Publications and Research   New York City College of Technology

2008

Persuasive Design of Destination Websites: An Analysis of First Impression

Heejun Kim
CUNY New York City College of Technology

Daniel R. Fesenmaier
University of Central Florida

PERSUASIVE DESIGN OF DESTINATION WEBSITES:
AN ANALYSIS OF FIRST IMPRESSION

Heejun Kim
National Laboratory for Tourism & eCommerce
School of Tourism and Hospitality Management
Temple University
Suite 201 Vivacqua Hall
1700 North Broad Street
Philadelphia, PA 19122, U.S.A.
Phone: (215) 204-5612
Fax: (215) 204-7486
hkim12@temple.edu

Daniel R. Fesenmaier
National Laboratory for Tourism & eCommerce
School of Tourism and Hospitality Management
Temple University
Suite 201 Vivacqua Hall
1700 North Broad Street
Philadelphia, PA 19122, U.S.A.
Phone: (215) 204-5611
Fax: (215) 204-7486
drfez@temple.edu

Heejun Kim is a visiting scholar in the National Laboratory for Tourism and eCommerce in the Fox School of Business and Management and the School of Tourism and Hospitality Management at Temple University in Philadelphia, Pennsylvania. Her research interests include travelers' information search behavior, the use of Internet for tourism marketing, the development and use of travel websites, and persuasion in human-computer interaction.

Dr. Daniel R. Fesenmaier is a professor at the School of Tourism and Hospitality Management, Temple University, in Philadelphia, and director of the National Laboratory for Tourism and eCommerce, also in Philadelphia.

PERSUASIVE DESIGN OF DESTINATION WEBSITES:
AN ANALYSIS OF FIRST IMPRESSION

ABSTRACT

This research examines the persuasiveness of destination websites through an investigation of users' first impression. To achieve this goal, it builds on research by Fogg (2003) and by Kim and Fesenmaier (2007) to assess the effect of the design factors of destination websites on first impression formation. The results of this study indicate that the subjects were able to make quick judgments on tourism websites, and that inspiration and usability were the primary drivers evoking a favorable first impression. This research concludes by discussing the implications of these findings and possible directions for future study.

Keywords: tourism promotion, website design, first impression, persuasion, advertising, Internet

PERSUASIVE DESIGN OF DESTINATION WEBSITES:
AN ANALYSIS OF FIRST IMPRESSION

INTRODUCTION

The Internet has become the primary means with which destination marketing organizations (DMOs) communicate with prospective tourists (Buhalis 2000, 1998; Gretzel, Y. Yuan, and Fesenmaier 2000; Hwang et al. 2006; Morrison, Taylor, and Douglas 2004; Wang, Hwang, and Fesenmaier 2003). Indeed, essentially every DMO in the United States has developed a website for the purpose of destination marketing (Zach, Xiang, and Fesenmaier 2007). DMOs are faced, however, with tremendous competition whereby destination marketers increasingly try to design their websites as a tool for influencing travellers' decision-making process (Werther and Klein 1999). Fogg (1999, 2003) and others (Gretzel 2004; Gretzel and Fesenmaier 2007; Kim and Fesenmaier 2007; Murphy et al. 2003; Xiang and Fesenmaier 2006) argue that the Internet is a particularly effective communication medium for persuading people. Zack et al. (2007) indicate that most destination marketing websites focus primarily on information provision and usability with the belief that this strategy will be sufficient to attract the prospective visitor to the destination. Importantly, the recent evolution in Internet technology representing consumer-generated contents seems to support Fogg, showing that the Internet is, indeed, one of the most persuasive media for destination marketing to influence tourists' travel planning process (Anderson 2006; Hwang et al. 2006; Kim and Fesenmaier 2005, 2006, 2007; Tapscott and Williams 2006). This study builds upon the work by Fogg (2003) and Kim and Fesenmaier (2005, 2006, 2007) to investigate the persuasive design of destination websites. In particular, this study will explore the underlying dimensions of persuasiveness of destination websites and assess their influence on the formation of first impression. This study

begins by reviewing the literature discussing information search behavior and the use of the

Internet for trip planning as well as the formation of a first impression toward destination

websites provided by state tourism offices in the United States. The research methods and the

findings of this study are then presented. The final section of the paper concludes by discussing

the theoretical and practical implications for further development of destination marketing

websites.

INFORMATION SEARCH USING THE INTERNET

The process of information search using the Internet for travel planning can be understood as comprising three distinct stages: (1) search, (2) primacy, and (3) elaboration (see Figure 1). Online travel planners often begin their trip planning by using search engines (i.e., Excite, Google, Yahoo!, etc.) to find and choose useful information sources (Marchionini 1995; Pan and Fesenmaier 2006; Wöber 2006; Xiang et al. Forthcoming;). Travel information searchers may go directly to a website if they have favorite sites in their bookmark or have already determined which sites to visit. However, in the absence/lack of information of travel websites, online travel planners often choose a search engine formulate a query, and execute the search; they are then presented the results of their query according to the keywords they entered (Hwang et al. 2006; Levene 2006; Marchionini 1995; Nielson Media 2006). Thus, the first stage of the search process focuses on the relationships between the travel planner's mental model (which incorporates views of the travel planning task, knowledge and experience with travelling, the image of the destination as well as the Internet) and the search terms that may be used to identify possible websites (Pan and Fesenmaier 2006; Wöber 2006). According to a TIA report (2005), search engine websites are increasingly the first place consumers go in their travel planning process. Information search strategy on the Web may differ according to the type of search (whether it is goal-oriented or not) (Jang 2004). That is, goal-oriented information searchers who need specific information (e.g., maps and driving directions, price and availability of flights and accommodations, calendar of local events, or deals) are more inclined to rely on a search engine. However, these findings do not automatically suggest that those who are not goal-oriented do not use search engines to obtain necessary information.

