

Young Chinese Tourists' Motivations to Engage in Collaborative Information Behaviour for Group Holidays

Research-in-Progress

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Abstract

This paper reports work in progress from an ongoing investigation of young Chinese tourists' collaborative information behaviour (CIB). Much existing research around CIB focuses on information seeking episodes while the circumstances where CIB occurs remain unclear. This study addresses this gap by investigating motivations to engage in CIB, paving the way towards a holistic perspective of CIB process. Following a grounded theory approach, data was collected from seven groups of young Chinese independent tourists travelling to Australia via interviews and self-kept diaries. Preliminary results revealed group holidaymakers' broad and complex information needs falling into three categories, with properties being evolving and dynamic. Five dimensions of motivations to engage in CIB were identified, including gathering rich information, shaping specific information needs, sharing information seeking workload, accommodating each member's preferences and opinions, and sense of participation. We present these emerging results, provide design implications on tourist-centred information systems, and propose further research directions.

Keywords: Collaborative information behaviour, tourist, information need, motivation

Introduction

Tourism can be regarded as an 'information-intensive activity', and gathering and organising travel information is a complex task (Imazu et al. 2011; Prestipino 2004). In trip planning, information search assists tourists to reduce uncertainty, and ensure an enjoyable holiday (Fardous et al. 2017). While travelling within the destination, travellers often seek additional information to aid in their decision-making (Brown and Chalmers 2003). Information processing by tourists differs from that of other

consumers in that tourists' information problems are mostly ill-defined where the probable outcomes are unknown, due to the intangibility and experiential orientation of the tourism products (Sirakaya and Woodside 2005; Torres 2015; Ye 2019). Contextual understanding of tourist information behaviour is therefore important for specific implications for tourism information providers and the design of a tourism information system.

Travelling is often a social activity. A survey by the South Australian Tourism Commission reported that 45% of visitors coming to South Australia were accompanied by friends or families in the year 2016 (South Australian Tourism Commission 2017), calling for a group perspective in the research of tourist information behaviour (Werthner et al. 2015). This study challenges conventional assumptions that tourist information search was an individual process that takes place prior to the departure (Decrop and Snelders 2004; Sirakaya and Woodside 2005) and updates theoretical understanding of collaborative information behaviour of tourists (Mohammad Arif et al. 2012).

Collaborative information behaviour (CIB) describes information behaviour involving multiple actors. This paper aligns with Karunakaran, Reddy and Spence (2013, p. 2438) in the conceptualisation of CIB in that it includes the formulation of information needs, various information seeking and sharing activities by one or more of the group members, and the collective use of the information found. It was suggested that people may have different motivations and outcomes of CIB in different contexts (Newman et al. 2015). Existing research on CIB activities has been examined in various organisational contexts such as healthcare team (Reddy and Spence 2008) and patent office (Hansen and Järvelin 2005), with only limited work in leisure situations. From the few studies in the tourism domain (Fardous et al. 2017; Mohammad Arif et al. 2015; Ye 2019), it is still not clear why people engage in CIB when planning trips and travelling in the destination.

This paper reports preliminary results of an ongoing investigation focusing on the information needs and motivations of engagement in tourism CIB. As an early step of studying CIB of travellers, we seek to address the research questions:

RQ1: What are the information needs of group holidaymakers?

RQ2: What are the motivations of group holidaymakers to engage in collaborative information behaviour?

Answers to these questions will contribute to theoretical understand of how CIB occurs in the context of group travelling and offer suggestions on developing information systems for group holidaymakers

Literature Review

Information need and motivation for collaborative information behaviour

Information need can be seen as the gap between people's current information and information sufficiency threshold (Lu and Yuan 2011). As such, information need is most often operationalised as the information requirement for an individual or a group to achieve a goal. Researchers have also conceptualised information need as the motivation for information seeking (e.g. Cole 2011), as it initiates the information seeking process, and the formulation and modification of information need prompt further information seeking. However, information need hardly explains fully why people look for information (Savolainen 2017). For example, Savolainen (2017) suggested that affective factors such as emotions can motivate information seeking. Therefore, investigations on motivations to seek information should look beyond information needs.

