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Information-Seeking Behavior in Recreational Planning

An exploratory study of recreational travelers
conducted in Seattle, Washington

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ABSTRACT

The Internet has changed the way in which people plan recreational travel. Unfortunately, the changes have increased the complexity of the planning task, causing some people to dread planning a vacation because of the time and work involved. The goal of our study is to characterize patterns in the information-seeking behavior of people planning recreational travel. Specifically, we are interested in how the Internet is used in the planning process and what barriers are commonly encountered. We interviewed forty-nine people at two sites in downtown Seattle. Participants were asked about time spent researching and planning a recent vacation, including the types of barriers they encountered, specific websites used, frequency of their Internet usage, and connection type. The data were then analyzed to determine if patterns could be identified.

AUTHOR KEYWORDS

Information-seeking behavior, recreational planning, travel-related websites

STATEMENT OF CONTRIBUTION AND BENEFIT

By understanding the information seeking behavior of participants in recreational planning, the information transfer between recreational destinations and their patrons can be optimized.

GOALS

The goals of this project are to collect data about the information seeking behavior of people in recreational planning, to identify patterns in the behavior of these people, to identify common barriers they encountered in the process of recreational planning, and to uncover some possible solutions to those barriers.

BACKGROUND AND SIGNIFICANCE

After spending over 20 hours each searching for lodging in the Whistler, B.C. area, we were frustrated and suspected that we were not alone. The Internet has changed the way people plan vacations. As a result, planning a vacation can be a frustrating, arduous task. The process of planning a trip should build anticipation rather than cause frustration. Through conducting this study, we hope to characterize patterns in the information-seeking behavior of people planning recreational experiences. Specifically, we are interested in how they use the Internet in the planning process, common barriers encountered, and in identifying possible solutions to those barriers.

This is not a simple usability study. Rather than focusing on the effectiveness of a particular website, we are studying people's information-seeking behavior in order to learn how people search and validate information. The Internet is only one resource people use, so by identifying participants' general search behavior, that information can then be applied to information systems design, which will facilitate better information transfer.

Our study was guided by several frameworks of information behavior. Barriers, which occur when someone is blocked from seeking information or from successfully getting help, are a key concept for this study. Drawing on the work of Brenda Dervin, Pettigrew et.al noted, "Barriers, a key concept in the sense-making framework, represent the ways in which people are prevented or blocked from seeking information – or, more broadly, getting help – successfully." (Pettigrew et al., 2002, p.898).

We inspect the search process within the context of Marcia Bates' Berry-picking theory. According to this framework, "At each stage [of the information search process], with each different conception of the query, the user may identify useful information and references. In other words, the query is satisfied not by a single final retrieved set, but by a series of selections of individual references and bits of information at each stage of the ever-modifying search. A bit-at-a-time retrieval of this sort is here called *Berrypicking*." (Bates, 1989 p.410).

Another concept which we draw upon in the analysis of the search patterns of our participants is Zipf's Principle of Least Effort. According to Donald Case, "In contrast, the Principle of Least Effort, which is

chiefly pragmatic and not at all optimal, predicts that seekers will minimize the effort required to obtain information, even if it means accepting a lower quality or quantity of information.” (Case, 2002, p. 143).

We also draw upon the work of Raskutti and Zukerman, who explain information seeking as a process of information exchange between the system and the user. They discuss the problem in this process as it relates to the clarification of a user’s request: “The clarification interaction is often initiated by the information provider and it may be due to one of the following reasons: (1) there is confusion regarding the user’s intentions, (2) there is insufficient information to formulate a plan to satisfy a recognized intention, or (3) there is difficulty in formulating a plan that satisfies a recognized intention.” (Raskutti and Zukerman, 1997, p.690)

Broad Impact

This research is being conducted to improve the information transfer between recreational communities and visitors to them. There are numerous stakeholders involved in our research including the travel industry, which can be further broken down into individual stakeholders. Airline companies, lodging and resort companies, location specific chambers of commerce, and companies who indirectly benefit from the travel industry such as shops, restaurants, etc. are all stakeholders within the travel industry. In addition to the stakeholders involved in the travel industry, there are the travelers or visitors themselves.

By understanding the information seeking behavior of participants in recreational planning, the information transfer between recreational destinations and their patrons can be optimized. This information can be used to design improved websites for visitors to reserve accommodations, make dinner reservations, and find activities. These principles could then be applied by recreational destinations around the world. In addition, this study methodology could be used in a similar fashion to identify information-seeking behavior amongst other targeted recreational groups such as backpackers, rock climbers, or snowboarders. The end results of improved information transfer will be more satisfied customers, which will lead to more business for the recreational destinations.

