Collect e-objects | 15.9 |

Table 6. Purpose of using social media, by platforms (US respondents)

| Rank | Wikis | % | SNS | % | Media-Sharing | % | User Reviews | % | Q&A Sites | % |
|------|-------|---|-----|---|---------------|---|--------------|---|-----------|---|
| 1 | Get background info | 88 % | Maintain relations | 92 % | Follow popular trends | 41 % | Obtain opinions | 49 % | Find solutions | 61 % |
| 2 | Check factual info | 74 % | Share info | 87 % | Get updates/news | 34 % | Get background info | 36 % | Get background info | 41 % |
| 3 | Find solutions | 61 % | Cultivate online identity | 83 % | Obtain opinions | 30 % | Find solutions | 27 % | Obtain opinions | 37 % |
| 4 | Get updates/news | 15 % | Follow popular trends | 79 % | Maintain relations | 30 % | Check factual info | 14 % | Check factual info | 27 % |
| 5 | Collect e-objects | 8 % | Get updates/news | 72 % | Share info | 27 % | Follow popular trends | 12 % | Follow popular trends | 6 % |
| 6 | Obtain opinions | 7 % | Build communities | 70 % | Collect e-objects | 24 % | Share info | 6 % | Share info | 5 % |
| 7 | Follow popular trends | 6 % | Obtain opinions | 68 % | Find solutions | 22 % | Build communities | 4 % | Build communities | 5 % |
| 8 | Share info | 4 % | Collect e-objects | 43 % | Cultivate online identity | 21 % | Get updates/news | 3 % | Get updates/news | 5 % |
| 9 | Build communities | 3 % | Get background info | 20 % | Get background info | 19 % | Collect e-objects | 3 % | Collect e-objects | 4 % |
| 10 | Cultivate online identity | 2 % | Find solutions | 9 % | Build communities | 17 % | Cultivate online identity | 2 % | Cultivate online identity | 3 % |
| 11 | Maintain relations | 1 % | Check factual info | 7 % | Check factual info | 10 % | Maintain relations | 2 % | Maintain relations | 2 % |

| Rank | Social Bookmarking | % | Blogs | % | Microblogs | % | Internet Forums | % |
|---|---|---|---|---|---|---|---|---|
| 1 | Follow popular trends | 31 % | Obtain opinions | 22 % | Follow popular trends | 48 % | Find solutions | 33 % |
| 2 | Collect e-objects | 29 % | Follow popular trends | 16 % | Maintain relations | 47 % | Obtain opinions | 29 % |
| 3 | Cultivate online identity | 19 % | Get updates/news | 15 % | Share info | 45 % | Get background info | 25 % |
| 4 | Obtain opinions | 18 % | Find solutions | 14 % | Cultivate online identity | 44 % | Check factual info | 15 % |
| 5 | Share info | 16 % | Get background info | 13 % | Get updates/news | 40 % | Build communities | 13 % |
| 6 | Maintain relations | 15 % | Cultivate online identity | 11 % | Obtain opinions | 38 % | Get updates/news | 12 % |
| 7 | Build communities | 14 % | Share info | 11 % | Build communities | 35 % | Follow popular trends | 11 % |
| 8 | Find solutions | 13 % | Build communities | 11 % | Collect e-objects | 20 % | Share info | 10 % |
| 9 | Get updates/news | 13 % | Maintain relations | 10 % | Get background info | 10 % | Cultivate online identity | 6 % |
| 10 | Get background info | 7 % | Collect e-objects | 7 % | Find solutions | 6 % | Maintain relations | 5 % |
| 11 | Check factual info | 3 % | Check factual info | 5 % | Check factual info | 5 % | Collect e-objects | 5 % |

## *Singapore Results*

Summing across all platforms (Table 7), the top three purposes for Singapore were:  Get background info (selected by 32.2% of Singapore respondents), Find solutions (28.8%), and Obtain opinions (28.6%). The least common purpose is the same as the US result: Collect e-objects (16.7%). The findings on top purposes for each platform are again quite diverse. The results from Singapore respondents were surprisingly comparable to the results from US respondents. The top purpose of using each platform was the same as the US results except one platform: Blogs.  Among the Singapore respondents, the top purpose of using Blogs was Follow popular trends, which was the second among the US respondents. Obtain opinions, the second most cited purpose among Singapore respondents, was the top purpose among the US respondents.

Table 7. Purpose of using social media (Singapore respondents)

| Rank | Purpose | % of all respondent |
|:---:|---|:---:|
| 1 | Get background info | 32.2 |
| 2 | Find solutions | 28.8 |
| 3 | Obtain opinions | 28.6 |
| 4 | Follow popular trends | 28.1 |
| 5 | Get updates/news | 25.7 |
| 6 | Check factual info | 24.2 |
| 7 | Maintain relations | 22.4 |
| 8 | Share info | 21.5 |
| 9 | Cultivate online identity | 18.4 |
| 10 | Build communities | 16.8 |
| 11 | Collect e-objects | 16.7 |

Table 8. Purpose of using social media, by platforms (Singapore respondents)

| Rank | Wikis | % | SNS | % | Media-Sharing | % | User Reviews | % | Q&A Sites | % |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Get background info | 90 % | Maintain relations | 92 % | Follow popular trends | 43 % | Obtain opinions | 48 % | Find solutions | 51 % |
| 2 | Check factual info | 82 % | Share info | 82 % | Get updates/news | 40 % | Get background info | 35 % | Get background info | 38 % |
| 3 | Find solutions | 64 % | Follow popular trends | 79 % | Find solutions | 28 % | Find solutions | 29 % | Obtain opinions | 29 % |
| 4 | Get updates/news | 16 % | Cultivate online identity | 74 % | Collect e-objects | 27 % | Check factual info | 27 % | Check factual info | 27 % |
| 5 | Collect e-objects | 14 % | Get updates/news | 71 % | Share info | 25 % | Follow popular trends | 18 % | Get updates/news | 11 % |
| 6 | Follow popular trends | 7 % | Build communities | 61 % | Maintain relations | 24 % | Get updates/news | 10 % | Follow popular trends | 8 % |
| 7 | Obtain opinions | 5 % | Obtain opinions | 56 % | Get background info | 24 % | Build communities | 6 % | Collect e-objects | 7 % |
| 8 | Maintain relations | 4 % | Collect e-objects | 40 % | Obtain opinions | 23 % | Collect e-objects | 6 % | Build communities | 6 % |
| 9 | Share info | 4 % | Get background info | 27 % | Cultivate online identity | 20 % | Share info | 5 % | Share info | 6 % |
| 10 | Build communities | 4 % | Find solutions | 15 % | Check factual info | 18 % | Maintain relations | 4 % | Maintain relations | 5 % |
| 11 | Cultivate online identity | 3 % | Check factual info | 13 % | Build communities | 13 % | Cultivate online identity | 2 % | Cultivate online identity | 4 % |

| Rank | Social Bookmarking | % | Blogs | % | Microblogs | % | Internet Forums | % |
|------|--------------------|---|-------|---|------------|---|-----------------|---|
| 1 | Follow popular trends | 15 % | Follow popular trends | 25 % | Follow popular trends | 39 % | Find solutions | 46 % |
| 2 | Collect e-objects | 12 % | Obtain opinions | 22 % | Maintain relations | 39 % | Get background info | 40 % |
| 3 | Get updates/news | 11 % | Maintain relations | 19 % | Share info | 37 % | Obtain opinions | 37 % |
| 4 | Obtain opinions | 9 % | Get updates/news | 19 % | Cultivate online identity | 34 % | Check factual info | 26 % |
| 5 | Build communities | 7 % | Get background info | 18 % | Get updates/news | 31 % | Get updates/news | 23 % |
| 6 | Cultivate online identity | 7 % | Share info | 15 % | Obtain opinions | 28 % | Build communities | 20 % |
| 7 | Get background info | 6 % | Collect e-objects | 15 % | Build communities | 24 % | Follow popular trends | 19 % |
| 8 | Maintain relations | 6 % | Cultivate online identity | 14 % | Collect e-objects | 20 % | Share info | 15 % |
| 9 | Check factual info | 6 % | Find solutions | 13 % | Get background info | 12 % | Cultivate online identity | 10 % |
| 10 | Find solutions | 5 % | Build communities | 11 % | Check factual info | 9 % | Collect e-objects | 9 % |
| 11 | Share info | 3 % | Check factual info | 10 % | Find solutions | 7 % | Maintain relations | 9 % |

### 5.1.3. Results of research question 3

Survey data were analyzed to answer research question 3: What actions do they take for evaluating the information provided by different social media?

*US Results*

The respondents were asked how frequently they took different actions when evaluating the information obtained from each of the nine platforms. The scale ranged from 1 to 5, with 5 indicating 'almost always.' Averaging across the nine platforms (Table 9), the top three evaluative actions in the academic context were: Compare the content with external/official sources (M = 2.42), Check the posting date (M = 2.40), and Check other users' reactions to a posting (M = 2.33). In ELIS context, they were different (Table 10). The top evaluative actions included: Check other users' reactions to a posting (M = 2.74), Check the posting date (M = 2.67) and Check tone/style of writing/argument (M = 2.52). Overall, respondents evaluated the social media information only occasionally. On average, they took evaluative actions slightly more frequently in ELIS (M = 2.37) than in the academic context (M = 2.25) (Figure 2).

In terms of the average frequency of taking evaluative actions in the academic context (Table 11), the platform that respondents on average evaluated the most frequently was Wikis (Mean of thirteen strategies = 3.13). This is followed by Q&A sites (M = 2.50) and Media-sharing services (M = 2.35). In ELIS, the top three platforms that respondents on average evaluated frequently were completely different. They were: SNS sites (M = 2.44), Blogs (M = 2.43), and User reviews (M = 2.40).