Previous works rarely looked at information needs and motivations for engagement in CIB. The closest work can be found in Reddy and Spence (2008) who investigated team information needs and triggers of CIS behaviours in a multidisciplinary patient care team. Their research showed that in such a team, not only clinical but organisational information was needed, and triggers of CIS behaviours included "lack of immediate accessible information", "complexity of information needs" and "lack of expertise" (p. 249). Despite a general agreement on the necessity of CIB and understanding of motivations to collaborate (Shah 2014), research seldom identifies these motivations in the situations where such collaboration occurs.

Collaboration in tourist information search

Although tourism is often noted as a domain where CIB could occur (Morris 2008; Shah 2014), only limited research on CIB could be identified as being relevant to tourist information behaviour. For example, Prestipino (2004) pointed out the complexity of tourist information seeking and proposed a community-based system designed for collaborative information seeking for tourists. From the user side, Mohammad, Du and Lee (2015) investigated tourist CIR in a web search setting. From the lens of information breakdown, their study identified four main stages of tourism CIR, starting from collaborative planning, moving to collaborative information searching with the sharing of information, and ending with collaborative decision-making. As one of the sample CIS tasks, trip planning has also been compared with report writing (Saito et al. 2010) and topic search task (Tao and Tombros 2017); both studies revealed significant differences between a trip planning-task and other tasks.

Previous studies on this topic have been either entirely theoretical or conducted in a laboratory setting where participants performed CIB 'as if' they are planning a trip. For the first time, this study investigated CIB of real tourists while planning and conducting their trips.

Methods

Considering the experiential and contextual nature of the required data, a grounded-theory-based (Charmaz 2006), qualitative approach was adopted to address the research questions. The grounded theory approach has been successfully applied in several studies on CIB (Prekop 2002; Reddy and Spence 2008). This study adopts a longitudinal perspective (before, during, and after trip) aiming to capture more comprehensive details of tourist CIB before and during their travel, including variations and evolution of their information needs and motivations.

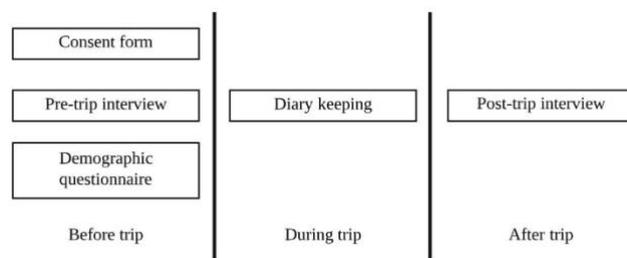


Figure 1. Data collection process

Participants were recruited through online advertisements on two major travel websites (qyer.com, mafengwo.com) in China. Young Chinese independent tourists (aged between 18 and 35) visiting Australia in groups during the year of 2018 were invited to participate in the study. The posts were also circulated within the researchers' personal networks. An information sheet about the research project was made available to all participants and written consents from each participant were obtained before commencement of data collection. Figure 1 illustrates the data collection process.

A questionnaire was completed by each participant regarding their previous travel experiences, information of their upcoming trip to Australia, and their demographic profiles. Each participant was then interviewed individually before and after their trip to Australia. During the first interview, the participants were asked to recollect their information behaviour during trip planning, describe circumstances where they engaged in CIB, and their opinions and feelings of collaborating in information seeking. In the later interview session, a parallel set of questions were used to reflect their CIB during the travel. Multiple interview sessions were designed to capture nuances of evolving and dynamic information needs and motivations throughout the trip journey (Decrop and Snelders 2004), i.e. from the planning to trip excursion. During their holidays, they were encouraged to submit electronic diaries (Hansen and Järvelin 2005) to document their CIB while travelling. Diary form was unstructured, allowing participants to describe freely their actions and emotions during the holiday. Instructions highlighting the research topic together with a sample diary entry were provided to the participants to assist their diary keeping. The interviews were conducted in Mandarin Chinese through voice call to facilitate smooth communication between the researcher and the participants, diary entries were also completed in Chinese for the convenience of participants. Participants were each given a gift card of value AUD 30 for their time taking part in the research. This research was approved by Human Research Ethics Committee of University of South Australia.