Research Design and Methods

This is an exploratory study of information seeking behavior in recreational planning. In the initial design, we were to be gathering data at Whistler Blackcomb Ski Resort in British Columbia. We designed the study to consist of two types of interviews, one short and one long. We felt that we could gather good quantitative data by doing 400 short interviews, and good qualitative data by doing 40 long interviews. The short interviews were designed to be administered using a PDA in various public locations around Whistler Village. The long interviews would have then been scheduled for a later time

when we had a conference room reserved and a laptop with wireless Internet access available to help recreate the participants' search process. We were planning to audio record the long interviews so we didn't miss any subtle details of the interviews. Unfortunately, after over six months of preparation, three months of negotiations, and one month of waiting for Whistler to have the availability, Whistler backed out on us the day we were to begin collecting data.

This was quite a setback for our study, both logistically and psychologically because we were running out of time to complete the study and had invested tremendous emotional energy into making arrangements with and designing our study for Whistler Blackcomb. Thanks to the support and encouragement we received from our advisors, we were able to redesign the study and finish in time to graduate. The revised research design involved only one interview, using a combination of the original two interview schedules.

The interview schedule consisted of 18 questions designed to cover aspects of the users' Internet usage and connection, use of specific website(s), the participants' information-seeking process, barriers encountered, and time spent planning the recreational travel experience. The yes/no questions were used for some basic quantitative analysis, while the open-ended questions about use of specific sites and general Internet behavior were used for qualitative analysis.

Several questions in the interview were designed to target the issue of barriers. We gave a closed-format question, which allowed subjects to choose from a list of options of some common barriers, and we also provided an open-ended question towards the end of the interview. This way, the subjects had some more time to think about their search process and add any additional barriers they faced.

Some factors were anticipated, which could potentially explain or alter the users' information-seeking behavior. Those factors include previous travel to the destination, use of the Internet, and Internet connection type.

Data was collected by pen on blank interview schedules, which were designed to allow answers to be quickly circled and comments to be written down and easily associated with the corresponding question. This data was then coded and entered into SPSS for further statistical analysis.

RESEARCH SUBJECTS

Due to the exploratory nature of our study and the setbacks which arose out of Whistler Blackcomb's decision to back out, we used convenience sampling, interviewing visitors to two sites in downtown Seattle on a sunny Saturday afternoon in April. Some of our participants came from the Waterfront, near the Seattle Aquarium, and others were from Pike Place Market. We chose these areas because they are well-known tourist attractions that attract visitors year-round. This availability-based, purposive

sample was based on participants meeting two inclusion criteria: they must be 18 years-old, or older, and have recently used the Internet to plan a recreational trip.

Results

There were a total of 49 interviews conducted; 36 were conducted near the Seattle Aquarium on Seattle's waterfront, and 13 were conducted on the North end of Pike Place Market, in Downtown Seattle. Eighty-eight percent of our respondents indicated that they use the Internet daily; 69% have high-speed Internet connections, 29% have dial-up connections, and 2% had no Internet connection.

Eighty-six percent of respondents indicated that they had made reservations prior to arrival. As shown in the following table of responses to question 3.a, most respondents used the Internet in some way (email or website) to make their reservations.

Count	Method(s) used to make reservations
27%	Used the phone to make reservations
27%	Used email to make reservations
63%	Used a website to make reservations
12%	Used a travel agent to make reservations

Table 1: 'how did you make reservations?' [check all the apply]

Many participants (63%) indicated having used the Internet to research some aspect of lodging, and nearly half (49%) decided where to stay based on Internet research. Fifty-five percent of the people interviewed used the Internet to research some aspect of recreation for their visit.

It may come as no surprise to travel agents that 43% of our respondents indicated that they had used only the Internet to plan their trip.

Quantitative statistical analysis of the data revealed that the mean number of online sessions spent planning the trip in question was 4.63, with the average session lasting between 6 and 30 minutes.

Forty-six percent of those interviewed responded that they became frustrated or felt unhappy while looking for information on the Internet; 43% stopped looking on the Internet and went somewhere else for the information. The following table shows a breakdown of the responses to *Question 6.a*.

Count	Reason
18%	It took too long to find what you were looking for
12%	Pricing information was unclear or confusing
14%	Difficulty learning about special offers or discount prices
0%	Unable find information about room amenities
18%	Links were dead
8%	Information was not up to date

14%	Uncomfortable with submitting personal information online
12%	Couldn't navigate the site easily

Table 2: 'what caused you to feel frustrated or unhappy?' [check all that apply]

Ninety percent of the participants responded that they have a preferred travel-related website or websites. Of those who indicated having a preferred website, or websites, 28% indicated that they had found the preferred site through a referral from a friend. The important qualitative result here is that 50% of those who indicated having a preferred travel website listed 'easy to use', or 'simple to use' as what they like about their preferred site(s).