The second stage of the search process focuses on the selection of a particular webpage. That is, when travel information seekers use search engines, they begin by evaluating the relevance of the results of the search effort where their choice is often based upon the nature (e.g., the intensity of persuasiveness) of the metadata presented in the search results (Pan and Fesenmaier 2006; Widyantoro and Yen 2001; Xiang and Fesenmaier 2006). The use of metadata is crucial at this stage in that it functions as a primary cue helping information seekers to evaluate the search results and to build expectancies towards the website. Thus, the metadata contributes to the information search process by creating a first impression of a website.

The final step of the online information search process is the decision of whether or not to elaborate (i.e., navigate within) the website. A recent study (Xiang and Fesenmaier 2006) indicate that information searchers with favorable first impressions towards a webpage are more likely to stay on the website and use it for trip planning. The ease of backtracking facilitates frequent returning to recently visited webpages through a simple click without incurring heavy cognitive load (Slone 2002). Interestingly, of the functions identified with reversing information search, the "back" button is the most frequently used (the use of "back" button accounts for at least 40% of all navigation actions) (Bilal 2000; Large, Beheshti, and Moukdad 1999; Wang, Hawk, and Tenopir 2000). These findings suggest that if a website fails to appeal to and evoke good impressions for website visitors, they are more likely to stop browsing the site, go back to the search results, and repeat the same procedure until they find a satisfactory information source (Hoffman and Novak 1996; Pan and Fesenmaier 2006; Xiang and Fesenmaier 2006).

Insert Figure 1 about here

Recent studies by Levene (2006), Widyantoro and Yen (2001) seem to suggest that when an online travel planner first evaluates the relevance and usefulness of a website, he/she evaluates the website within a short period of time in an attempt to form an overall impression of the website. That is, these studies indicate that when information searchers access a website, a rapid and almost unconscious but complex thought process is activated (Gladwell 2005; Lindgaard et al. 2006; Mennecke, Townsend, and Hendrickson 2003; Winter, Saunders, and Hart 2003). Such a reaction is instantaneous but rational whereby the brain tries to categorize and filter a website into a certain type (e.g., maybe approve, maybe disapprove, or uncertain) (Fiske and Taylor 1991; Gladwell 2005). Thus, this research suggests that first impressions aroused through an immediate interaction with webpage enables information searchers to make a quick choice about the particular website and even subsequent decisions. Importantly, these reactions have a potentially long-lasting effect (i.e., halo effect) whereby they support the search for, or interpretation of, information in a way that confirm one's preconceptions (Lindgaard et al. 2006; Nickerson 1998). For instance, website visitors with favorable first impressions toward the site may disregard or downplay possible negative aspects (e.g., dead links, slow downloads, outdated information, etc.). As such, information searchers tend to be consistent with their initial judgment in the following decision-making or behaviors in websites unless the site strongly disappoints them. In addition, previous experience with a site (whether or not one has visited a website; the extent of site visits) can be a decisive factor in determining which information process route (i.e., central vs. peripheral) website visitors will follow. Thus, it is expected that repeat visitors to a website may skip some stages of the overall process but can easily infer the value of site. However, website visitors with no, or only a moderate level of experience, are more likely to go through every stage in the process (Han and Mills 2006).

Selection of search results also depends on the order of exposure (Luchins 1957; Lund 1925; Miller and Campbell 1959); that is, the results presented on the first page are substantially more likely to be selected than those further down the list. The effect of an advertising message's order (i.e., primacy vs. recency) has been long been recognized within the context of leaning, recall, memory, attitude, decision-making, and choice. Research on primacy is traceable to Asch's (1946) study which examined the order of a word describing the characteristics of an evaluated person. More recent studies (Buda and Zhang 2000; Haugtvedt and Wegener 1994; Jones and Goethals 1972;) have confirmed the effect of primacy in the areas of attitude formation, information presentation and the attractiveness, willingness to purchase, purchase behavior as well as perceived performance of an advertised product (Buda and Zhang 2000; DiGirolamo and Hintzman 1997; Ditmer and Fgriffin 1994; Lohse 1997; Miller 1980; Zhao 1997). This primary effect has also been evaluated within the online environment (Ansari and Mesa 2003; Drèze and Zufreden 2004; Murphy, Hofacker, and Mizerski 2006) with the aim of understanding the navigational patterns of information searchers. These studies confirm that the higher a link's position in a list of links, the greater the probability that information searchers online will click on that link.

PERSUASIVENESS OF DESTINATION WEBPAGES

This study focuses attention on the second stage of the process of destination information search as it represents the first substantive contact between the destination website and traveler. Interestingly, very little research has been conducted which examines the concept of persuasion and website design (Gretzel and Fesenmaier 2007; Fogg 1999, 2003; Xiang and Fesenmaier 2006). Generally, persuasion refers to human communication that is designed to influence people's beliefs, values, or attitudes (Simon, 1976). In this study, persuasion is operationally defined as a destination website's ability to evoke favorable impressions toward the site.

According to Fogg (2003), computer systems/applications can influence human behavior by playing three different roles: computers as a tool, a medium, and a social actor. That is, technology can be used to increase working capability by making human activities easier or more efficient (e.g., math calculators), by creating second-hand experiences, by providing sensory information (e.g., virtual environment and simulation), and by building relationships with counter users or even the systems (e.g., matchmaker websites or digital pets). Recently, the persuasive roles of computer technology have been explored by Fesenmaier and his colleagues in the tourism context. Specifically, research by Gretzel (2004) and Gretzel and Fesenmaier (2006) focused on the use of travel recommender systems and Xiang and Fesenmaier (2006) examined the design of destination websites based upon the Fogg's functional triads of technology.