Table 9. Mean frequency of taking evaluative actions in the academic context (US respondents)

| Rank | Evaluative actions | Mean Frequency |
|---|---|---|
| 1 | Compare the content with external/official sources | 2.42 |
| 2 | Check the posting date | 2.40 |
| 3 | Check other users' reactions to a posting | 2.33 |
| 4 | Check tone/style of writing/argument | 2.32 |
| 5 | Check quantity/quality of links/references provided | 2.30 |
| 6 | Check the length of the article/posting | 2.29 |
| 7 | Check quality of images/graphs/sounds | 2.27 |
| 8 | Check information about the author/poster | 2.26 |
| 9 | Check the information about the platform/domain | 2.21 |
| 10 | Check the edit/updates history | 2.18 |
| 11 | Check genre/category of post | 2.16 |
| 12 | Check the disclaimer | 2.08 |
| 13 | Check the coverage | 2.06 |

Scale used: 1- Never, 5 – Almost always

Table 10. Mean frequency of taking evaluative actions in the everyday context (US respondents)

| Rank | Evaluative actions | Mean Frequency |
|---|---|---|
| 1 | Check other users' reactions to a posting | 2.74 |
| 2 | Check the posting date | 2.67 |
| 3 | Check tone/style of writing/argument | 2.52 |
| 4 | Check quality of images/graphs/sounds | 2.51 |
| 5 | Check the length of the article/posting | 2.42 |
| 6 | Compare the content with external/official sources | 2.40 |
| 7 | Check information about the author/poster | 2.39 |
| 8 | Check quantity/quality of links/references provided | 2.32 |
| 9 | Check genre/category of post | 2.29 |
| 10 | Check the edit/updates history | 2.28 |
| 11 | Check the information about the platform/domain | 2.23 |
| 12 | Check the disclaimer | 2.02 |
| 13 | Check the coverage | 2.01 |

Scale used: 1- Never, 5 – Almost always

Table 11. Mean frequency of taking evaluative actions in the academic context, by platforms (US respondents)

| Rank | Platform | Mean Frequency |
|------|----------|----------------|
| 1 | Wikis | 3.13 |
| 2 | Q&A Sites | 2.50 |
| 3 | Media-Sharing Services | 2.35 |
| 4 | Blogs | 2.34 |
| 5 | Internet Forums | 2.21 |
| 6 | Social Networking Sites | 2.07 |
| 7 | User Reviews | 1.97 |
| 8 | Microblogs | 1.85 |
| 9 | Social Bookmarking / Scrapbooking | 1.84 |

Scale used: 1- Never, 5 – Almost always

Table 12. Mean frequency of taking evaluative actions in the everyday context, by platforms (US respondents)

| Rank | Platform | Mean Frequency |
|------|----------|----------------|
| 1 | Social Networking Sites | 2.44 |
| 2 | Blogs | 2.43 |
| 3 | User Reviews | 2.40 |
| 4 | Wikis | 2.39 |
| 5 | Microblogs | 2.38 |
| 6 | Internet Forums | 2.37 |
| 7 | Q&A Sites | 2.32 |
| 8 | Media-Sharing Services | 2.30 |
| 9 | Social Bookmarking / Scrapbooking | 2.29 |

Scale used: 1- Never, 5 – Almost always

Figure 2. Mean frequency of taking evaluative actions
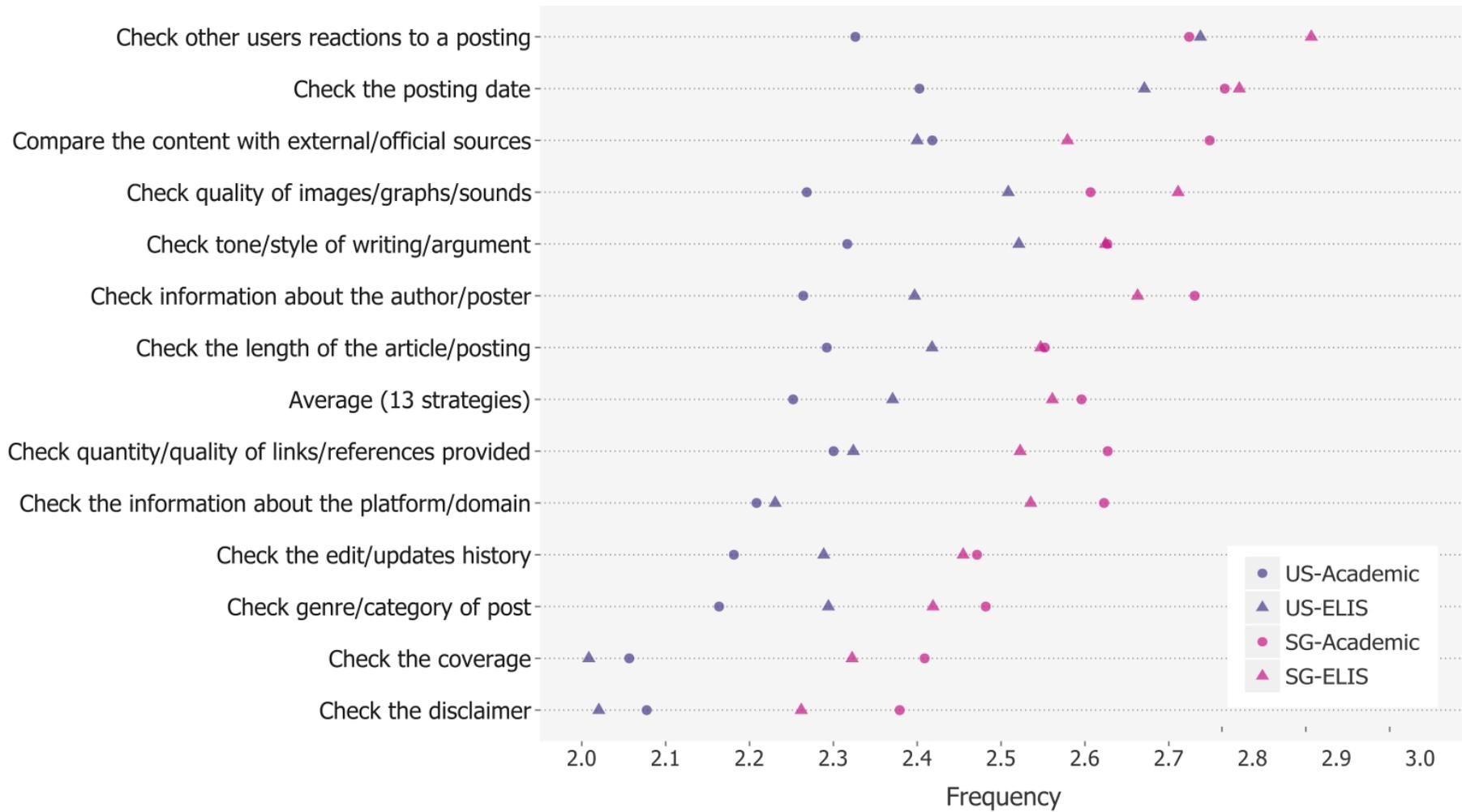
The breakdowns of top strategies by platforms show diversities as well as similarities across platforms. In the academic context (Table 13), Check the posting date was the most frequently used strategy in four out of the nine platforms: SNS, Blogs, Microblogs, and Internet forums. Check quality of images/graphs/sounds was the top strategy for two platforms: Media-sharing services and Social bookmarking/Scrapbooking. Check other users' reactions to a posting was the top strategy for two platforms: User reviews and Q&A sites. Compare the content with external/official sources was the top strategy for one platform: Wikis.

The ranking was different in the everyday context (Table 14). Notable is that Check other users' reactions to a posting emerged as a dominant strategy in ELIS. It was the most frequently used evaluative action in five out of the nine platforms: SNS, user reviews, Q&A sites, Social bookmarking/scrapbooking and Internet forums. Check the posting date was the top strategy for two platforms: Blogs and Microblogs. Check the length of the article/posting emerged as the top for Wikis, while Check the quality of images/graphs/sounds was the top for Media-sharing services.

Table 13. Mean frequency of taking evaluative actions in the academic context, by platform (US respondents)

| Rank | Wikis | Mean Freq. | Social Networking Sites | Mean Freq. | Media-Sharing Services | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Compare the content with external/official sources | 3.65 | Check the posting date | 2.24 | Check quality of images/graphs/sounds | 2.69 |
| 2 | Check the length of the article/posting | 3.50 | Check other users' reactions to a posting | 2.19 | Check the posting date | 2.66 |
| 3 | Check the coverage | 3.40 | Compare the content with external/official sources | 2.17 | Check other users' reactions to a posting | 2.54 |
| 4 | Check quantity/quality of links/references provided | 3.30 | Check information about the author/poster | 2.15 | Compare the content with external/official sources | 2.49 |
| 5 | Check tone/style of writing/argument | 3.28 | Check tone/style of writing/argument | 2.14 | Check information about the author/poster | 2.43 |
| 6 | Check quality of images/graphs/sounds | 3.20 | Check quantity/quality of links/references provided | 2.09 | Check quantity/quality of links/references provided | 2.34 |
| 7 | Check the disclaimer | 3.17 | Check the information about the platform/domain | 2.09 | Check the length of the article/posting | 2.31 |
| 8 | Check the posting date | 3.05 | Check the length of the article/posting | 2.07 | Check the information about the platform/domain | 2.31 |
| 9 | Check information about the author/poster | 3.03 | Check quality of images/graphs/sounds | 2.07 | Check tone/style of writing/argument | 2.30 |
| 10 | Check the information about the platform/domain | 3.03 | Check the edit/updates history | 2.04 | Check genre/category of post | 2.27 |
| 11 | Check genre/category of post | 2.78 | Check genre/category of post | 1.94 | Check the edit/updates history | 2.20 |
| 12 | Check the edit/updates history | 2.67 | Check the disclaimer | 1.89 | Check the disclaimer | 2.12 |
| 13 | Check other users' reactions to a posting | 2.67 | Check the coverage | 1.87 | Check the coverage | 1.93 |
| | Average | 3.13 | | 2.07 | | 2.35 |

