Exploring Collaborative Information Search Behavior of Mobile Social Media Users in Trip Planning

Jannatul Fardous¹, Jia Tina Du¹, Kim-Kwang Raymond Choo¹ ², Songshan (Sam) Huang¹, Preben Hansen²
¹School of Information Technology and Mathematical Sciences, University of South Australia, Australia
²Department of Information Systems and Cyber Security, The University of Texas, San Antonio, USA
³Department of Computer and Systems Sciences, Stockholm University, Sweden

Abstract
Social media is an increasingly important source for tourists seeking information about their intending holidays. Tourists obtain travel related information by interacting with their social networks. However, social media users' collaborative search behavior is an under-studied area. This paper investigates collaborative search behavior of mobile social media users when they plan for a group trip. We surveyed sixty-three (63) Australian participants. Findings show that tourists collaborated on social media for a range of trip planning activities, such as searching, gathering, obtaining, sharing and validating information at different stages of the trip planning process. Notable findings include 92.10% of participants used Facebook messenger for collaborations, and the majority (62.96%) searched on social media for information about attractions to see at their destination; also, 73.80% used social media to gather information related to their travel at the beginning of their planning process and 41% used social media at the end of planning process to validate information for their travel decision-making. About 42.86% changed their minds as a result of social media interactions.

Keywords: Collaborative information seeking; social media; tourism


Copyright: Copyright is held by the authors.
Contact: jannatul.fardous@unimail.unisa.edu.au

1 Introduction
Collaborative information seeking (CIS) is a process during which team members collaborate for information seeking, retrieving, sharing and use in order to fulfill their common needs (Hansen & Järvelin, 2005; Reddy, Jansen, & Spence, 2010; Shah, 2014; Talja & Hansen, 2006). For example, trip planning with family or friends requires collaboration between tour members in gathering, sharing and verifying information, sharing of knowledge and experiences, as well as making decisions on the itinerary (Ho, Lin, & Chen, 2012; Mohammad Arif, Du, & Lee, 2015; Morris & Horvitz, 2007). In other words, collaboration in a tourism information seeking context is to acquire and make sense of information from different sources to accomplish the complex search task and facilitate decision-making.

Due to the widespread use of social media on smart mobile devices and the popularity of sharing travel aspirations and experiences among tourists, social media plays an increasingly important role in tourism. Studies have shown that travelers rely more on the suggestions and reviews provided by experienced tourists for their trip planning and decision-making (Cox, Burgess, Sellitto, & Buultjens, 2009; Milano, Baggio, & Piattelli, 2011). A recent study (Tan & Goh, 2015) discovered that tourists interact with different groups of people (e.g. intragroup and intergroup) during the travel. Such social interactions are found to affect tourists’ information seeking activities and decision-making. In social media, social interactions are increasingly used to connect with other users (e.g. family members, friends, colleagues, and acquaintances) by sharing information, organizing events, searching for information, chatting, etc. Thus, social interactions via social media can affect the information seeking process by satisfying one’s information
needs (Evans, Kairam, & Pirolli, 2010; Jeon & Rich, 2015). Moreover, people prefer to search information via social interaction along with web search (Shah & Sonne, 2015). Social media is now become one particular tool utilized by travelers for this purpose (eMarketer, 2015).

Tourists have been found to depend more on the information shared and provided by the experienced tourists during trip planning due to the subjectivity, credibility, trustworthiness and up-to-date nature of the information (Zeng & Gerritsen, 2014). An upward trend has also been observed in mobile usage of social media (e.g. Facebook). For example, Kemp (2015) reported that there are 1.65 billion active mobile social media users worldwide who access social media through their smart mobile devices. Though these findings suggested the use of social media during travel planning, little is known about such usage in a CIS situation. Prior studies of CIS in tourism mainly focused on why and how tourists collaborate (Mohammad Arif, Du, & Lee, 2012; Morris & Horvitz, 2007), but they have not investigated how tourists collaborate via social media for information seeking. We seek to address this gap in the current research. The findings would add a dimension of collaborative information seeking from the perspective of social interaction.

In this study, collaboration is defined as a group of travelers conducting several activities together, including information searching, sharing, gathering and validating, by means of social media in order to make decisions on travel products during the trip planning. Tourists’ information seeking behavior, reasons of information seeking and ways of communication on social media platform are need to be explored. Specifically, our research aims at investigating CIS search behavior of mobile social media users when they are planning a group trip. The research questions are as follows:

- RQ1. Why and when social media is used by group members during trip planning?
- RQ2. How do mobile social media users collaborate for searching and sharing information?
- RQ3. What types and sources of information do they seek via social interactions?
- RQ4. How do social media influence on trip planning?