Taking a different approach, Zhang, von Dran, Small, and Barcellos (2000) and Zhang and von Dran (2001) extended Herzberg's dual structure model to the online context in order to identify Web design factors that support the information seeking process. The contribution of Zhang and von Dran's studies is significant in that they provide a rigorous definition of satisfaction with technology use. Zhang and von Dran's conceptual framework has been adopted

in several studies that investigate the effectiveness of information and communication technology design (Scholtz et al. 1998; Tractinsky 2005) and of online advertising (Chingning 2002), and predict system users' attitude and behavior (Heshan and Zhang 2006, Na and Zhang 2002). Based on Herzberg's theory, these studies identified a series of basic requirements that websites must include to avoid user dissatisfaction (referred to as hygiene factors) as well as a number of value-adding features that enhance user satisfaction (referred to as motivator factors). Kim and Fesenmaier (2005, 2006, 2007) reinterpreted the notion of motivation, arguing that within the context of destination marketing it is likely to be related to/coincident with the persuasiveness of the website. From this and the basic communication/advertising literature, they argued that six dimensions (i.e., informativeness, usability, credibility, inspiration, involvement, and reciprocity) can be used to measure the persuasiveness of destination websites in the United States. Unfortunately, this research has not resulted in useful scales nor has it provided recommendations concerning possible design cues that can be used to improve the persuasiveness of destination websites. The goal of this study is to extend the most recent work of Kim and Fesenmaier (2007) by developing a theoretically supported set of measurement scales and evaluating their relationship to the perceived persuasiveness of destination websites. The following section provides a detailed description of each of the components (design factors) of the model proposed by Zhang and von Dram (2001) and extended by Kim and Fesenmaier (2007) (see Figure 2).

Insert Figure 2 about here

Informativeness-related Design Factors

Information has been shown to be the primary motivation for Internet users to visit websites, suggesting that consumers often see advertising as a means to become informed about product alternatives (Barker 2005; Davis 1986; Ducoffe 1996; Huang 2005; Hwang et al. 2006; Jang 2004; Jeong and Lambert 2001; Marchionini 1995). The informativeness of websites was proposed by Zhang and von Dran (2001) as one of the most important hygiene factors. Within the context of tourism, trip planners searching for information seek to reduce the perceived risk embedded in travel product/service purchase (Vogt and Fesenmaier 1998). The literature indicates that the primary criteria for assessing information quality includes accuracy, variety, relevance, usefulness, currency, security, validity, and completeness (Auster and Choo 1993; Jeong and Lambert 2001; Miller 1996; Rieh 2002; Smith 1996). A significant and positive correlation between informativeness and advertising value, and attitude towards advertising has been found in numerous studies across a variety disciplines (Ducoffe 1996). Importantly, Luo (2002) found that the informativeness of a website is positively associated with attitude toward the website. Based upon this literature, the following hypothesis was drawn:

> Hypothesis 1: The more ***informative*** a tourism destination webpage is perceived to be, the more likely information searchers are to form a ***favorable*** first impression towards the webpage.

Usability-related Design Factors

Along with informativeness, usability was found to be a second important hygiene factor of information systems (Zhang and von Dran, 2001). That is, it is posited that destination websites must be user-friendly so that information searchers can easily navigate sites with no (or a minimum level of) mental effort. Researchers have proposed several different approaches for measuring website usability (Benbunan-Fich 2001; Goodwin 1987; Kim and Moon 1998; Kuan,

Bock, and Vathanophas 2005). Its core concept, ease of use, is composed of two distinct

features: (1) ease of understanding, and (2) ease of navigation (Goodwin 1987; Loiacono,

Watson, and Goodhue 2002). As such, websites should be designed so that visitors easily

understand who sponsors the site, what the goals of the sites are, and what they can achieve on

the website. Ease of navigation enables users to acquire the information they are seeking with

less effort (Machlis 1988b; Nielson 2000). The perceived ease of use, in turn, influences the

overall satisfaction with the use of system and behavioral intentions to purchase the

product/service (Davis 1986; Heshan and Zhang forthcoming; Venkatesh and Morris 2000).

Thus, perceived ease of use (refers to usability) plays an important role as an antecedent in

attitude formation which, in turn, leads to a positive behavioral intention toward the system. As

a result of this research, it can be posited that:

> Hypothesis 2: The more *usable* a tourism destination webpage is perceived to be, the
> more likely information searchers are to form a *favorable* first impression towards the
> webpage.

Credibility-related Design Factors

The perceived credibility of a website is an important foundation of persuasion (Fogg

1999, 2003). Web design elements can establish credibility and enhance the consumer's

perceptions of the website (Fogg et al. 2002; Long and Chiagouris 2006). Wang, Beatty, and

Foxx (2004) found that website visitors can infer site credibility through simple inspection and

proposed the notion of "cue-based trust" which is similar to the notion of "surface credibility"

proposed by Fogg and Tseng (1999), which describes how much a website visitor trusts the

website based on simple inspection of credibility cues the website contains. They found that

Internet users infer the level of trustworthiness of a website during an initial visit based on cues

such as awards from neutral sources, celebrity, privacy and security components, the identity of

site operator, seals of approval, and/or sponsorship (Fogg 1999; Fogg et al. 2002; Fogg et al. 2001; Yang et al. 2003). Recently, cues such as "official" have been incorporated into many destination marketing websites in order to convey credibility (Xiang and Fesenmaier 2006). The issue of website credibility has been highlighted within the context of online transaction, whereby high credibility towards a website reduces the perceived risks associated with online shopping in the sites, and generates more favorable attitudes towards the website and online shopping itself (Huang and Trifts 2000; Jarvenpaa, Tractinsky, and Vitale 2000; Na and Zhang 2002). Therefore, it is hypothesized:

> Hypothesis 3: The more *credible* a tourism destination webpage is perceived to be, the more likely information searchers are to form a *favorable* first impression towards the webpage.

Inspiration-related Design Factors

Inspiration is defined as an infusion of some idea or purpose into the mind (Thrash and Elliot 2003). These ideas may include a suggestion, awakening, or creation of a feeling or impulse. Inspiration can be understood as an indicator of motivation involving the energy and direction of behavior and can be evoked by stimuli appealing to truth, goodness, beauty, or superiority (Averill 1975; Thrash and Elliot 2003). Thus, within the context of destination websites, the emphasis on scenic beauty (using visual, auditory, and/or imagery oriented features) reflects the underlying aim of destination marketing to build a strong and positive associative link/image about the destination and to create seductive experiences so that the positive images encourage potential tourists to visit the destination. Based upon this research, it is hypothesized that:

> Hypothesis 4: The more *inspiring* a destination tourism webpage is perceived to be, the more likely information searchers are to form a *favorable* first impression towards the webpage.