Data reported in this paper were generated from 17 interview sessions and 26 diary entries from participants across 7 groups of travellers. Group sizes ranged from 2 to 6 people per group. All adult participants were aged between 25 and 35 years old, with 50% males and 50% females. At least one traveller from each travel group participated in two interview sessions and kept diaries during their holiday, during which actions and thoughts of their travel mates were also reported. Table 1 summarises the profile of these travel groups. Under ‘Been to AU’, ‘Yes’ or ‘No’ denote that all or none of the group have visited Australia before, while ‘Partially’ indicates that some of the group members have traveled to the country before.

All interviews were audiotaped and fully transcribed, and the diary entries was collected as supplements to the transcripts. The transcribed data resulted in over 200 A4 pages of text. Data analysis followed the steps proposed by Charmaz (2006) which took a constructivist point of view of grounded theory. Transcripts are to be coded at three levels, starting with open coding where tentative labels are created, moving onto axial coding where relationships between open codes are identified, ending with selective coding where the core variables are determined. At this stage, the data have been open coded. From there, several themes including information need and motivation were extracted and categorised. Below we present those themes that are relevant to the research questions of this paper.

Table 1. Profile of the participating travel groups

Group	Group Composition	Start Date	End Date	Group Size	Been to AU
A	Couple	13/06/2018	13/07/2018	2	No
B	Couple	16/06/2018	24/06/2018	2	No
C	Family with one kid	16/07/2018	27/07/2018	3	Yes
D	Two families each with one kid	11/08/2018	21/08/2018	6	Partially
E	One couple with three colleagues	19/08/2018	22/08/2018	5	Yes
F	Friends	22/09/2018	4/10/2018	2	No
G	Friends	21/10/2018	1/11/2018	2	No

*Kids under the age of 18 was not invited to participate in the study.

Findings

RQ1: information needs of group holidaymakers

Broad and complex information need

Active searching was observed in all groups and the information sought by travellers fell into three main categories. First and foremost, participants actively seek information about travel products they were about to purchase, such as flights and lodging. Moreover, they also looked for general information about the destination beyond the upcoming trip, including culture, history, security, climate, and so on. For instance, participant A1 mentioned that when planning for a trip to Australia, he also read about the colonial history of the destination to satisfy his curiosity. In addition, information about the travel mates and the travel group was also required for them to travel together, for example, physical strength of travel mates for arrangements of outdoor activities. Participant D1 also stated that he had to ask his friends when their holidays started and where they would leave from when his group was planning for the trip.

Evolving and dynamic process

Tourists did not always know exactly what information was needed for a successful holiday. It is observed that sometimes they started with generic queries and developed more specific questions during planning and travelling. Information seeking did not end at the departure to the destination. Participant

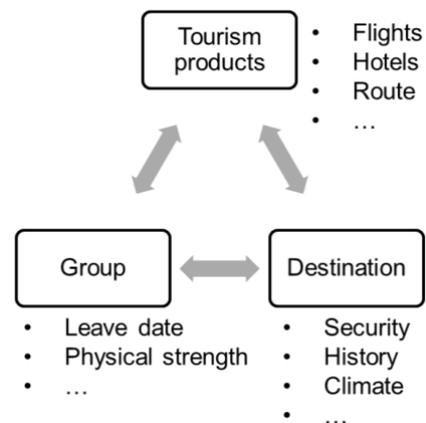


Figure 2. Scope of tourist information need

B1 mentioned in her post-trip interview that despite efforts in searching for transportation rules prior to the departure, they still got a fine for parking in the wrong space. This incident resulted in another round of research on the local traffic regulations in the destination. This time, they were able to raise specific questions like 'where shall I park' instead of the previous generic queries 'what are the rules of driving'. At times, trips did not always go as planned. New information needs arose throughout the trip. Participant D1 described a day when his travel mates wanted to go shopping at the time when they were supposed to visit a museum. They chose to split up, and accordingly, he needed to find new information regarding shopping facilities near the museum.

RQ2: motivations of group holidaymakers to engage in CIB

Gathering rich information

Much information is needed for an enjoyable holiday, and by collaborating in information seeking, more information could be retrieved for later filtering use. Participant C1 noted that when there are more people involved in information seeking, there would be more options. Participant E2 noted that people with different preferences for information searching tools and information sources sought different information and this added to the richness of information retrieved.