2 Methodology
To investigate collaborative information search behavior of mobile social media users during the trip planning, we designed a questionnaire survey using SurveyGizmo online tool1. The instrument of questionnaire survey has been employed in prior work to uncover collaborative behavior in tourism information search (e.g. Akdosari et al., 2015; Morris, 2008; Teevan, Morris, & Azenkot, 2014). The questionnaire contains both multiple choice and open-ended questions and is divided into three sections:

1. Demographics and devices used for trip planning;
2. Collaboration on social media for searching and sharing information; and
3. Impacts of social media on trip planning.

Both online (44.44%) and printed (55.56%) versions of the questionnaire were used to collect data. There is no difference between two versions. The link of the questionnaire was sent to staff and post-graduate students via e-mail within the School of Information Technology and Mathematical Sciences, University of South Australia, as well as to friends via Facebook messenger, between February and March 2016. Staff members and post-graduate students were chosen as participants because they have had varied experiences in traveling for conferences, seminar and visiting families and friends. In addition, printed versions of the questionnaire were distributed to undergraduate students and local residents at various venues including the university library and local community center. Only individuals who are mobile social media users and are planning a group trip or having returned from a recent group trip (i.e. had a trip within six months of participating in the survey) were eligible to take part in the study. The latter group of participants were

---

1 https://www.surveymonkey.com/
asked to report their trip planning experiences because they were able to recall the details of their recent trip.

Sixty-three (63) respondents completed the survey and they consisted of post-graduate students (24; 38.10%), under-graduate students (19; 30.16%), engineers (7; 11.11%) and others including sales person, teacher, nurse, and customer service assistant (13; 20.63%) with 58.73% males and 41.27% females. The dominant age group of the participants was 26-33 (42.86%), followed by 18-25 (38.10%), 34-41 (14.29%), 42-49 (3.17%) and 50-above (1.59%). The majority (77.4%) of participants used mobile phones and the rest (22.6%) used tablets to do the trip planning activities. We applied the software SPSS to generate various descriptive statistics on multiple choice questions. The technique of content analysis (Hsieh & Shannon, 2005) was used to analyze the open-ended questions. The data were investigated to identify the categories and descriptions related to collaborative tourism information seeking using social media. Initially, the data were read line by line, open coding procedure, to derive code by highlighting the exact words from the text that expressed key concepts or ideas. The coded logs were used to identify the purposes and stages of using social media in trip planning, media of collaboration during information seeking and sharing, as well as types of information and source used when participants seeking information. The coded data then sorted into categories based on identified concepts. At the end, a thorough analysis has been done by reviewing the original data over and over to ensure that no data were missed.

3 Findings and Discussion

This section presents findings based on the analysis of the survey, relating them to each research question in turn.

3.1 RQ1. Purposes and Stages of Using Social Media During Trip Planning

To understand situations where participants are likely to seek trip-related information on social media, we asked them an open-ended question, “During the trip planning, did you search for information on social media, and if yes, when and why?”

Findings suggested that social media was used by participants during trip planning for obtaining and verifying travel-related information (see Figure 1).

![Figure 1. Purposes and stages of using social media during trip planning](image)

The majority (73.8%) of the participants used social media in the beginning of the trip planning to obtain general information (e.g. hotel, local attractions and activities, safety issues, weather and length of the trip etc.) relating to the trip by interacting with other social media users who had been there before. Like one participant said: “I just talked about the places to visit to get an idea at the beginning.”
Nearly half of the participants used social media in the middle of the planning process for obtaining information through searching (50.8%) from other social media users, as well as reviewing blogs, forums and social media pages of tourism websites, and asking questions (49.2%) by posting on the tourism products. In the middle of the planning process, participants gathered information, mostly by searching and reviewing on certain products and activities via social media, which helped to increase their confidence about the forthcoming trip. For example, they sought and reviewed information in details on microwave oven usage, refrigerator facility, breakfast, and available transportations near to the hotel.

Close to half (41%) of participants used social media to validate information by reviewing and interacting with other social media users before making decisions at the end of the trip planning. Such as, one participant stated: “After researching myself, I discussed with my friend about airline services before I book tickets.”

3.2 RQ2. Collaboration on Seeking and Sharing Tourism Information

3.2.1 Media of collaboration to seek information

Tourists were found to share emotions, experience and stories on social media (Osatuyi, 2013). In the current study, we found that 98.41% of the participants turned to social media to fulfill different information needs during the trip planning. The remaining 1.59% of participants did not use social media for information searching because they used Google and tourism websites. A summary of how participants collaborated in their information seeking is presented in Table 1.