Involvement-related Design Factors

Involvement is generally referred to as one's motivational state toward an object where that motivational state is activated by the relevance or importance of the object (Bloch and Richins 1983; Rothschild 1984; Zaichkowsky 1985). Involvement is perceived as a motivational force directly related to various behavioral outcomes, including the number and types of choice criteria, extensiveness of information search (Beatty and Smith 1987; Petty and Caccippo 1981), length of decision-making process, variety seeking, and brand attitude (Bloch and Richins 1983; Mitchell 1979). Highly-involved individuals are more likely to search for more information, accept fewer alternatives, process relevant information in detail, and form attitudes that are more resistant to change. Within the online environment, interactivity has been found to be one of the most significant determinants influencing the level of involvement with Internet-based applications. Indeed, recent research indicates that an increase in the interactivity of websites contributes to a corresponding increase in the level of liking (Chung and Zhao 2004; Jee and Lee 2002; Stromer-Galley 2004). Also, playful and enjoyable websites invite browsers to visit, keep them entertained, and increase their depth of exploration (Kim, Morosan, and Fesenmaier 2006). From this literature, it is hypothesized that:

> Hypothesis 5: The more information seekers perceive to be *involved* with a tourism destination webpage, the more likely they are to form a *favorable* first impression towards the webpage.

Reciprocity-related Design Factors

It is posited that communication is more persuasive when reciprocity is perceived and when the rewards for the communication are discerned to be more or less equal (LaGaipa 1977). Reciprocity connotes that each party has rights and duties (Gouldner 1960). Therefore, a reciprocal transaction exhibits mutually gratifying patterns of exchanging goods and services.

Applied to the online environment, reciprocity refers to the extent to which a website is perceived to provide or support two-way information exchange between the destination and users (Huang and Trifts 2000). Melek (2004) conducted a survey on consumers' readiness to provide personal information to a website that would use the data to customize the online experience. Of those surveyed, 96% would supply their names, 95% would provide their email addresses, 81% would provide their addresses, and 76% would provide their hobbies and interests. Within destination marketing websites, travel brochures/guidebooks and special offers/deals, and sweepstakes/contests are examples of benefits generally offered to visitors in hopes of building the reciprocal relationship. In many cases, website visitors are asked to provide personal information such as name, email, and/or address, as a repayment for benefits received. Based upon this research, it is hypothesized that:

> Hypothesis 6: The more *reciprocal* a tourism destination webpage is perceived to be, the more likely information searchers are to form a *favorable* first impression towards the webpage.

RESEARCH METHODS

The objective of this study is to assess the influence of the respective persuasiveness dimensions on the formation of first impression towards the homepage of destination websites. The development of scales followed the steps proposed by Churchill (1979) and DeVellis (1991) whereby the first step involved extensive evaluation of destination websites in America and a comprehensive literature review (Han and Mills 2006; Jang 2004; Kim, Morrison, and Mills 2003; Morrison, O'Leary, and Cai 2001; Morrison, Taylor, and Douglas 2004); this effort resulted in a total of twenty-eight items to measure the six design constructs. The initial item pool was then reviewed by twelve experts in the tourism field to assess their face validity and construct validity. Specifically, the experts were asked to evaluate the clarity of the items and to identify the best matching construct for each respective item. The scales were subsequently reworded and refined based upon the results of the sorting task. It was decided to eliminate items that did not show a consistent pattern in panels' evaluations or was reported more than two categories as the best matching. This effort resulted in a final pool of nineteen items.

Following Straub (1989), pre-specified constructs were utilized for scale development where possible (see Table 1). Specifically, first impression (the dependent variable in this study) towards the homepages of destination websites was measured using Crites, Fabrigar, and Petty's (1994) 5-point likert scale (i.e., terrible vs. awesome), which measures one's attitude toward an advertisement within a short period of time. Three items used to measure the information construct were adapted from Rieh (2002). For usability, Loiacono, Watson, and Goodhue's (2002) scales were integrated into this study. The credibility-related webpage design construct was based upon the concept of cue-based trust as proposed by Wang, Beatty and Foxx (2004). Because appropriate scales were not found to measure inspiration, this concept was

operationalized based upon Scioli and Averill's (1998) definition and three items were generated

by decomposing tourism destination webpages into individual design elements. Involvement

with the use of webpage was opertationalized following McQuarrie and Munson (1991). Lastly,

reliable scales were not available to measure the reciprocity-related webpage design construct;

thus, four new items were created by following the same procedure used for the inspiration-

related webpage design construct.

Insert Table 1 about here

Treatments

The homepage is often the entry point of a website (Nielson 2000; Pandir and Knight

2006). Therefore, full page screenshots of homepages of the fifty official state tourism websites

in the United States were used as the stimuli with which to measure participants' overall

impressions toward destination homepages. The screenshots of the homepages were taken

within an Internet Explore 7 browser at 1024 × 768 pixel resolution in 32-bit true color. The

fifty screenshots were then blocked into three sets whereby the names of states were placed in an

alphabetical order and every third state was then selected. As a result, each set included sixteen

or seventeen treatments; two additional webpages of city tourism destinations were included as

"warm-up" exercises. It must be mentioned that the screen shots of the homepages might cause

biased responses in that an identical environment to the Web was not provided in terms of the

level of interactivity. However, it is argued that the lack of interactivity did not substantively

distort the subjects' responses because this study aimed to measure the spontaneous effect of

website design characteristics on their first impression.