Scale used: 1- Never, 5 – Almost always

| Rank | User Reviews | Mean Freq. | Q&A Sites | Mean Freq. | Social Bookmarking / Scrapbooking | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Check other users' reactions to a posting | 2.12 | Check other users' reactions to a posting | 2.85 | Check quality of images/graphs/sounds | 1.91 |
| 2 | Check the posting date | 2.09 | Check the posting date | 2.82 | Check other users' reactions to a posting | 1.90 |
| 3 | Check tone/style of writing/argument | 2.05 | Compare the content with external/official sources | 2.76 | Check quantity/quality of links/references provided | 1.89 |
| 4 | Compare the content with external/official sources | 2.03 | Check tone/style of writing/argument | 2.59 | Compare the content with external/official sources | 1.88 |
| 5 | Check the length of the article/posting | 1.97 | Check the length of the article/posting | 2.54 | Check the posting date | 1.88 |
| 6 | Check the information about the platform/domain | 1.97 | Check the edit/updates history | 2.53 | Check genre/category of post | 1.86 |
| 7 | Check information about the author/poster | 1.96 | Check quantity/quality of links/references provided | 2.53 | Check tone/style of writing/argument | 1.85 |
| 8 | Check genre/category of post | 1.95 | Check genre/category of post | 2.45 | Check the information about the platform/domain | 1.83 |
| 9 | Check the edit/updates history | 1.95 | Check information about the author/poster | 2.44 | Check the length of the article/posting | 1.83 |
| 10 | Check quantity/quality of links/references provided | 1.95 | Check the information about the platform/domain | 2.39 | Check the edit/updates history | 1.82 |
| 11 | Check quality of images/graphs/sounds | 1.91 | Check quality of images/graphs/sounds | 2.33 | Check information about the author/poster | 1.81 |
| 12 | Check the disclaimer | 1.85 | Check the disclaimer | 2.14 | Check the disclaimer | 1.72 |
| 13 | Check the coverage | 1.80 | Check the coverage | 2.08 | Check the coverage | 1.71 |
|  | Average | 1.97 |  | 2.50 |  | 1.84 |

| Rank | Blogs | Mean Freq. | Microblogs | Mean Freq. | Internet Forums | Mean Freq. |
|------|-------|------------|------------|------------|-----------------|------------|
| 1 | Check the posting date | 2.53 | Check the posting date | 1.98 | Check the posting date | 2.38 |
| 2 | Compare the content with external/official sources | 2.49 | Check information about the author/poster | 1.96 | Compare the content with external/official sources | 2.35 |
| 3 | Check quantity/quality of links/references provided | 2.45 | Compare the content with external/official sources | 1.94 | Check other users' reactions to a posting | 2.34 |
| 4 | Check tone/style of writing/argument | 2.45 | Check other users' reactions to a posting | 1.93 | Check tone/style of writing/argument | 2.29 |
| 5 | Check information about the author/poster | 2.40 | Check tone/style of writing/argument | 1.89 | Check quantity/quality of links/references provided | 2.29 |
| 6 | Check other users' reactions to a posting | 2.39 | Check quality of images/graphs/sounds | 1.86 | Check the length of the article/posting | 2.26 |
| 7 | Check the length of the article/posting | 2.35 | Check quantity/quality of links/references provided | 1.86 | Check the edit/updates history | 2.22 |
| 8 | Check the edit/updates history | 2.33 | Check the edit/updates history | 1.86 | Check genre/category of post | 2.21 |
| 9 | Check quality of images/graphs/sounds | 2.33 | Check the information about the platform/domain | 1.82 | Check information about the author/poster | 2.19 |
| 10 | Check the information about the platform/domain | 2.26 | Check the length of the article/posting | 1.79 | Check the information about the platform/domain | 2.18 |
| 11 | Check genre/category of post | 2.24 | Check genre/category of post | 1.76 | Check quality of images/graphs/sounds | 2.12 |
| 12 | Check the disclaimer | 2.16 | Check the disclaimer | 1.69 | Check the coverage | 1.97 |
| 13 | Check the coverage | 2.10 | Check the coverage | 1.64 | Check the disclaimer | 1.96 |
| | Average | 2.35 | | 1.84 | | 2.21 |

Table 14. Mean frequency of taking evaluative actions in the everyday context, by platform (US respondents)

| Rank | Wikis | Mean Freq. | Social Networking Sites | Mean Freq. | Media-Sharing Services | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Check the length of the article/posting | 2.78 | Check other users' reactions to a posting | 3.01 | Check quality of images/graphs/sounds | 2.79 |
| 2 | Check quality of images/graphs/sounds | 2.61 | Check the posting date | 2.91 | Check other users' reactions to a posting | 2.75 |
| 3 | Check the coverage | 2.60 | Check information about the author/poster | 2.69 | Check the posting date | 2.71 |
| 4 | Check tone/style of writing/argument | 2.58 | Check tone/style of writing/argument | 2.67 | Check the length of the article/posting | 2.32 |
| 5 | Compare the content with external/official sources | 2.51 | Check quality of images/graphs/sounds | 2.56 | Check information about the author/poster | 2.31 |
| 6 | Check other users' reactions to a posting | 2.39 | Compare the content with external/official sources | 2.44 | Check tone/style of writing/argument | 2.27 |
| 7 | Check quantity/quality of links/references provided | 2.36 | Check the edit/updates history | 2.44 | Check genre/category of post | 2.24 |
| 8 | Check the disclaimer | 2.33 | Check the length of the article/posting | 2.41 | Compare the content with external/official sources | 2.22 |
| 9 | Check the information about the platform/domain | 2.32 | Check quantity/quality of links/references provided | 2.32 | Check quantity/quality of links/references provided | 2.17 |
| 10 | Check the posting date | 2.30 | Check the information about the platform/domain | 2.32 | Check the edit/updates history | 2.16 |
| 11 | Check genre/category of post | 2.21 | Check genre/category of post | 2.14 | Check the information about the platform/domain | 2.15 |
| 12 | Check information about the author/poster | 2.17 | Check the disclaimer | 1.98 | Check the disclaimer | 1.96 |
| 13 | Check the edit/updates history | 2.02 | Check the coverage | 1.88 | Check the coverage | 1.84 |
|  | Average | 2.40 |  | 2.44 |  | 2.30 |

Scale used: 1- Never, 5 – Almost always

| Rank | User Reviews | Mean Freq. | Q&A Sites | Mean Freq. | Social Bookmarking / Scrapbooking | Mean Freq. |
|------|-------------|-----------|-----------|-----------|-----------------------------------|-----------|
| 1 | Check other users' reactions to a posting | 2.93 | Check other users' reactions to a posting | 2.76 | Check other users' reactions to a posting | 2.67 |
| 2 | Check the posting date | 2.81 | Check the posting date | 2.67 | Check quality of images/graphs/sounds | 2.66 |
| 3 | Check tone/style of writing/argument | 2.59 | Compare the content with external/official sources | 2.48 | Check genre/category of post | 2.54 |
| 4 | Compare the content with external/official sources | 2.49 | Check tone/style of writing/argument | 2.45 | Check quantity/quality of links/references provided | 2.42 |
| 5 | Check information about the author/poster | 2.49 | Check the length of the article/posting | 2.38 | Check the posting date | 2.39 |
| 6 | Check the length of the article/posting | 2.44 | Check the edit/updates history | 2.31 | Check tone/style of writing/argument | 2.33 |
| 7 | Check the edit/updates history | 2.36 | Check genre/category of post | 2.28 | Check the length of the article/posting | 2.27 |
| 8 | Check the information about the platform/domain | 2.34 | Check quantity/quality of links/references provided | 2.26 | Check the edit/updates history | 2.23 |
| 9 | Check quality of images/graphs/sounds | 2.29 | Check information about the author/poster | 2.25 | Compare the content with external/official sources | 2.21 |
| 10 | Check genre/category of post | 2.28 | Check quality of images/graphs/sounds | 2.20 | Check information about the author/poster | 2.21 |
| 11 | Check quantity/quality of links/references provided | 2.22 | Check the information about the platform/domain | 2.18 | Check the information about the platform/domain | 2.11 |
| 12 | Check the disclaimer | 2.04 | Check the disclaimer | 1.97 | Check the disclaimer | 1.91 |
| 13 | Check the coverage | 1.90 | Check the coverage | 1.92 | Check the coverage | 1.90 |
| | Average | 2.40 | | 2.32 | | 2.30 |

| Rank | Blogs | Mean Freq. | Microblogs | Mean Freq. | Internet Forums | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Check the posting date | 2.71 | Check the posting date | 2.84 | Check other users' reactions to a posting | 2.73 |
| 2 | Check tone/style of writing/argument | 2.65 | Check other users' reactions to a posting | 2.80 | Check the posting date | 2.69 |
| 3 | Check other users' reactions to a posting | 2.59 | Check information about the author/poster | 2.61 | Check tone/style of writing/argument | 2.57 |
| 4 | Check quality of images/graphs/sounds | 2.56 | Check tone/style of writing/argument | 2.59 | Compare the content with external/official sources | 2.46 |
| 5 | Check information about the author/poster | 2.51 | Check quality of images/graphs/sounds | 2.57 | Check the length of the article/posting | 2.44 |
| 6 | Check the length of the article/posting | 2.50 | Check the edit/updates history | 2.37 | Check the edit/updates history | 2.40 |
| 7 | Check quantity/quality of links/references provided | 2.47 | Check quantity/quality of links/references provided | 2.36 | Check genre/category of post | 2.36 |
| 8 | Compare the content with external/official sources | 2.44 | Compare the content with external/official sources | 2.34 | Check information about the author/poster | 2.35 |
| 9 | Check genre/category of post | 2.38 | Check genre/category of post | 2.22 | Check quality of images/graphs/sounds | 2.35 |
| 10 | Check the edit/updates history | 2.31 | Check the length of the article/posting | 2.21 | Check quantity/quality of links/references provided | 2.33 |
| 11 | Check the information about the platform/domain | 2.27 | Check the information about the platform/domain | 2.18 | Check the information about the platform/domain | 2.21 |
| 12 | Check the coverage | 2.16 | Check the disclaimer | 1.90 | Check the coverage | 2.01 |
| 13 | Check the disclaimer | 2.13 | Check the coverage | 1.87 | Check the disclaimer | 1.95 |
| | Average | 2.44 | | 2.37 | | 2.37 |

### Singapore results

Averaging across the nine platforms, the top three evaluative actions in the academic context were: Check the posting date (M = 2.77), Compare the content with external/official sources (M = 2.75), and Check information about the author/poster (M = 2.73) (Table 15). In the ELIS context, Check other users' reactions to a posting emerged as the most frequently used strategy (M = 2.87). This is followed by Check the posting date (M= 2.78) and Check quality of images/graphs/sounds (M = 2.71) (Table 16).