Shaping specific information needs

In addition to the amount of information needed, sometimes holidaymakers did not recognise fully what the information needed was. Therefore, they chose to work together so that they could inform each other regarding what information to look for and what the holiday should be like. Participant B2 noted that she was not so confident that her boyfriend would be able to plan the whole trip for the two, and when they made the plans together they learned from each other regarding the destination. Participant E1 noted that upon the trip planning process, she failed to express her desires and expectations of the upcoming trip to her boyfriend effectively. Her boyfriend then went back and forth with several rounds of extensive online search. Through vetoing some of these ideas, both of them became clearer about what to expect in the trip, which initiated the subsequent information search.

Sharing information seeking workload

Planning and conducting a trip could be time-consuming, requiring a great amount of information search. The associated time and energy made the work too demanding to be undertaken by just one individual. Participant B1 noted that it would take too much time for one person to plan the whole trip, as he and his tour mate each had a full-time job, and thus it made sense that they shared the workload. His girlfriend would focus on finding and selecting sites to go and he could design their self-drive route and book accommodations for the trip. In this way, neither of them had to spend too much time on planning. It was also mentioned by participant E2 that when he had someone to work on the planning with, he could focus on some of the trip elements and his girlfriend would take over the rest to avoid being exhausted.

Accommodating each member's preferences and opinions

In addition to information retrieved outside of the group, members of the group needed to understand each other's preferences and opinions on certain travel-related decisions. Engaging more members in CIB throughout the planning and travelling process was an effective way of making sure everyone's needs were served properly. Participant D4 noted that even though her husband did most of the information search, details needed to be discussed before they could decide. Participant B2 noted that she was comfortable to plan the trip on her own at most times as she knew quite well her boyfriend's preferences, but when travelling with less close friends she would make sure they communicated regarding each person's preference on specific items. Participant E2 noted that on some issues it was important that everyone was okay with it. Things like weather conditions might not need to be verified or approved by his partners, but when booking a hotel, it was necessary that the group members agreed on the final choice.

Sense of participation

From the interview data, it was clear that not every traveller believed it would take more than one person to plan for a trip. However, it was reported that a sense of participation could be generated when more people were engaged and this helped smooth and strengthen the relationships between group members. Participant E2 noted that everyone should get involved since they were all going together, and he added that it was better to work together because the trip was relevant to all of them. Participant B2 noted that whatever she did with someone else, she expected the partners to contribute at least a little bit. She added that when more people were involved, more people would bear some responsibilities.

Discussion

The evolving and dynamic processes of information needs observed in this study called for a re-examination of our understanding of information seeking process. Past research has envisaged a useful task-based framework (Byström and Hansen 2005) for information seeking studies in professional settings. However, what is observed in this study is that information tasks are often integrated and inseparable. Meanwhile, information needs evolved or changed during the tasks. A new perspective of looking at information needs and information seeking as an ongoing and dynamic process might be beneficial when studying collaborative information behaviour. Methodology-wise, much prior research employed lab studies to investigate task-based information seeking, but to what extent real life information seeking can be reflected in lab settings needs more investigation.

In addition to conventional beliefs that people benefit from each other's experiences and expertise towards a more profound understanding of the issues addressed when collaborating (Shah 2008), group holidaymakers are also motivated by social factors to collaborate on information seeking and use. Not only did they collaborate to combine skills and distributing tasks, they also worked together because everyone was part of the travel group. In a leisure setting such as travelling, where actors do not necessarily have set responsibilities and roles, more research could be done to see the extent to which social factors motivate and promote collaborations in information behaviour compared to functional factors such as complex information needs or lack of expertise.

In travel information search, tourists might not strive for the most details at the first go, and information retrieved at an earlier stage often limits or influences future information needs. In addition, travellers are not always clear about their information needs at the beginning of trip planning, and hence cannot ask the right questions to elicit relevant information. By working together, they gradually shape specific information needs. Therefore, to facilitate tourists' complex and evolving information needs, a successful collaborative tourist information system should a) allow flexibility in the planning process as some details await further determination, b) provide feedback and interaction functions with which travel mates can coordinate various tasks initiated by different yet related information needs and proceed with further information search. A more intelligent tourism information system should be able to identify common themes amongst ongoing information searches and assist travellers by adding these themes into search results.