Survey Procedures

Studies indicate that individuals form an initial impression of an object within a short period of time: 3 seconds (Lindgaard et al. 2006); 4 seconds (Kaiser 2001); 5 seconds (Perfetti 2005); and, 7 seconds (Ramsey 2004) in human-to-human interaction. In addition, recent studies indicate that this time span may be very brief (i.e., as short as 50 milliseconds (Hotchkiss 2006)) when applied to the online context. Although a variety of opinions exist on the time threshold required for the formation of first impression, there are very few empirical studies testing timing for the first impression formation in human-to-computer interaction. In this study, the viewing time for each webpage was restricted to seven seconds because it was believed based upon the literature that seven seconds was sufficient for website visitors to discover "cues" conveying the value/quality of the destination webpages.

A hypertext system was developed using PowerPoint that displayed a webpage for exactly seven seconds and then prompted the respondent to complete the questions included in the survey. This strategy allowed for the elimination of variation due to differences in server response times while retaining the Web-like environment (Chen and Wells 1999; Desmond and Steward 2002; Sandhu and Corbitt 2002). Importantly, the survey system did not allow participants to go back and forth between destination homepages. Participants were randomly assigned by the computer to one out of three sets of treatments. They were first given a general description of the study as well as a specifically-designed scenario in the trip planning context. A paper-based questionnaire was then provided to subjects to report their answers for each homepage. A "Don't Know" option was provided in additional to the 5-point Likert-type scales in order to accommodate the possibility that respondents could not assess the design cues within the 7 second time frame.

Subjects and Data Collection

An invitation was provided to one hundred and five undergraduate students through an instructor responsible for the course; extra credit was provided as an attempt to maximize response rate. As a result of this effort, sixty five students completed a survey, resulting in a response rate of 61.9 percent. It is important to note that there is considerable discussion regarding the external validity of student samples (Burnett and Dunne 1986; Copeland, Francia, and Strawser 1973; Cunningharn, Anderson, and Murphy 1974; Enis, Cox, and Stafford 1972; Lamb and Stem 1979). It is argued here that student samples can be a good starting point in the exploratory study setting and, in particular, the characteristic of student subjects in terms of computer skill/Internet experience fits well to studies regarding Internet usage. Indeed, students may reflect better the nature of actual users/consumers in the computer-mediated environment. This is supported by a TIA report (2005) saying that one third (33%) of online travellers is aged between 18 and 34 years. Additionally, it is presumed that the process of information search for travel planning of a student is reasonably similar to other younger travellers. Consequently, it is argued that the external validity of this study is not substantively threatened by the use of students.

RESULTS

Data analysis was performed in four steps. First, the completion rates of survey items were calculated in order to assess the extent to which respondents were able to detect the design cues conveying the nature of the websites within the seven second time frame. Second, Cronbach's Coefficient Alpha was computed and confirmatory factor analyses were performed to test the reliability and unidimensionality of the respective website design constructs. Third, the variability in responses was assessed in order to evaluate the heterogeneity of the respective websites. Last, multiple regression analysis was conducted to investigate key driver(s) in the formation of first impressions of the destination webpages. Responses to the warm-up exercises were excluded from the data analysis.

Completion of Survey Items

In total, 1,416 homepages of destination websites were evaluated by the subjects in this study. Overall, the completion rate was relatively high (greater than 75%) for the majority of survey questions; however, the response rate to the items related to credibility (except cred1) and reciprocity was not as high as for the other design categories (approximately 50 percent). A relatively low response rate (54%) was also detected for the survey item "info3" (see Table 2). This disproportional completion rate suggests that participants of the study struggled to discover/understand certain design elements related to the credibility and reciprocity constructs and that the cues supporting inspiration, usability, and involvement within an online environment are relatively easy (in comparison) to convey.

Insert Table 2 about here

Instrument Validation

One of the primary goals of this research was to develop scales for measuring the persuasiveness of tourism webpages. Reliability was assessed by computing Cronbach's Coefficient Alpha, and a confirmatory factor analysis was conducted to test the unidimentionality of each construct (see Table 3). This assessment is necessary because a high Cronbach's Alpha does not automatically imply unidimensionality (Gardner 1995). The scales used in this study reached the satisfactory level of internal consistency and reliability with Coefficient Alpha equalling 0.79 for information, 0.86 for usability, 0.85 for credibility, 0.91 for inspiration, 0.82 for involvement, and 0.85 for reciprocity. The unidimensionality of the respective scales was evaluated using principal component factor analysis with an orthogonal rotation (varimax solution). All items for each persuasive design category showed extremely high factor loadings (> 0.8) and the single factor solution for each design factor accounted for at least 70% of the total variance. Therefore, it was concluded that the items included in each design category represented well the corresponding constructs. Table 3 provides an overview of the results of tests assessing the internal consistency and unidimensionality of the items used to evaluate respondents' perceptions.

Insert Table 3 about here

Characteristics of Destination Webpages

This study used the fifty official state tourism websites as a representation of destination websites. An important issue to consider is heterogeneity in that there must be sufficient variation (or perceived variation) among the treatments for further analysis. Table 4 presents the distribution of the subjects' responses for each design characteristic across the treatments. As

can be seen, informativeness and usability ($\bar{x}$ = 3.7; SD = 0.79 for informativeness; $\bar{x}$ = 3.7; SD = 0.87 for usability) were rated, on average, relatively high as compared to the other four design categories (credibility, inspiration, involvement, and reciprocity) which ranged from 3.3 to 3.5 (i.e., credibility: $\bar{x}$ = 3.5, SD = 0.77; involvement: $\bar{x}$ = 3.5, SD = 0.89; reciprocity: $\bar{x}$ = 3.5, SD = 0.86; inspiration: $\bar{x}$ = 3.3, SD = 1.10). Analyses of the distribution of the webpages using basic descriptive statistics (i.e., mean, standard deviation, and range) confirmed that the fifty state homepages differed substantially whereby some state webpages were rated relatively low (i.e., less than 2.5) while others were rated relatively high (i.e., 4.5) in terms of the six design factors.