When all nine platforms and thirteen strategies were considered together, respondents used the evaluative strategies more frequently in the academic context (M = 2.60) than in ELIS (M = 2.56). This is different from the pattern found among the US respondents (Figure 2).

In terms of the academic context (Table 17), the top three platforms that respondents on average evaluate the most frequently were exactly the same as those found in US respondents. They were: Wikis (M = 3.14), Q&A sites (M = 2.78) and Media-sharing services (M = 2.77). In ELIS (Table 18), the platforms that respondents on average evaluate more often were different from those in the academic context. The top three platforms in the everyday context were slightly different from those of the US respondents, however. Blogs emerged as the most evaluated platform on average (M = 2.69), followed by SNS (M = 2.68), and Internet forums (M = 2.67). On the US side, the top three included SNS, Blogs and User reviews.

Table 15. Mean frequency of taking evaluative actions in the academic context (Singapore respondents)

| Rank | Evaluative actions | Mean Frequency |
|:---:|---|:---:|
| 1 | Check the posting date | 2.77 |
| 2 | Compare the content with external/official sources | 2.75 |
| 3 | Check information about the author/poster | 2.73 |
| 4 | Check other users' reactions to a posting | 2.72 |
| 5 | Check quantity/quality of links/references provided | 2.63 |
| 6 | Check tone/style of writing/argument | 2.63 |
| 7 | Check the information about the platform/domain | 2.62 |
| 8 | Check quality of images/graphs/sounds | 2.61 |
| 9 | Check the length of the article/posting | 2.55 |
| 10 | Check genre/category of post | 2.48 |
| 11 | Check the edit/updates history | 2.47 |
| 12 | Check the coverage | 2.41 |
| 13 | Check the disclaimer | 2.38 |

Scale used: 1- Never, 5 – Almost always

Table 16. Mean frequency of taking evaluative actions in the everyday context (Singapore respondents)

| Rank | Evaluative actions | Mean Frequency |
|---|---|---|
| 1 | Check other users' reactions to a posting | 2.87 |
| 2 | Check the posting date | 2.78 |
| 3 | Check quality of images/graphs/sounds | 2.71 |
| 4 | Check information about the author/poster | 2.66 |
| 5 | Check tone/style of writing/argument | 2.62 |
| 6 | Compare the content with external/official sources | 2.58 |
| 7 | Check the length of the article/posting | 2.55 |
| 8 | Check the information about the platform/domain | 2.54 |
| 9 | Check quantity/quality of links/references provided | 2.52 |
| 10 | Check the edit/updates history | 2.45 |
| 11 | Check genre/category of post | 2.42 |
| 12 | Check the coverage | 2.32 |
| 13 | Check the disclaimer | 2.26 |

Scale used: 1- Never, 5 – Almost always

Table 17. Mean frequency of taking evaluative actions in the academic context, by platforms (Singapore respondents)

| Rank | Platform | Mean Frequency |
|---|---|---|
| 1 | Wikis | 3.14 |
| 2 | Q&A Sites | 2.78 |
| 3 | Media-Sharing Services | 2.77 |
| 4 | Internet Forums | 2.71 |
| 5 | Blogs | 2.57 |
| 6 | User Reviews | 2.49 |
| 7 | Social Networking Sites | 2.48 |
| 8 | Social Bookmarking / Scrapbooking | 2.22 |
| 9 | Microblogs | 2.21 |

Scale used: 1- Never, 5 – Almost always

Table 18. Mean frequency of taking evaluative actions in the everyday context, by platforms (Singapore respondents)

| Rank | Platform | Mean Frequency |
|------|----------|----------------|
| 1 | Blogs | 2.69 |
| 2 | Social Networking Sites | 2.68 |
| 3 | Internet Forums | 2.67 |
| 4 | Media-Sharing Services | 2.63 |
| 5 | Q&A Sites | 2.53 |
| 6 | User Reviews | 2.52 |
| 7 | Wikis | 2.50 |
| 8 | Social Bookmarking / Scrapbooking | 2.42 |
| 9 | Microblogs | 2.41 |

Scale used: 1- Never, 5 – Almost always

In the academic context (Table 19), Wikis and SNS both have Compare the content with external/official sources as the most frequently used strategy. Media sharing services, Q&A sites share the same top strategy: Check other users' reactions to a posting. User reviews, Social bookmarking/scrapbooking sites, and Microblogs are similar in that Check information about the author/poster was the top strategy. Blogs and Internet forums both have Check the posting date as the top strategy.

In the ELIS context (Table 20), similar to the US side, Check other users' reactions to a posting again emerged as a dominant evaluative action. It is the most frequently used strategy for six out of the nine platforms (SNS, Media sharing services, User reviews, Q&A sites, Microblogs, and Internet forums). For Wikis, Compare the content with external / official sources was still the top evaluative action as it was in the academic context. Also similar to the academic context, for Blogs, Check the posting date was still the top strategy in the everyday context. For Social bookmarking / scrapbooking sites, the top evaluative action changed from Check information about the author/poster in the academic context, to Check quality of images/graphs/sounds in ELIS. Overall, the findings indicate that even when using the same social media platform, respondents took evaluative actions with different frequencies depending on the context (Figure 3).

Table 19. Mean frequency of taking evaluative actions in the academic context, by platform (Singapore respondents)

| Rank | Wikis | Mean Freq. | Social Networking Sites | Mean Freq. | Media-Sharing Services | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Compare the content with external/official sources | 3.61 | Compare the content with external/official sources | 2.77 | Check other users' reactions to a posting | 3.10 |
| 2 | Check the coverage | 3.36 | Check the posting date | 2.65 | Check quality of images/graphs/sounds | 3.05 |
| 3 | Check the length of the article/posting | 3.32 | Check the information about the platform/domain | 2.63 | Check the posting date | 3.03 |
| 4 | Check the information about the platform/domain | 3.27 | Check other users' reactions to a posting | 2.62 | Check information about the author/poster | 2.98 |
| 5 | Check quantity/quality of links/references provided | 3.21 | Check information about the author/poster | 2.58 | Compare the content with external/official sources | 2.88 |
| 6 | Check information about the author/poster | 3.21 | Check tone/style of writing/argument | 2.58 | Check the information about the platform/domain | 2.79 |
| 7 | Check the posting date | 3.15 | Check quantity/quality of links/references provided | 2.48 | Check quantity/quality of links/references provided | 2.74 |
| 8 | Check tone/style of writing/argument | 3.14 | Check quality of images/graphs/sounds | 2.45 | Check genre/category of post | 2.71 |
| 9 | Check quality of images/graphs/sounds | 3.09 | Check the length of the article/posting | 2.42 | Check tone/style of writing/argument | 2.68 |
| 10 | Check the disclaimer | 3.03 | Check the edit/updates history | 2.34 | Check the edit/updates history | 2.58 |
| 11 | Check other users' reactions to a posting | 2.91 | Check the disclaimer | 2.29 | Check the length of the article/posting | 2.58 |
| 12 | Check genre/category of post | 2.80 | Check genre/category of post | 2.28 | Check the disclaimer | 2.47 |
| 13 | Check the edit/updates history | 2.76 | Check the coverage | 2.18 | Check the coverage | 2.41 |
| | Average | 3.14 | | 2.48 | | 2.77 |

Scale used: 1- Never, 5 – Almost always

| Rank | User Reviews | Mean Freq. | Q&A Sites | Mean Freq. | Social Bookmarking / Scrapbooking | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Check information about the author/poster | 2.69 | Check other users' reactions to a posting | 3.08 | Check information about the author/poster | 2.34 |
| 2 | Check the posting date | 2.65 | Check the posting date | 3.02 | Check the posting date | 2.32 |
| 3 | Check other users' reactions to a posting | 2.65 | Compare the content with external/official sources | 2.99 | Check quality of images/graphs/sounds | 2.29 |
| 4 | Compare the content with external/official sources | 2.52 | Check the information about the platform/domain | 2.91 | Check quantity/quality of links/references provided | 2.26 |
| 5 | Check the information about the platform/domain | 2.52 | Check information about the author/poster | 2.89 | Check tone/style of writing/argument | 2.25 |
| 6 | Check tone/style of writing/argument | 2.49 | Check tone/style of writing/argument | 2.82 | Check the length of the article/posting | 2.25 |
| 7 | Check quantity/quality of links/references provided | 2.47 | Check quantity/quality of links/references provided | 2.79 | Check genre/category of post | 2.25 |
| 8 | Check the length of the article/posting | 2.46 | Check the edit/updates history | 2.70 | Check other users' reactions to a posting | 2.25 |
| 9 | Check the edit/updates history | 2.43 | Check the length of the article/posting | 2.69 | Compare the content with external/official sources | 2.22 |
| 10 | Check quality of images/graphs/sounds | 2.39 | Check genre/category of post | 2.67 | Check the information about the platform/domain | 2.12 |
| 11 | Check genre/category of post | 2.36 | Check quality of images/graphs/sounds | 2.62 | Check the edit/updates history | 2.11 |
| 12 | Check the disclaimer | 2.33 | Check the coverage | 2.50 | Check the coverage | 2.09 |
| 13 | Check the coverage | 2.32 | Check the disclaimer | 2.45 | Check the disclaimer | 2.08 |
| | Average | 2.48 | | 2.78 | | 2.22 |