<table>
<thead>
<tr>
<th>Collaboration media</th>
<th>Usage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media (e.g., Facebook, blogs, posts and forums etc.)</td>
<td>80.95</td>
</tr>
<tr>
<td>Communication Apps (WhatsApp, Viber, Skype)</td>
<td>30.16</td>
</tr>
<tr>
<td>Face-to-face</td>
<td>4.76</td>
</tr>
</tbody>
</table>

Table 1. Media of communication used by participants to seek information on social media

The results showed that the majority (80.95%) of the participants used social media including social networking sites (SNSs), blogs, forums and social media pages of tourism websites, 30.16% of the participants used communication apps (e.g. WhatsApp, Viber, Skype and WeChat), and only 4.76% participants met in person (e.g. other social media users who are also friends) to communicate for seeking and investigating the trip-related information.

Participants reported using SNSs messenger (e.g. Facebook messenger) to communicate and exchange information with other social media users, as well as blogs, posts, forums and social media pages of tourism websites to review and validate information. Communication apps was also another popular means of communication, such as chatting with other social media users via free text, voice and video calling services. We found that participants tended not to use traditional ways (e.g. phone call, text, and email) to communicate and share information while sourcing tourism related information, particularly with other social media users who they do not know or reside in different cities and countries.

3.2.2 Communication between tour mates after obtaining information from social media

During collaborative information seeking, communication is one of the core components by which collaborators share or exchange information between them (Shah, 2010). In trip planning, information
sharing between tour mates plays an important role in informing one’s decisions on tourism products (e.g. destinations, accommodations and tour packages). In order to determine the media of communication between tour mates in sharing information obtained from social media, we asked, “Did you share the information you obtained from the search via social media with your tour mates, and if yes, how?” Respondents were asked to write down their own answers. The analysis shows most of participants (80.95%) shared the information obtained from social media with tour mates. The rest reported not sharing the information as they were either ‘followers’ (i.e. the leader who led the group trip made the decisions without consulting with the others) or did not have any useful information to share.

We found that the participants utilized five ways to communicate and share information with their tour mates, namely: social media, phone call & text, communication apps, face-to-face, and e-mail. As illustrated in Figure 2, social media is the most (75%) utilized platform where 92.10% of participants used Facebook messenger for collaboration. Conventional communication means like phone call & text were the next most commonly used platform (35%) and followed by face-to-face (16%) and communication apps (14%). E-mail (6%) was the least used media for such communication.

![Means of sharing information obtained from the search via social media](image)

Figure 2. Means of sharing information obtained from the search via social media.

3.3 RQ3. Types and Sources of Information

3.3.1 Types of information mobile social media users seek from social media

Diverse information needs (e.g. due to unfamiliarity and no one in their network to turn to), reduced level of associated uncertainty in planning stage and collaborative decision-making on travel products are reported as the main motivations why travelers collaborate in planning trips (Mohammad Arif et al., 2012; Mohammad Arif, Du, & Lee, 2013; Prestipino, 2004). In order to explore the types of information that participants searched extensively via social media, we asked participants an open-ended question, “What type of information did you discuss and/or search on social media?”

As shown in Figure 3, attractions at destination (60.32%) were the mostly searched question, followed by accommodation (44.44%), time and length of the trip (31.75%), restaurant (30.16%), weather and safety (15.87%), budget (9.52%) and transportation (9.52%).
Figure 3. Types of tourism information searched by participants on social media

Since most of participants (60.32%) searched for attractions at destination via social media, it is reasonable to argue that participants preferred to gather information about local activities recommended by experienced tourists prior to the trip, and they avoided those that have bad reviews.

3.3.2 Sources of information

Previous research has suggested that SNSs such as Facebook can be a popular and trustworthy source for tourism-related information due to information shared by users they know or trust (Brown & Vaughn, 2011; Cox et al., 2009; Stankov, Lazic, & Dragicevic, 2010). In the current study, we found that information source that participants relied on during the trip planning can be broadly categorized into human and non-human sources (Figure 4).

Figure 4. Sources of information participants employed via social media

Human source refers to other users (friends, family members, colleagues, acquaintances, etc.) on the social media who provide information to the participants. Studies have also suggested that interactions between people on social media play an important role in the sharing and exchanging of various types of information (Li, He, & Hu, 2015). On the other hand, non-human source refers to the social media sites (e.g. blogs, forums, social media pages of tourism websites, Facebook pages and groups) used by participants to investigate, review, research and validate information.