An additional analysis (cluster analysis and one-way ANOVA) followed in order to examine the best and worst practices of treatments perceived by the subjects. Fifty treatments were classified into four clusters based upon the subjects' perceptions of the treatments in terms of six design factors and overall impressions, whereby the seven treatments fell into the highest and lowest group respectively in terms of the average value of overall impression. For instance, the official websites of Minnesota, Wyoming, North Carolina, Alabama, Maine, Nevada, and Missouri were substantially perceived highest in terms of the average mean of overall impression towards the webpages, ranged from 3.75 to 4.04. In contrast, West Virginia, Massachusetts, Delaware, Arkansas, Kentucky, Kansas, and Louisiana were rated considerably lower in terms of overall impressions (i.e., the means ranged from 2.61 to 2.95). Comparisons of the ratings were conducting using One-way ANOVA indicated significant differences among the four clusters for overall impressions as well as for the six design characteristics ($p = 0.01$). These findings indicate that there is substantial variation among the treatments (state tourism websites) and thus, it was concluded that the following analyses would not be limited by a truncated distribution.

First Impression Formation towards Destination Webpages

Multiple regression analysis was conducted to assess the importance of the six website design factors on the formation of a first impression towards a destination homepage. The high Multiple R^2 statistic (0.76) indicates that the model fits extremely well. As can be seen in Table 5, the regression coefficients for inspiration, usability and credibility were significant ($p < .01$) and all positive. Specifically, inspiration appears to have had the greatest impact ($\beta = .298$) on first impression, followed closely by usability ($\beta = .260$). Credibility was also significant ($p = 0.05$), but it was notably lower in impact ($\beta = .159$) as compared with the other two design factors. Based upon these results, it was concluded that hypotheses 2, 3, and 4 were confirmed while hypotheses 1, 5, and 6 were rejected.

DISCUSSION

The primary goal of this research was to investigate the key elements of first impression formation towards tourism destination webpages. The results of this study confirm that the majority of state tourism websites in the U.S. meet the basic needs of travel information seekers in terms of the characteristics "informativeness" and "usability." However, other design characteristics (i.e., credibility, inspiration, involvement and reciprocity-related design elements) were not perceived as favorably. These results are consistent with the findings of studies by TIA (2005) and Zach et al. (2007) indicating that the fundamental role of destination websites is that of information service provider. That is, current destination websites are largely acting as online brochures rather taking advantage of the Internet for creating deeper and longer lasting relationships with existing and potential visitors.

Another important finding was the discovery of the key "drivers" of people's first impression of destination websites. Among the six design-related characteristics of destination sites, it was found that inspiration-related elements had the greatest impact on first impression formation. This finding enables us to suggest that visually appealing stimuli are the most important tool for converting website lookers to users, and/or making them stay longer on the website. Usability was the second most significant driver of first impression formation, followed by credibility. From these findings, it can be inferred that travellers easily gravitate toward websites that are easy to learn and exhibit clear navigational paths. Thus, because website choice is a preliminary step for earnest trip planning and thus, website design must provide obvious and appropriate cues indicating the quality of the information source, thereby requiring a minimum level of mental effort.

Substantial research has explored the variety of design strategies for increasing website

effectiveness. However, it is argued that these efforts have overemphasized the importance of usability while ignoring other potentially important aspects including the persuasiveness of the website. Within this context, it seems indispensable for a destination website to evoke a favorable initial impression at the moment when information searchers access it because they can easily leave the site through one-time click in order to find another potentially more persuasive website. Under such an environment, destination marketing organizations must be aware of the importance of the various tools that can be used to create a highly persuasive website design so that they can better influence trip planners' decision making process.

A few limitations of this study must be identified along with the directions for future study. First, the survey system developed for this study did not provide an identical environment to the Web. Thus, the limited interactivity may distort subjects' responses to treatments and thus future studies should fine-tune the study design whereby the survey system enables direct access to respective treatments. Second, this study did not examine the rationale of subjects' responses (e.g., the use of particular design components or the effective use of message cues). It would be interesting to examine the Web features of respective Web design categories and measure the influence of individual design features on the initial impression formation. Third, predetermined images and prior experiences of subjects with states as tourism destinations were not controlled in this study. Consequently, subsequent research should examine the elicitation of first impressions by controlling the potential effects of these factors.

Despite the limitations described above, it is argued that the results of this study contribute substantially to our understanding of the persuasive architecture of destination websites and provide a foundation for future research investigating the Internet as a persuasive tool. The study also provides the basis with which DMO can design more effective websites.

Thus, it is expected that the present study opens a new direction for research on travel website design by focusing on the role of first impressions within the context of tourists' use of the Internet.

REFERENCES

Anderson, C. (2006). *The Long Tail: Why the future of Business is Selling Less of More.* New York, NY: Hyperion Books.

Ansari, A., and C. F. Mesa (2003). "E-customization." *Journal of Marketing Research,* 40 (2): 131-145.

Auster, E., and C. W. Choo (1993). "Environmental Scanning by CEOs in Two Canadian Industries." *Journal of the American Society for Information Science,* 44: 194-203.

Averill, J. R. (1975). "A Semantic Atlas of Emotional Concepts." *JSAS Catalogue of Selected Documents in Psychology,* 52: 330.

Barker, I. 2005. What is Information Architecture?. http://www.steptwo.com.au/papers/kmc_whatisinfoarch/index.html.

Beatty, S. E., and S. M. Smith (1987). "External Search Effort: An Investigation across Several Product Categories." *Journal of Consumer Research,* 14: 83-95.

Benbunan-Fich, R. (2001). "Using Protocol Analysis to Evaluate the Usability of Commercial Web Site." *Information & Management,* 29: 151-163.

Bilal, D. (2000). "Children's Use of the Yahooligans! Web Search Engine: I. Cognitive, Physical and Affective Behaviors on Fact-Based Search Tasks." *Journal of the American Society for Information Science & Technology,* 51: 646-665.

Bloch, P. H., and M. L. Richins (1983). "A Theoretical Model for the Study of Product Importance Perceptions." *Journal of Marketing,* 47 (Summer): 69-81.

Buda, R., and Y. Zhang (2000). "Consumer Product Evaluation: The Interactive Effect of Message Framing, Presentation Order, and Source Credibility." *Journal of Product & Brand Management,* 9 (4): 229-242.