| Rank | Blogs | Mean Freq. | Microblogs | Mean Freq. | Internet Forums | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Check the posting date | 2.75 | Check information about the author/poster | 2.40 | Check the posting date | 2.99 |
| 2 | Check tone/style of writing/argument | 2.72 | Check the posting date | 2.35 | Check other users' reactions to a posting | 2.92 |
| 3 | Check quantity/quality of links/references provided | 2.69 | Check other users' reactions to a posting | 2.34 | Check information about the author/poster | 2.86 |
| 4 | Compare the content with external/official sources | 2.66 | Compare the content with external/official sources | 2.27 | Check quantity/quality of links/references provided | 2.83 |
| 5 | Check other users' reactions to a posting | 2.66 | Check quality of images/graphs/sounds | 2.25 | Compare the content with external/official sources | 2.82 |
| 6 | Check information about the author/poster | 2.62 | Check tone/style of writing/argument | 2.23 | Check tone/style of writing/argument | 2.74 |
| 7 | Check quality of images/graphs/sounds | 2.60 | Check the information about the platform/domain | 2.22 | Check quality of images/graphs/sounds | 2.71 |
| 8 | Check the information about the platform/domain | 2.59 | Check genre/category of post | 2.18 | Check the edit/updates history | 2.69 |
| 9 | Check genre/category of post | 2.51 | Check quantity/quality of links/references provided | 2.18 | Check the length of the article/posting | 2.63 |
| 10 | Check the length of the article/posting | 2.50 | Check the edit/updates history | 2.15 | Check genre/category of post | 2.58 |
| 11 | Check the edit/updates history | 2.49 | Check the length of the article/posting | 2.12 | Check the information about the platform/domain | 2.56 |
| 12 | Check the coverage | 2.33 | Check the disclaimer | 2.06 | Check the coverage | 2.43 |
| 13 | Check the disclaimer | 2.30 | Check the coverage | 2.05 | Check the disclaimer | 2.40 |
| | Average | 2.57 | | 2.21 | | 2.70 |

Table 20. Mean frequency of taking evaluative actions in the everyday context, by platform (Singapore respondents)

| Rank | Wikis | Mean Freq. | Social Networking Sites | Mean Freq. | Media-Sharing Services | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Compare the content with external/official sources | 2.71 | Check other users' reactions to a posting | 3.17 | Check other users' reactions to a posting | 3.17 |
| 2 | Check the length of the article/posting | 2.64 | Check the posting date | 2.93 | Check quality of images/graphs/sounds | 3.03 |
| 3 | Check the coverage | 2.64 | Check information about the author/poster | 2.82 | Check the posting date | 2.93 |
| 4 | Check quality of images/graphs/sounds | 2.62 | Check quality of images/graphs/sounds | 2.82 | Check information about the author/poster | 2.73 |
| 5 | Check tone/style of writing/argument | 2.54 | Check tone/style of writing/argument | 2.78 | Compare the content with external/official sources | 2.59 |
| 6 | Check quantity/quality of links/references provided | 2.54 | Check the length of the article/posting | 2.72 | Check the information about the platform/domain | 2.57 |
| 7 | Check other users' reactions to a posting | 2.51 | Check the information about the platform/domain | 2.72 | Check the edit/updates history | 2.56 |
| 8 | Check the information about the platform/domain | 2.51 | Compare the content with external/official sources | 2.71 | Check tone/style of writing/argument | 2.54 |
| 9 | Check the posting date | 2.47 | Check the edit/updates history | 2.62 | Check quantity/quality of links/references provided | 2.53 |
| 10 | Check information about the author/poster | 2.40 | Check quantity/quality of links/references provided | 2.53 | Check the length of the article/posting | 2.53 |
| 11 | Check the disclaimer | 2.37 | Check genre/category of post | 2.41 | Check genre/category of post | 2.47 |
| 12 | Check genre/category of post | 2.25 | Check the disclaimer | 2.32 | Check the disclaimer | 2.27 |
| 13 | Check the edit/updates history | 2.23 | Check the coverage | 2.32 | Check the coverage | 2.25 |
|  | Average | 2.49 |  | 2.68 |  | 2.63 |

Scale used: 1- Never, 5 – Almost always

| Rank | User Reviews | Mean Freq. | Q&A Sites | Mean Freq. | Social Bookmarking / Scrapbooking | Mean Freq. |
|------|-------------|------------|-----------|------------|-----------------------------------|------------|
| 1 | Check other users' reactions to a posting | 2.97 | Check other users' reactions to a posting | 2.95 | Check quality of images/graphs/sounds | 2.75 |
| 2 | Check the posting date | 2.79 | Check the posting date | 2.78 | Check the posting date | 2.55 |
| 3 | Check information about the author/poster | 2.69 | Compare the content with external/official sources | 2.66 | Check other users' reactions to a posting | 2.52 |
| 4 | Check tone/style of writing/argument | 2.63 | Check tone/style of writing/argument | 2.64 | Check information about the author/poster | 2.46 |
| 5 | Check the information about the platform/domain | 2.59 | Check the information about the platform/domain | 2.60 | Check the length of the article/posting | 2.45 |
| 6 | Compare the content with external/official sources | 2.53 | Check quality of images/graphs/sounds | 2.58 | Check quantity/quality of links/references provided | 2.45 |
| 7 | Check the length of the article/posting | 2.52 | Check information about the author/poster | 2.55 | Check genre/category of post | 2.40 |
| 8 | Check the edit/updates history | 2.49 | Check the length of the article/posting | 2.52 | Check tone/style of writing/argument | 2.38 |
| 9 | Check quality of images/graphs/sounds | 2.45 | Check quantity/quality of links/references provided | 2.49 | Check the information about the platform/domain | 2.38 |
| 10 | Check genre/category of post | 2.39 | Check the edit/updates history | 2.38 | Check the edit/updates history | 2.29 |
| 11 | Check quantity/quality of links/references provided | 2.37 | Check genre/category of post | 2.36 | Check the coverage | 2.29 |
| 12 | Check the coverage | 2.24 | Check the disclaimer | 2.19 | Check the disclaimer | 2.26 |
| 13 | Check the disclaimer | 2.13 | Check the coverage | 2.12 | Compare the content with external/official sources | 2.22 |
| | Average | 2.52 | | 2.52 | | 2.42 |

| Rank | Blogs | Mean Freq. | Microblogs | Mean Freq. | Internet Forums | Mean Freq. |
|---|---|---|---|---|---|---|
| 1 | Check the posting date | 3.01 | Check other users' reactions to a posting | 2.70 | Check other users' reactions to a posting | 2.97 |
| 2 | Check information about the author/poster | 2.90 | Check the posting date | 2.65 | Check the posting date | 2.95 |
| 3 | Check other users' reactions to a posting | 2.84 | Check quality of images/graphs/sounds | 2.64 | Check tone/style of writing/argument | 2.80 |
| 4 | Check tone/style of writing/argument | 2.83 | Check information about the author/poster | 2.62 | Check information about the author/poster | 2.80 |
| 5 | Check quality of images/graphs/sounds | 2.77 | Check tone/style of writing/argument | 2.47 | Check quality of images/graphs/sounds | 2.75 |
| 6 | Check quantity/quality of links/references provided | 2.70 | Compare the content with external/official sources | 2.43 | Compare the content with external/official sources | 2.71 |
| 7 | Compare the content with external/official sources | 2.66 | Check quantity/quality of links/references provided | 2.43 | Check the length of the article/posting | 2.68 |
| 8 | Check the length of the article/posting | 2.63 | Check the edit/updates history | 2.32 | Check quantity/quality of links/references provided | 2.67 |
| 9 | Check the information about the platform/domain | 2.59 | Check genre/category of post | 2.31 | Check the edit/updates history | 2.62 |
| 10 | Check genre/category of post | 2.59 | Check the information about the platform/domain | 2.31 | Check genre/category of post | 2.59 |
| 11 | Check the edit/updates history | 2.57 | Check the length of the article/posting | 2.24 | Check the information about the platform/domain | 2.55 |
| 12 | Check the coverage | 2.48 | Check the coverage | 2.17 | Check the coverage | 2.39 |
| 13 | Check the disclaimer | 2.34 | Check the disclaimer | 2.10 | Check the disclaimer | 2.36 |
| | Average | 2.69 | | 2.41 | | 2.68 |