Friends and family members were identified as the two most key utilized human sources (59.02% and 45.90% respectively) in information searching. Social media pages on tourism websites (18.03%), blogs, forums, and others (Facebook groups and pages) (13.12%) were also reported as popular non-human information sources. For example, participants reported that:

“Friends had been there (destination place). They are trustworthy and have the hands-on experience.”
“Friends and family as information sources are more up-to-date and can get more in-depth information for my trip.”
“Blogs and forums; because they provide multiple opinions from the tourists which are very helpful to make decisions.”

However, colleagues and acquaintances were mentioned as sources of information but relatively less utilized.

3.4 RQ4. Influence of Social Media on Trip Planning

With the rapid increases in the number of SNS users worldwide, the level of interactions between SNS users is assumed high. These users are likely to share their travel experiences on SNSs, which may influence others’ decision on the destination, accommodation, restaurants, and transportation during trip planning. This also echoes findings from previous research. For example, Hudson & Thal (2013) found that user generated content (e.g. experience and reviews shared by tourists on hotels or destinations) play an important role in the evaluation stage where consumers include or exclude brands (e.g. hotels, restaurants, transports) according to their requirements.

To determine the impacts of social media on trip planning, we asked: “At the end of your trip planning, did you change your mind in the selections (destination, accommodation, restaurants, and activities at destination) after communicating and/or discussing with other social media users or reviewing information from social media? If yes, what and why?” As shown in Table 2, 42.86% of participants reported that they changed their minds on tourism products, such as attractions at destination (62.96%), accommodation (33.33%), restaurants (14.81%) and time and length of the trip (11.11%), due to interactions on social media.

<table>
<thead>
<tr>
<th>Tourism products</th>
<th>Yes to changing of decision about tourism product (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attraction at destination</td>
<td>62.96</td>
</tr>
<tr>
<td>Accommodation</td>
<td>33.33</td>
</tr>
<tr>
<td>Restaurants</td>
<td>14.81</td>
</tr>
<tr>
<td>Time and length of the trip</td>
<td>11.11</td>
</tr>
</tbody>
</table>

Table 2. Change of decision on tourism products due to social media

During the trip planning, information via social media was found to facilitate participants’ planning and decision-making. Some participants reported that:

“We changed flights and accommodation due to finding cheaper spots suggested by friends who had been there.”
“We changed local attractions after discussing with friends who visited the destination before.”

Slightly more than half (57.14%) of participants did not change their decision on the tourism products after obtaining information on social media, but they reported that social media reinforced their plans in visiting a place confidently due to the information obtained from social media (e.g. reviews). For example, two participants stated that:

“We didn’t change decisions but we are more informed regarding the trip.”
“No change but social media helped to communicate with friends and to make a quick decision.”
4 Conclusion

In our increasingly connected and well-traveled society, the propensity to travel is likely to increase. Coupled with the digitization of our society, one could easily obtain information about the holiday destinations from social media and other online sources in real-time.

In this study, we surveyed 63 participants about their trip planning activities on social media. The findings suggested that participants conducted collaborative information seeking with their tour mates as well as with other social media users during the searching, gathering, sharing and validating of information at different stages of the planning. In addition, it is found that they mainly obtain and validate required information on social media platform.

Findings from this research also suggested that social media has a significant role in a tourist’s trip planning, mainly due to the ease of communicating with and obtaining information from other users in real-time (e.g. live chat via Facebook messenger), regardless of their geographical locations. For example, social media is reported to be the most used communication platform by participants in collaborating with their tour mates. We also found that participants predominantly searched for information about the attractions at destination on social media. Our findings echoed those of Jeon and Rieh (2015), Tan and Goh (2015) and Zeng and Gerritsen (2014).

Based on the results, it is concluded that information obtained from different forms (e.g. interactions, posts, and reviews etc.) of social media and collaboration with other social media users play a vital role and has significant impact on travel planning. It is also evident that social media can be a credible and trustworthy information source and communication platform for potential tourists.

Future work will include extending this study to a wider population in Australia and other countries in collaboration with other like-minded researchers. We are planning to conduct the same survey in China and Bangladesh due to the immense popularity of social media in these countries. As the findings of this study suggested that tourists are willing to collaborate through social media during collaborative information seeking, we intend to conduct in-depth interviews to obtain further insights of collaboration within a group of travelers during information seeking. In addition, we seek to implement a mobile CIS tool that allows users to collaborate and search on social media. Data obtained from the tool will allow us to gain insight into the search behavior of mobile social media users.

5 References