Apart from the complexity and evolution of information needs, it is also worth addressing the social dimensions of the motivations for CIB engagement in system design. As tourists collaborate to elicit and facilitate the personal preferences of each member, the collaborative tourist information system could consider incorporating functions to facilitate the exchange of such information. This could be done explicitly by allowing users to input their preferences on certain aspects of the holiday such as lodging options. Alternatively, it might be achieved implicitly by analysing each user's online profile or previous travel experiences. Tourists also engage in CIB to maintain a sense of participation and harmonious relationship. Therefore, dispute resolution mechanisms may need to be introduced such as anonymous voting, which might help the travel group to reach consensus.

Conclusion

This paper reports early findings of an ongoing investigation of holidaymakers' CIB from trip planning to travelling in the destination in the real-world environment. The preliminary results show complex

information needs that tourists possess in planning and conducting their travel. Their information needs develop and unfold during planning and travelling. New information needs can also be generated during the holiday. Group holidaymakers are motivated to engage in CIB to gather rich information, shape specific information needs, and share information seeking workload. In addition, involvement in CIB helped to accommodate personal preferences and opinions and to generate a sense of participation.

The information needs in CIB has received limited discussion in past studies. Future research in CIB needs to examine how information needs are generated, refined, and changed during an information intensive project. Within the tourism domain, it is worth investigating what sorts of information tourists seek more while travelling as compared to during trip planning. There are different motivations for holidaymakers to engage in CIB; social factors should be considered in research and system design. It is also worth exploring whether social dimensions of motivation to engage in CIB exist in other domains.

This contextual study focused on young Chinese tourists due to its significance to Australian tourism. As cultural background has been identified as one of the factors that influences tourist information behaviour (Gursoy and Terry Umbreit 2004), a larger scale of the sample is desirable for more generable findings of tourist information behaviour. It would also be advisable to explore the contextual factors such as prior travel experiences and social relationships among the group members in greater details.

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References

- Brown, B., and Chalmers, M. 2003. "Tourism and Mobile Technology," in *Proceedings of the Eighth Conference on European Conference on Computer Supported Cooperative Work ECSCW 2003*, Helsinki: Kluwer Academic Publishers, pp. 335–354.
- Byström, K., and Hansen, P. 2005. "Conceptual Framework for Tasks in Information Studies," *Journal of the American Society for Information Science and Technology* (56:10), pp. 1050–1061.
- Charmaz, K. 2006. *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*, Sage.
- Cole, C. 2011. "A Theory of Information Need for Information Retrieval That Connects Information to Knowledge," *Journal of the American Society for Information Science and Technology* (62:7), pp. 1216–1231.
- Decrop, A., and Snelders, D. 2004. "Planning the Summer Vacation: An Adaptable Process," *Annals of Tourism Research* (31:4), pp. 1008–1030.
- Fardous, J., Du, J. T., Choo, K.-K. R., Huang, S., and Hansen, P. 2017. "Exploring Collaborative Information Search Behavior of Mobile Social Media Users in Trip Planning," in *Proceedings of the iConference 2017*, pp. 435–444.
- Gursoy, D., and Terry Umbreit, W. 2004. "Tourist Information Search Behavior: Cross-Cultural Comparison of European Union Member States," *International Journal of Hospitality Management* (23:1), pp. 55–70.
- Hansen, P., and Järvelin, K. 2005. "Collaborative Information Retrieval in an Information-Intensive Domain," *Information Processing and Management* (41), pp. 1101–1119.
- Imazu, M., Nakayama, S., and Joho, H. 2011. "Effect of Explicit Roles on Collaborative Search in Travel Planning Task," in *Information Retrieval Technology*, G. Goos, J. Hartmanis, J. van Leeuwen, D. Hutchison, J. Kittler, J. M. Kleinberg, A. Kobsa, F. Mattern ETH Zurich, S. C. John Mitchell, M. Naor, O. Nierstrasz, C. Pandu Rangan, B. Steffen, M. Sudan, D. Terzopoulos, D. Tygar, and G. Weikum (eds.), pp. 205–214.
- Karunakaran, A., Reddy, M. C., and Spence, P. R. 2013. "Toward a Model of Collaborative Information Behavior in Organizations," *Journal of the American Society for Information Science and Technology* (64:12), pp. 2437–2451.
- Lu, L., and Yuan, Y. C. 2011. "Shall I Google It or Ask the Competent Villain down the Hall? The