Figure 3.  Frequency of taking evaluative actions for popular platforms (Wikis, SNS, Media-sharing services), by context
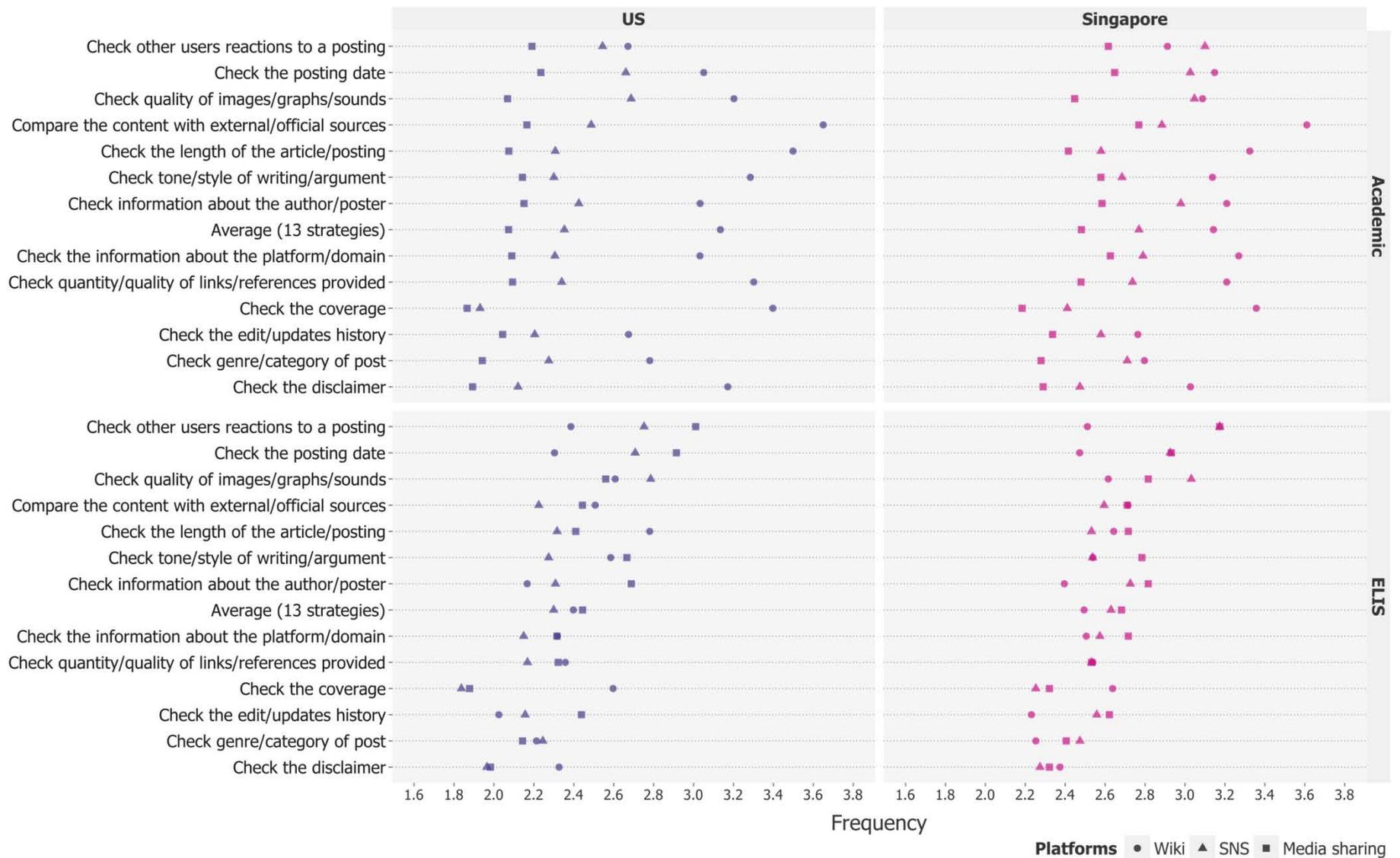
**5.2. Focus group**

**5.2.1. Results of research question 4**

Questions were asked in relation to the information elements and system features that could be useful when evaluating information from different social media platforms. Which elements would the participants frequently check when evaluating information from social media? Which system features would they find useful for checking and evaluating the information?

*US Results*

Information elements that participants mentioned they would check often are related mostly to the author and the posting. Elements related to references cited are also mentioned fairly often. All the elements mentioned by participants are grouped based on related facets and presented in Table 21.

At least half of the information elements that participants checked or considered useful were related to the posting. The frequently mentioned elements included: ratings, categories/genres, funding sources, target audiences, purposes, tone/wording, and dates of the posting. The comparable, yet a bit lower number of comments were made in relation to the author. The author/poster related elements were: the author's expertise or experience level, educational and cultural backgrounds, age, and bias/viewpoints.

While agreeing with the importance of certain elements, the participants may look for different values for an element. For the author's age, for example, depending on the situation, participants preferred postings by authors in different age groups: "If I'm looking at blogs, then I'm more prone to look at postings by people of my age.  But if I'm looking at a news or research article, I prefer to read an article of an older person, possibly with more education. They [such older authors] would know what they are talking about."

In general, when seeking information for educational or research purposes, participants tended to prefer postings by more experienced and educated individuals. For less serious, everyday-life information, they seemed to pay more attention to those posted by individuals who are similar to themselves.

Regarding the posting-related elements, many participants agreed that categories and purposes of the posting are important to check: "I think the purpose of the posting would be important... if it's educational versus it's just for entertainment.  When some people are talking about how to do something, for example, if they are just doing it for entertainment, they might not actually be telling you the truth, or that is actually something you could use in real life."

Participants also paid attention to various characteristics of the posting itself, such as date, length, number of authors/contributors (e.g., Wikis), tone/wording, and status (e.g.,

completeness, activeness). In addition, they seemed to be aware of biases that may exist in the posting, due to the funding sources, parent sites, etc.

Participants in general seemed to be interested and frequently checked how others reacted to the authors, postings, references, and source sites. That is, reputation and ratings (e.g., ratings based on popularity, helpfulness) were always mentioned as a useful information element to check when evaluating information from social media. Yet, several participants expressed dissatisfaction with current rating systems and suggested a more advanced system, allowing ratings based on multiple criteria rather than a simple one (like current systems) mostly based on popularity. They found ratings on popularity itself do not provide much information that can help evaluate the information quality.

Table 21. Useful information elements (US participants)

| Facets | Author/Poster | Posting | Reference | Source Site |
|---|---|---|---|---|
| Elements | *Characteristics* | *Characteristics* | *Characteristics* | *Characteristics* |
| | Affiliation | Category/Genre | Links | Affiliation |
| | Age | Date | Quality | |
| | Culture | Edit history | | |
| | Education | Funding source | | |
| | Experience/Expertise | Length | | |
| | Interest | Number of authors | | |
| | Life style | Parent site/source | | |
| | Location | Purpose | | |
| | Occupation | Quality of content | | |
| | Viewpoints | object | | |
| | | Status | | |
| | *Activity* | Target audience | | |
| | Level of contribution | Tone/wording | | |
| | | Topic relevance | | |
| | *Relation* | | | |
| | Relation to me | | | |
| | | | | |
| | *Reactions* | | *Reactions* | *Reactions* |
| | Reputation/Rating | *Reactions* | Rating | Reputation/Rating |
| | Verified | Rating | | |
| | | User tags | | |

System features/tools that the participants mentioned are categorized based on facets and data elements, and presented in Table 22. Three main facets related to the elements were identified: author/poster, posting and reference.

Related to the author/poster, several participants suggested icons or popup windows to indicate the author's credibility or to show the profile: "Maybe every time you post on a blog or whatever platform you use, you have a little stamp underneath you or a popup with a little graph that has your education, your years of experience, rating scores, etc." Another participant

added: "Something that I think Yahoo!Answers does well is the reputation of the answerer. A little icon next to them verifies history of providing good answers."

For the postings, a few participants wanted to have the postings categorized based on the topic or genre. A couple of participants even suggested separate platforms for different purposes, similar to what  Google did (Google for general purpose vs. Google Scholar for academic/research purpose): "It would be nice to have two separate, not websites, but just two separate platforms for education and entertainment, because if I'm just going to watch a funny video, I don't care where it came from…  In the entertainment, you don't really need any background information.  But for educational stuff, you do, and you check whether the source is reliable."

Some others wanted to have more integrated, rather than fragmented platforms. They suggested having all related resources connected across different platforms: "It seemed like a nice way of having crossover between things where these websites decided to pair up where one of them was really good at this, one of them was very good at that.  Let's combine them, and thus let them help each other."

In general, participants liked to have summary statistics. Regarding user ratings, a participant said: "I think Amazon does do a good job of 'pro' and 'con' reviews, basically providing all the aggregate stats.  If it's shoes, for example, 98% of users say this fits true to size, and different things like that." Another participant liked even simple statistics capturing readers' actions: "Like Google Analytics, it would let you know how many people are looking at it, how many times they click on it, where they are in the world, etc.  It would be really cool and helpful to know that."

Among different features suggested, a couple of them are fairly unique and deserve further consideration.  A participant suggested a translating function: "If I'm looking for the history of a town in Spain… I can look at the Spanish history of the town which may have more to say or say it differently (than the history from English sites). Therefore, a translator for the webpage would be necessary." Another participant suggested a function allowing a term in one language to be searched across different languages.

A few participants liked a feature indicating whether there exists a certain degree of consensus on an issue or not: "The heat map of contested sentence or part would be very useful because if the piece of information that you're interested in is in the red area, it means like "Ok, I can't just go off of what's here. I have to look into this further." This kind of feature is already available in certain platforms, and would be particularly useful for wiki types of resources.

Table 22. Useful features and tools (US participants)

| | Author/Poster | Posting | Reference |
|---|---|---|---|
| Filter, Search, Sort | • Background/Characteristics (e.g., age, experience, lifestyle, interest)<br>• Credibility<br>• Location<br>• Relationship (e.g., friends?) | • Category/Genre<br>• Characteristics (e.g., length, completeness)<br>• Date<br>• Location<br>• Purpose<br>• Status<br>• Topic relevance<br>• Rating | |
| Display | • Icon/badge (for verified/certified)<br>• Popup (for credibility, profile, rating score)<br>• Rating stats | • Categorized entries (e.g., by topic, genre)<br>• Collapse/expand entries<br>• Edit statistics<br>• Edits (by category)<br>• Heat map (for frequently edited contents)<br>• Related contents (e.g., links to related content across platforms )<br>• Statistics & stat summary | • Categorized entries<br>• Links to sources |
| Compare | | • Characteristics<br>• Rating/Popularity | |
| Customize | | • For filtering & display | |
| Map | • Location<br>• Display and filter by additional elements | • Location<br>• Display and filter by additional elements | |
| Rate | • By multiple criteria | • By multiple criteria (e.g., like, usefulness, easiness, status) | • By usefulness<br>• By quality |
| Tag | | • Date<br>• Subject<br>• Positive/Negative | |
| Translate | | • Concept/content translation | |
| Word Cloud | | • Topics<br>• User tags | |

### Singapore Results

Information elements that most participants said they would check or find useful are similar to those mentioned by US participants. The elements mentioned by the Singapore participants are grouped based on the corresponding facets, and presented in Table 23.

Similar to the US side, the Singapore participants often checked information elements related to the postings. Frequently mentioned elements included: dates, presentation (e.g., structure, format, quality), ratings, relevance, number of views, funding sources, purposes, and user tags. Author-related elements were also checked often. Frequently mentioned elements were: author/poster's experience or expertise, relation to me, reputation, occupation/profession, and viewpoints.