Buhalis, D. (1998). "Strategic Use of Information Technologies in the Tourism Industry." *Tourism Management,* 19 (5): 409-421.

——— (2000). "Marketing the Competitive Destination of the Future." *Tourism Management,* 21 (1): 97-116.

Burnett, J. J., and P. M. Dunne (1986). "An Appraisal of the Use of Student Subjects in Marketing Research." *Journal of Business Research,* 14: 329-343.

Chen, Q., and W. D. Wells (1999). "Attitude toward the Site." *Journal of Advertising Research,* 39 (5): 27-37.

Chingning, W., Zhang, P., Choi, R., and D'Eredita, M. (2002). "Understanding Consumers Attitude towards Advertising." Proceedings of the Americas Conference on Information Systems, Association for Information Systems, Dallas, TX.

Chung, H., and X. Zhao (2004). "Effects of Perceived Interactivity on Web Site Preference and Memory: Role of Personal Motivation " *Journal of Computer-Mediated Communication,* 10 (1). http://jcmc.indiana.edu/vol10/issue1/chung.html.

Churchill, G.A. (1979). "A Paradigm for Developing Better Measures of Marketing Constructs." *Journal of Marketing,* 16 (February): 64-73.

Copeland, R. M., A. J. Francia, and R. H. Strawser (1973). "Students as Subjects in Behavioral Business Research." *The Accounting Review,* 48 (April): 365-372.

Crites, S. L., L. R. Fabrigar, and R. W. Petty (1994). "Measuring the Affective and Cognitive Properties of Attitudes: Conceptual and Methodological Issues." *Personality & Social Psychology Bulletin,* 20: 619-634.

Cunningharn, W. H., W. T. Anderson, and J. M. Murphy (1974). "Are Students Real People?" *Journal of Business,* 47 (July): 399-409.

Davis, F. D. (1986). *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*. Sloan School of Management, Massachusetts Institute of Technology.

Desmond, M. H. P., and A. Steward (2002). "An Exploratory Investigation of Attitude toward the Website and the Advertising Hierarchy of Effects." Proceedings of the Eighth Australian World Wide Web Conference, Queensland, Australia.

DeVellis, R. F. (1991). *Scale Development.* Newbury Park, CA: Sage Publications.

DiGirolamo, G. J., and D. L. Hintzman (1997). "First Impressions are Lasting Impressions: A Primacy Effect in Memory for Repetitions." *Psychonomic Bulletin & Review* 4 (1): 121-124.

Ditmer, P. R., and G. Fgriffin (1994). *Principles of Food, Beverage and Labor Cost Control for Hotels and Restaurants.* New York, NY: Von Nostrand Reinhold.

Doney, P., and J. P. Cannon (1997). "An Examination of the Nature of Trust in Buyer-Seller Relationships." *Journal of Marketing,* 61 (April): 35-51.

Drèze, X., and F. Zufreden (2004). "The Measurement of Online Visibility and Its Impact on Internet Traffic." *Journal of Interactive Marketing,* 18 (1): 20-37.

Ducoffe, R. H. (1996). "Advertising Value and Advertising on the Web." *Journal of Advertising Research,* 36 (5): 21-35.

Enis, B. M., K. K. Cox, and J. E. Stafford (1972). "Students as Subjects in Consumer Behavior Experiments." *Journal of Business Research,* 9 (February): 72-74.

Finberg, H., Stone, H., & Lynch, D. (2001). Digital Journalism Credibility Study. http://www.journalists.org/Programs/credibility_study.pdf.

Fiske, S. T., and S. E. Taylor (1991). *Social Cognition: Social Categories and Schemas*. New York, NY: McGraw-Hill, Inc.

Fogg, B. J. (1999). "Persuasive Technologies." *Communications of the ACM,* 42 (5): 27-29.

——— (2003). *Persuasive Technology: Using Computers to Change What We Think and Do.* CA: Morgan Kaufmann Publishers.

Fogg, B. J., & Tseng, H. (1999). The Elements of Computer Credibility. Proceedings of ACM CHI 2004 Conference on Human Factors in Computing Systems, New York, April.

Fogg, B. J., T. Kameda, J. Boyd, J. Marshall, R. Sethi, M. Scockol, and T. Trowbridge. (2002). Stanford Makovsky Web Credibility Study 2002: Investigating What Makes Web Sites Credible Today. http://captology.stanford.edu/pdf/Stanford-MakovskyWebCredStudy2002-prelim.pdf.

Fogg, B. J., J. Marshall, O. Laraki, A Osipovich, C. Varma, N. Fang, P. Jyoti, A. Rangnekar, J. Shon, P. Swani, and M. Treinen (2001). What Makes A Web Site Credible?: A Report on a Large Quantitative Study. Proceedings of ACM CHI 2004 Conference on Human Factors in Computing Systems, New York, April.

Gardner, P. (1995). "Measuring Attitudes to Sciences: Unidimensionality and Internal Consistency Revisited." *Research in Science Education,* 25: 283-289.

Gladwell, M. (2005). *Blink: The Power of Thinking without Thinking*. Little, Brown & Company.

Goodwin, N. C. (1987). "Functionality and Usability." *Communications of the ACM,* 30 (3): 229-233.

Gouldner, A. W. (1960). "The Norm of Reciprocity: A Preliminary Statement." *American Sociological Review,* 25 (2): 61-178.

Gretzel, U. (2004). *Consumer Responses to Preference Elicitation Processes in Destination Recommendation Systems*. Communication, University of Illinois, Urbana-Champaign.

Gretzel, U., and D. R. Fesenmaier (2007). "Persuasion in Recommender Systems." *International Journal of Electronic Commerce,* 11 (2): 81-100.

Gretzel, U., Y. Yuan, and D. R. Fesenmaier (2000). "Preparing for the New Economy: Advertising and Change in Destination Marketing Organizations." *Journal of Travel Research,* 39 (2): 146-156.