- Moderating Role of Information Need in Information Source Selection,” *Journal of the American Society for Information Science and Technology* (62:1), pp. 133–145.
- Mohammad Arif, A. S., Du, J. T., and Lee, I. 2012. “Towards a Model of Collaborative Information Retrieval in Tourism,” in *Proceedings of the 4th Information Interaction in Context Symposium - IiX 2012*, New York, New York, USA: ACM Press, pp. 258–261.
- Mohammad Arif, A. S., Du, J. T., and Lee, I. 2015. “Understanding Tourists’ Collaborative Information Retrieval Behavior to Inform Design,” *Journal of the Association for Information Science and Technology* (66:11), pp. 2285–2303.
- Morris, M. R. 2008. “A Survey of Collaborative Web Search Practices,” in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI 2008*, New York, New York, USA: ACM Press, pp. 1657–1660.
- Newman, K., Knight, S., Hansen, P., and Elbeshausen, S. 2015. “Situating CIS: The Importance of Context in Collaborative Information Seeking,” in *Collaborative Information Seeking: Best Practices, New Domains and New Thoughts*, P. Hansen, C. Shah, and C.-P. Klas (eds.), Cham: Springer International Publishing.
- Prekop, P. 2002. “A Qualitative Study of Collaborative Information Seeking,” *Journal of Documentation* (58:5), pp. 533–547.
- Prestipino, M. 2004. “Supporting Collaborative Information Spaces for Tourists,” in *Szwillus (Hrsg.): Mensch & Computer Allgegenwärtige Interaktion. München: Oldenbourg Verlag*.
- Reddy, M. C., and Spence, P. R. 2008. “Collaborative Information Seeking: A Field Study of a Multidisciplinary Patient Care Team,” *Information Processing and Management* (44:1), pp. 242–255.
- Saito, H., Takaku, M., Egusa, Y., Terai, H., Miwa, M., and Kando, N. 2010. *Connecting Qualitative and Quantitative Analysis of Web Search Process: Analysis Using Search Units*, Springer, Berlin, Heidelberg, pp. 173–182.
- Savolainen, R. 2017. “Information Need as Trigger and Driver of Information Seeking: A Conceptual Analysis,” *Aslib Journal of Information Management* (69:1), pp. 2–21.
- Shah, C. 2008. “Understanding System Implementation and User Behavior in a Collaborative Information Seeking Environment,” *Proceedings of the 31st Annual International ACM SIGIR Conference on Research and Development in Information Retrieval - SIGIR 2008*, New York, New York, USA: ACM Press, pp. 896–896.
- Shah, C. 2014. “Collaborative Information Seeking,” *Journal of the Association for Information Science and Technology* (65:2), pp. 215–236.
- Sirakaya, E., and Woodside, A. G. 2005. “Building and Testing Theories of Decision Making by Travellers,” *Tourism Management* (26:6), pp. 815–832.
- South Australian Tourism Commission. 2017. “The International Market Place: Results for Year Ending December 2016.” (<http://tourism.sa.gov.au/research-and-statistics/south-australia/international-market-profiles>).
- Tao, Y., and Tombros, A. 2017. “How Collaborators Make Sense of Tasks Together: A Comparative Analysis of Collaborative Sensemaking Behavior in Collaborative Information-Seeking Tasks,” *Journal of the Association for Information Science and Technology* (68:3), pp. 609–622.
- Torres, E. N. 2015. “The Influence of Others on the Vacation Experience: An Ethnographic Study of Psychographics, Decision Making, and Group Dynamics among Young Travelers,” *Journal of Hospitality Marketing and Management* (24:8), pp. 826–856.
- Werthner, H., Alzua-Sorzabal, A., Cantoni, L., Dickinger, A., Gretzel, U., Jannach, D., Neidhardt, J., Pröll, B., Ricci, F., Scaglione, M., Stangl, B., Stock, O., and Zanker, M. 2015. “Future Research Issues in IT and Tourism,” *Information Technology and Tourism* (15:1), pp. 1–15.
- Ye, M. 2019. “Collaborative Information Seeking in Tourism,” in *Proceedings of the 2019 ACM SIGIR Conference on Human Information Interaction and Retrieval - CHIIR 2019*, New York, New York, USA: ACM Press, pp. 441–444.