Related to the author, many agreed that checking the author/poster's experience is useful: "For me, it's important to know more about the experience of the author or poster. If you know what kind of experience the authors have, you can have some sense whether their answers or postings are trustworthy or make any sense to you."

Quite a few participants mentioned that they would check whether the poster is related to them: "It may not be 100% true what people post on social media… So if it's my friend who posted something, I would trust it… If a posting is from people you really know, it's easier to decide whether to trust."

Related to the source site, the participants seemed to have developed an opinion about certain sites or platforms - whether some are more reputable than others – and use it when evaluating information: "Reputations would be useful for checking trustworthiness of information… I think LinkedIn would be quite trustworthy… compared to Facebook."

Table 23. Useful facets and elements (Singapore participants)

| Facets | Author/Poster | Posting | Reference | Source site |
|---|---|---|---|---|
| Elements | *Characteristics* | *Characteristics* | *Characteristics* | *Characteristics* |
| | Affiliation | Category/Genre | Links to | Links to |
| | Age | Date | Quantity | |
| | Culture | Details (e.g., photo, price) | Quality | |
| | Experience/Expertise | | | |
| | Interest | Disclaimer | | |
| | IP address | Edit history | | |
| | Life style | Funding source | | |
| | Location | Length | | |
| | Occupation | Purpose | | |
| | Other postings | Quality of content object | | |
| | View points | Status (e.g., recent updates) | | |
| | *Activity* | Target audience | | |
| | Level of contribution | Tone/wording | | |
| | | Topic relevance | | |
| | *Relation* | | | |
| | Relation to me | | | |
| | *Reactions* | *Reactions* | *Reactions* | *Reactions* |
| | Endorsement | Rating | Rating | Reputation |
| | Number of followers | Actions (e.g., # of views/sharing/responses) | | |
| | Rating/Reputation | Viewers | | |
| | | User tags | | |

Similar to the findings from US focus groups, system features/tools that the Singapore participants mentioned are mostly related to the authors/posters and the postings. Again, the result is categorized based on facets, and presented in Table 24.

It is worth mentioning a couple of interesting features suggested by participants. One is related to the profile of "likers" – the responders who liked the postings. A participant noted: "They can show who liked the posted product. So if you like this particular thing, then you can check out the profile of people who like it. Supposedly they have similar tastes. By looking at what other things they like, you might be able to find something that you did not know about, but you would like." Such a profile could help the readers to find other related postings that might be interesting or useful to them.

The other feature is related to rating. Two innovative approaches were suggested for the rating system. One is a rating system that allows selecting postings of interest by the reader, and a recalculation of rating scores based on selected postings: "If there is a way to filter out the things that we don't want and then you recalculate the ratings just based on this particular set, it'll be helpful." The other is a system with the ability to conduct calculations on different ratings to filter out messages. For example, if one wants to identify contested postings, the system can

calculate for each posting a score (Number of likes minus number of dislikes). If the score is small (i.e., the numbers of likes and dislikes are similar), than the message can be flagged as a contested posting.

Table 24. Useful features and tools (Singapore participants)

| | Author/Poster | Posting | Reference |
|---|---|---|---|
| Filter<br>Search<br>Sort | • Backgrounds (e.g., age, experience, interest, lifestyle)<br>• Credibility<br>• Status (e.g., active/inactive) | • Product/place related info (e.g., quietness, open hours, proximity, price, types of cuisine, easiness, ingredients)<br>• Date (last update)<br>• Image (e.g., characteristics)<br>• Location/Distance<br>• Number of views/visitors<br>• Topic relevance<br>• Rating | |
| Display | | • Categorized entries<br>• Ranked comments based on level of expertise<br>• Related contents – Links; Content across platforms<br>• Popup showing current trends<br>• Rating (calculated scores)<br>• Rating summary (e.g., contrasting pros & cons) | • Categorized entries<br>• Links to |
| Map | | • Location<br>• Display and filter by additional elements | |
| Rate | • By multiple criteria (e.g., experience, credibility) | • By multiple criteria | |
| Translate | | • Concept/content translation | |

## 6. Discussion

Regarding the social media platforms frequently used in two different contexts, findings from both US and Singapore showed a similar trend. The top three frequently used social media platforms in the academic context included: Wikis, Q&A sites, and Media-sharing services. Top three platforms in the ELIS context were: SNS, Media-sharing services, and Wikis. As Wikis and Media-sharing services were frequently used both in academic and ELIS contexts, it might be important to include them in the information literacy (IL) program. It is also found that Q&A sites were often used in the academic context. This would be another social media platform that needs to be covered in the IL program. As students use the platforms frequently, librarians

would need to be more proactive and help them learn how to use such platforms effectively for information seeking purposes.

For the purposes of using social media in general, there was another consensus between findings from the US and Singapore sides. Among the top five purposes, four of them were the same: Get background info, Find solutions, Obtain opinions, and Follow popular trends. For purposes of using individual platforms, strikingly similar results were again found from both the US and Singapore sides. To get background information, Wikis was used. To find solutions, Q&A sites and Internet forums were used.  User reviews and Blogs were used for obtaining opinions. To follow popular trends, Media-sharing services, Social bookmarking, Blogs and Microblogs were often used. SNS was used mainly for maintaining relations. The results suggest that Wikis and Q&A sites are important sources as they help find background information and also solutions. This finding again justifies the inclusion of Wikis and Q&A sites in the IL program. With knowledge of the top purposes of social media usage, librarians can also identify and recommend to students quality social media platforms and other resources that can help achieve these purposes.

As at least some social media platforms are used for information-seeking purposes, a question is raised: what kinds of actions do users take to evaluate information found from social media? When the top five evaluative actions across platforms are compared, slight differences are found depending on contexts and countries (Table 25).

Table 25. Top five evaluative actions by country and context

| US | | Singapore | |
| --- | --- | --- | --- |
| *Academic Context* | *Everyday Context* | *Academic Context* | *Everyday Context* |
| | | Check information about the author/poster | Check information about the author/poster |
| Check other users' reactions to a posting | Check other users' reactions to a posting | Check other users' reactions to a posting | Check other users' reactions to a posting |
| | Check quality of images/graphs/sounds | | Check quality of images/graphs/sounds |
| Check quantity/quality of links/references provided | | Check quantity/quality of links/references provided | |
| | Check the length of the article/posting | | |
| Check the posting date | Check the posting date | | Check the posting date |
| | | Check the posting date | |
| Check tone/style of writing/argument | Check tone/style of writing/argument | | Check tone/style of writing/argument |
| Compare the content with external/official sources | | Compare the content with external/official sources | |

Regardless of countries and contexts, certain evaluative actions are commonly taken: Check other users' reactions to a posting, and Check the posting date. For the academic context, participants from both countries always tried to Compare the content with external/official sources, which is a strategy often recommended in IL programs. It is interesting to note that the Singapore participants frequently Check information about the author/poster, regardless of contexts.

Worth noting is that respondents also frequently turn to peripheral cues when evaluating the quality of a platform. For example, when evaluating information from Wikis, many respondents used the length of an article as a cue: Check the length of the article/posting was ranked the 2nd

among US respondents, and the 3rd among Singapore respondents. This seems to be a less effective evaluative strategy. It may be surmised that while many students are familiar with many platforms such as Wikis, they will still benefit for more training in the effective evaluation of these media.

The frequency of all evaluative actions taken was counted and averaged for each platform. In the academic context, the top three platforms for which evaluative actions were frequently taken included: Wikis, Q&A sites, and Media-sharing services. The result was the same in both US and Singapore sides. The result also coincides with the top three platforms frequently used in the academic context. The finding suggests that users take more actions when evaluating information from the social media platforms they frequently use, at least in the academic context. In the ELIS context, however, this was not the case. Among the US participants, the top three platforms for which evaluative actions were frequently taken included: SNS, Blogs, and User reviews. In Singapore, they were: Blogs, SNS, and Internet forums. Although SNS, Media-sharing services and Wikis were the top three most frequently used platforms in ELIS context for both US and Singapore, more evaluative actions were taken only for SNS, but not for others. Instead, the participants from both countries evaluated information from Blogs more often. An interesting finding related to the frequency of taking evaluative actions is that in the US, participants took a higher number of evaluative actions in ELIS rather than in the academic context. It is speculated that in ELIS, social media might be the main sources of information whereas in the academic context, social media are just additional sources used along with other library resources. On the other hand, the Singapore participants took a higher number of evaluative actions in the academic context rather than in ELIS. This could be attributed to cultural differences. Singapore students might be more sensitive to academic achievement, and make more efforts to evaluate information from social media in the academic context than in ELIS. Further research is needed to test these speculations.

The difference across contexts is worth noting. The side by side comparison of the frequency and purpose of using social media and evaluative actions by contexts show that, instead of adopting the same behavior for all information-seeking tasks, students are sensitive to contextual differences. The patterns for academic context seem to be clear. For example, Wikis consistently stood out over other platforms in its frequency of use, and frequency of evaluative actions (Figure 3). In contrast, for the ELIS context, there is no clear pattern. A plausible explanation is that students may have received advice from instructors and LIS professionals on the use of social media for academic tasks. It is less likely, however, that students have received IL training on the use of social media for everyday tasks. This may contribute to a more consistent pattern in academic information seeking, but a more diverse pattern when it comes to everyday information seeking.

The diverse strategies in evaluating different platforms in ELIS indicate research and teaching possibilities. More research is needed to explore the reasons behind various usage, and whether individual differences such as demographics, cognitive, and affective factors play a role. In terms

of IL education, LIS professionals may want to analyze the effectiveness of the students' current strategies. They may develop IL training of social media platform for various everyday life tasks. Worth noting is that currently, most students check other users' reactions to a posting when they are evaluating social media for everyday purpose. IL librarians may want to examine how effective students are when evaluating such social responses. The drawbacks of relying on others' responses, such as the possibility of mistaking the popularity of a posting or opinion for its veracity, should also be discussed.