DISCUSSION

The facts that 88% of our respondents use the internet daily and 67% have high-speed connections indicate that our population is fairly proficient with technology, and does not necessarily represent the entire population of recreational travelers. The great majority of our respondents made reservations prior to arrival, and the majority of them used the Internet in that process. This comes as no surprise; however, we did find that more than half of the people who used the Internet became frustrated or felt unhappy while looking for information on the Internet. Furthermore, 21 of them actually stopped looking on the Internet and went somewhere else for the information they were seeking. This should send up a major red flag for the stakeholders within the travel industry regarding the satisfaction of their customers.

With a sample size of 49, it is hard to draw inferences, or make generalizations about patterns in the causes of frustration; however, further research may reveal more concrete patterns and similarities in what causes people to feel frustrated or unhappy while searching for information in the recreational planning process, which would be invaluable for designers of travel-related websites.

CONCLUSION AND FUTURE WORK

With the Internet rapidly changing the way people plan recreational travel, it is necessary to have information systems which facilitate this kind of change. In analyzing the Information Seeking Behavior of 49 people, we have found evidence showing that current systems do not facilitate this kind of change. Of the people who were interviewed for this study, an alarmingly high percentage became frustrated or felt unhappy while looking for information on the Internet.

We also found evidence to support Zipf's Principle of Least Effort, as 90% of our subjects had a preferred travel website, and more than half of them listed 'easy to use' or 'simple to use' as reasons

why they liked those specific sites.

When participants were asked how they found their preferred travel websites, the responses supported Marcia Bates' Berry-Picking Theory. Some of the responses to the question, "How did you find that site?" included '*came across it*' and '*it appeared.*' This supports the theory that participants do not get information from just one source; rather they pick up bits of information from many different sources. Bates' refers to this as "Berry-picking."

Clearly, further research is needed in order to understand what people consider '*easy to use*' and '*simple to use*'. It would also be valuable to do more in-depth research on the causes of frustration while seeking information online. This could be done by greatly increasing the sample size and asking additional open-ended questions in order to get more qualitative data.

After Whistler backed out, we went to the International Travel Show in Seattle, and talked to many professionals in the travel industry about our study. There was an overwhelming amount of interest in sponsoring this study. We received several offers from destinations such as Fairbanks, AK, Victoria, B.C., and Mexico to help us with lodging; however, due to the limited amount of time remaining to finish our study, and an impending childbirth for Ben's wife, we were unable to accept any of those offers. We plan to send our results to the companies that were interested in helping us and may consider doing another version of the study for one of those companies.

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REFERENCES

- Bates, M. (1989). The design of browsing and berrypicking techniques for the online search interface. *Online Review* , 13, 407-424.
- Bruce, H. (1998). User satisfaction with information seeking on the internet. *Journal of the American Society for Information Science*, 49, 541-56.
- Anderson, R.E. Social impacts of computing: Codes of professional ethics. *Social Science Computing Review* 10, 2 (1992), 453-469.
- Burgess, L. (2003). Use of the web for destination marketing by regional tourism organizations in the asia-pacific region. *Seeking Success in E-Business*, 227-38.
- Bullock, J. and Goble C. (1997). Tourist - conceptual hypermedia tourist information. *Proceedings of the Eighth ACM International Hypertext Conference*, Volume 23, 289-299.
- Case, D. (2002). *Looking for information: a survey of research on information seeking, needs, and behavior.* , CA: Elsevier Science.
- Given, L. (2002). The academic and the everyday: investigating the overlap in mature undergraduates' information seeking behaviors. *Library and Information Science Research*, 24, 17-29.
- Kasavana, M. (2000). Quality issues in hospitality web site design and operation. *Journal of Quality Assurance in Hospitality and Tourism*, 1, 83-104.
- Pettigrew, K., Durrance, J., and Unruh, K. (2002). Facilitating community information seeking using the internet. *Journal of the American Society for Information Science and Technology*, 53, 894-903.
- Raskutti, B. and Zukerman, I. (1997). Generating queries and replies during information seeking interactions. *International Journal of Human-Computer Sciences*, 47, 689-734.
- Savolainen, R. (1999). The role of the internet in information seeking. putting the networked services in context. *Information Processing and Management*, 35, 765-82.