From focus-group interviews, details on data elements that would be useful when evaluating information from social media were revealed. Most of the elements were related to the author/poster, posting, and reference facets. Regarding the postings, the elements commonly mentioned in both countries are: category/genre, date, edit history, funding source, length, purpose, quality of content object, status, target audience, and tone/wording. The author-related elements include: affiliation, age, culture, experience/expertise, interest, level of contribution, life style, location, occupation, relation to me, and viewpoint. For references, the quality of, and links to, references are found to be important. For all of the three facets, participants agreed that the reputation and ratings by others are always important to check.

Based on these findings and also the suggestions from focus groups, some system features are suggested to support the evaluation of information from social media. Table 26 summarizes useful system features that participants suggested to incorporate in order to support the evaluation of information from social media.

Table 26. System features that can support evaluation of information from social media

|  | Author/Poster | Posting | Reference |
|---|---|---|---|
| Filter, Search, Sort | <ul><li>Characteristics (e.g., age, experience, interest, life style)</li><li>Credibility/Reputation;</li><li>Location</li><li>Status (e.g., active, level of contribution)</li><li>Rating score</li></ul> | <ul><li>Category/Genre</li><li>Characteristics (e.g., length, tone/style)</li><li>Date</li><li>Location/Distance</li><li>Purpose</li><li>Status (e.g., completeness, answered, latest updates)</li><li>Topic relevance</li><li>Type/Format (e.g., images, texts, videos)</li><li>Rating score</li></ul> |  |
| Display | <ul><li>Icons (e.g., for verification, reputation)</li><li>Popup (e.g., for profiles, including credibility, level of activity, rating scores)</li><li>Word cloud (e.g., level of contribution/influence)</li></ul> | <ul><li>Categorized entries (e.g., by topic, genre, type)</li><li>Edit activities/Heat map</li><li>Popup (e.g., for current trends; viewer characteristics)</li><li>Related contents across</li></ul> | <ul><li>Categorized entries (e.g., by topic, type)</li><li>Links to</li></ul> |

|  |  |  |  |
|---|---|---|---|
|  | • Rating statistics/graphs | platforms (e.g., via links)<br>• Statistics summary (e.g., user rating scores, contrasting pros/cons)<br>• Word cloud (e.g., by topic, user tags)<br>• Rating score (e.g., automated calculating system, user-controlled filtering and calculating system) |  |
| Map | • Location/Distance<br>• Display and filter based on additional elements | • Location/Distance<br>• Display and filter based on additional elements |  |
| Rate | • Multiple criteria (e.g., credibility, level of contribution) | • Multiple criteria (e.g., like, usefulness, easiness, thoroughness) | • Multiple criteria (e.g., quality, usefulness) |
| *Others* |  |  |  |
| - Tag |  | • Tagging by multiple aspects (e.g., topic covered, positive/ negative, potential audience) |  |
| - Translate<br>- Compare |  | • Concept/content translation<br>• Compare (e.g., by specific characteristics, rating scores) |  |
| - Customize |  | • Customize filtering/display options |  |

**7. Conclusion and Implication**

Findings of the study shed light on the current trend of using social media as information sources. Regarding the social media platforms frequently used for information-seeking purposes, little difference was found between two countries. However, depending on contexts, different platforms seem to be used. That is, Q&A sites and Internet forums tend to be frequently used in the academic context whereas SNS, User reviews, and Microblogs are used in the ELIS context. Wikis and Media-sharing services are often used in both contexts. Findings on the purposes of using different platforms have revealed that Wikis, Q&A sites, and Internet forums are used for getting background information or for finding solutions. These findings have implications for IL programs. IL programs will need to cover at least those platforms frequently used in the academic context and those used for information seeking purposes (e.g., Wikis, Q&A sites, Media-sharing services, Internet forums), and help students learn effective ways of evaluating information from such platforms. In addition to the evaluative actions that participants frequently take (e.g., compare with external sources; check the posting – date, tone; user reaction), IL librarians will also need to identify and teach other strategies that could support an effective evaluation of information from social media.

Findings on the useful, and frequently checked, elements offer insights on metadata elements that could be incorporated in a template for postings or profiles. The template for the author/poster's profile, for example, could require elements related to the author's expertise/experience and some demographic and academic backgrounds, because such elements can be used for evaluating the information provided in the author's postings. The template for a posting could require elements related to date, genre, purpose, etc., to help users evaluate the posting. As purposes of using social media seem to vary depending on platforms, specific metadata elements to include may need to be tailored for each platform while some elements (e.g., date, category/genre) may be useful and required across all platforms.

Finally, findings on useful system features help identify different functions and tools that could be incorporated to support the evaluation of information from social media. For example, rating systems can be improved by allowing multiple criteria for rating. Furthermore, the rating scores and results can be more effectively calculated and displayed using improved scripting and visualizing tools. Displaying the related contents across platforms can also help compare and evaluate information provided through social media. System designers may find these results helpful to improve the interface of social media.

In general, differences in findings from the two countries seem relatively minor. Social media are found to be widely popular and used as important sources of information. It is critically important, then, to help the users effectively find, evaluate and use information from social media. For this, the librarian's role is crucial. Through refined IL programs, librarians will be able to help users become competent consumers of information. As the users of social media can

easily be an author/poster as well, IL programs may also need to cover strategies to help users become providers of quality information.

Finally, to expand and complement the current study, some areas for future research are suggested. As the current study is based on students' input, the findings reflect what students are doing with social media, which is not necessarily the desired "best" practice. A future study will focus on what librarians do and recommend, which will help identify effective strategies of using social media as information sources. By comparing the results from librarians with those from students, we will be able to determine the areas where students need more help. The findings can help IL librarians to identify students' weak areas, and to cover strategies to overcome the weaknesses in IL programs. Another group of future studies may be related to individual and cultural differences. Extant research suggests that users' backgrounds and propensities influence their information behavior. Users' personality (e.g., extrovert), for example, may affect the choice of social media platforms and evaluative actions. Further research will help better understand the relationship between user characteristics and social media use behavior. Regarding cultural differences, the current study revealed relatively minor differences between two cultures. More research is needed to find out whether this holds true to other countries as well. Future research may need to involve more countries from different continents with a comparable number of participants from each country.

## References

Ball, J., & Lewis, P. (2011, December 7). Twitter and the riots: How the news spread, The Guardian. Retrieved from:
http://www.guardian.co.uk/uk/2011/dec/07/twitter-riots-how-news-spread

Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. Government Information Quarterly, 27 (3), 264-271.

Chua, A. Y. K., & Goh, D. H. (2010). A study of web 2.0 applications in library websites. Library and Information Science Research, 32 (3), 203-211.

Dohn, N. (2009). Web 2.0: Inherent tensions and evident challenges for education. International Journal of Computer-Supported Collaborative Learning, 4 (3), 343-363.

Farkas, M. (2011). Information literacy 2.0. American Libraries. Retrieved from:
http://americanlibrariesmaga zine.org/columns/practice/information-literacy-20

Flanagin, A. J., & Metzger, M. (2008). Digital media and youth: Unparalleled opportunity and unprecedented responsibility. In M. Metzger, & A. Flanagin (Eds.), Digital media, youth, and credibility (pp. 5-28). Cambridge, MA: The MIT Press.

Gardois, P., Colombi, N., Grillo, G., & Villanacci, M. C. (2012). Implementation of web 2.0 services in academic, medical and research libraries: A scoping review. Health Information and Libraries Journal, 29 (2), 90-109.

Head, A.J., & Eisenberg, M.B. (2009). Lessons learned: How college students seek information in the digital age, Project Information Literacy First Year Report with Student Survey Findings, University of Washington's Information School. Retrieved from: http://projectinfolit.org/pdfs/PIL_Fall2009_finalv_YR1_12_2009v2.pdf

Head, A.J., & Eisenberg, M.B. (2010). Truth be told: How college students evaluate and use information in the digital age. Project Information Literacy. Retrieved from: http://projectinfolit.org/pdfs/PIL_Fall2010_Survey _FullReport1.pdf

Head, A. J., & Eisenberg, M. B. (2011). How college students use the web to conduct everyday life research. First Monday, 16 (4). Retrieved from: http://www.firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/ view/3484/2857

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. Business Horizons, 53 (1), 59-68.

Kim, K. S., & Sin, S.-C. J. (2011). Selecting quality sources: Bridging the gap between the perception and use of information sources. Journal of Information Science, 37 (2), 178-188.

Kim, K. S., Yoo-Lee, E., & Sin, S.-C. J. (2011). Social media as information source: Undergraduates' use and evaluation behavior. Proceedings of the ASIST Annual Meeting, 48.

Mahmood, K., & Richardson Jr, J. V. (2011). Adoption of web 2.0 in us academic libraries: A survey of ARL library websites. Program, 45 (4), 365-375.

Pew (2012). YouTube & news: A new kind of visual news. Retrieved from: http://www.journalism.org/analysis _report/youtube_news

Pew (2009). Generations online in 2009. Retrieved from: http://www.pewinternet.org/~/media//Files/Reports /2009/PIP_Generations_2009.pdf

Rainie, L. (2011). Reading, writing, & research in the digital age. Pew Internet Project. Retrieved from: http://www.pewinternet.org/Presentations/2011/Sept/SLJ.aspx.

Sin, S. C. J., Kim, K. S., Yang, J., Park, J. A., & Laugheed, Z. T. (2011). International students' acculturation information seeking: Personality, information needs and uses. Proceedings of the ASIST Annual Meeting, 48.

Smith, A., Rainie, L., & Zickuhr, K. (2011). College students and technology. Pew Internet & American Life Project, 19. Retrieved from: http://pewinternet. org/ Reports /2011/College-students-and-technology/Report.aspx

Srinivasan, R. (2006). Indigenous, ethnic and cultural articulations of new media. International Journal of Cultural Studies, 9 (4), 497-518.

Zickuhr, K. (2010). Generations 2010. Retrieved from http://pewinternet.org/Reports/2010/Generations-2010.aspx