Han, J., and J. E. Mills (2006). "Zero Acquaintance Benchmarking at Travel Destination Websites: What is the First Impression that National Tourism Organizations Try to Make?" *International Journal of Tourism Research,* 8 (6): 405-430.

Haugtvedt, C. P., and D. T. Wegener (1994). "Message Order Effect in Persuasion: An Attitude Strength Perspective." *Journal of Marketing Research,* 17 (3): 294-306.

Heshan, S., and P. Zhang (2006). "Causal Relationships between Perceived Enjoyment and Perceived Ease of Use: An Alternative Approach." *Journal of Association for Information Systems,* 7 (9): 618-645.

——— (forthcoming). "Applying Markus and Robey's Causal Structure to Examine User Technology Acceptance Research: A New Perspective." *Journal of Information Technology Theory and Application.*

Huang, G., and V. Trifts (2000). "Consumer Decision Making in Online Shopping Environments: The Effects of Interactive Decision Aids." *Marketing Science,* 19 (1): 4-21.

Huang, M-H. (2005). "Web Performance Scale." *Information & Management,* 42: 841-852.

Hwang, Y., U. Gretzel, Z. Xiang, and D. R. Fesenmaier (2006). "Information Search for Travel Decisions." In *Destination Recommendation Systems: Behavioral Foundations and Applications,* edited by R. D. Fesenmaier, H. Werthner, and K. W. Wöber. Cambridge, MA: CAB International, pp. 3-16.

Jang, S. (2004). "The Past, Present, and Future Research of Online Information Search." *Journal of Travel & Tourism Marketing,* 17 (2): 41-47.

Jarvenpaa, S. L., N. Tractinsky, and M. Vitale (2000). "Consumer Trust in an Internet Store." *Information Technology & Management,* 1 (1-2): 45-71.

Jee, J., and W. Lee (2002). "Antecedents and Consequences of Perceived Interactivity: An Exploratory Study." *Journal of Interactive Advertising,* 3 (1). http://jiad.org/vol3/no1/jee/index.htm.

Jeong, M., and C. U. Lambert (2001). "Adaptation of an Information Quality Framework to Measure Customers' Behavioral Intentions to Use Lodging Web Sites." *International Journal of Hospitality Management,* 20: 129-146.

Jones, E. E., and G. Goethals (1972). "Order Effects in Impression Formation: Attribution Context and the Nature of the Entity." In *Attribution: Perceiving the Cause of Behavior*,

edited by E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, and B. Weiner. Morristown, NJ: General Learning Press, pp. 27-46.

Kaiser, S. (2001). Your Web Site's First Impression Happens Only Once. http://skdesigns.com/newsletter/v2n2.shtml.

Kim, D., C. Morosan, and D. R. Fesenmaier (2006). "Playfulness on Web site Interactions: Why can't Travel Recommendation Systems Be Fun?" In *Destination Recommendation Systems: Behavioral Foundations and Applications,* edited by D. R. Fesenmaier, H. Werthner, and K. W. Wöber. Cambridge, MA: CAB International, pp.190-202.

Kim, D., A. M. Morrison, and J. E. Mills (2003). "Tiers or Tears? An Evaluation of the Web-based Marketing Efforts of Major City Convention Centres in the US." *Journal of Convention and Exhibition Management,* 5 (2): 25-49.

Kim, H., and D. R. Fesenmaier (2005). "Persuasive Design of Tourism Websites in the United States." Proceedings of the Annual Conference of the Travel and Tourism Research Association, Travel and Tourism Research Association, New Orleans, LA, July.

——— (2006). "First Impression and Persuasive Design in Destination Websites." Proceedings of the Annual Conference of the Travel and Tourism Research Association, Travel and Tourism Research Association, Dublin, Ireland, July.

——— (2007). " Persuasive Design of Tourism Websites in the United States." Proceedings of the Annual Conference of the Travel and Tourism Research Association, Travel and Tourism Research Association, Ljubljana, Slovenia, July.

Kim, J., and J. Moon (1998). "Designing towards Emotional Usability in Customer Interfaces: Trustworthiness of Cyber-banking System Interfaces." *Interacting with Computers,* 10: 1-29.

Kuan, H. H., G-W. Bock, and V. Vathanophas (2005). "The Effects of Usability on Consumer Conversion and Retention at E-commerce Websites." Proceedings of the Hawaii International Conference on System Sciences, Hawaii, December.

LaGaipa, J. J. (1977). "Interpersonal Attraction and Social Exchange." In *Theory and Practice in Interpersonal Attraction,* edited by S. D. Duck. London: Academic Press, pp. 129-164.

Lamb, C. W., and D. E. Stem (1979). "An Evaluation of Students as Surrogates in Marketing Studies." *Advances in Consumer Research,* 7: 796-799.

Large, A., J. Beheshti, and H. Moukdad (1999). "Information Seeking on the Web: Navigational Skills of Grade-Six Primary School Students." Proceedings of the Annual Meeting of the Association for Information Science Annual Conference. November.

Levene, M. (2006). *An Introduction to Search Engines and Web Navigation.* England: Addison-Wesley.

Lindgaard, H., G. Fernandes, C. Dudek, and J. Brown (2006). "Attention Web Designers: You Have 50 Milliseconds to Make a Good First Impression!" *Behavior & Information Technology,* 25 (2): 115-126.

Lohse, G. L. (1997). "Consumer Eye Movement Patterns on Yellow Pages Advertising." *Journal of Advertising,* 26 (1): 61-73.

Loiacono, E., R. Watson, and D. Goodhue (2002). "WebQual(tm): A Web Site Quality Instrument." Proceedings of Marketing Educators' Conference, Austin, TX, August.

Long, M. L., and L. Chiagouris (2006). "The Role of Credibility in Shaping Attitudes toward Nonprofit Websites." *Internaitonal Journal of Nonprofit Volunt Sector Market,* 11: 239-249.

Luchins, A. S. (1957). "Primacy-Recency in Impression Formation." In *The Order of Presentation in Persuasion.* edited by C. I. Hovland. New Haven, CT: Yale University Press, pp. 33-61.

Lund, F. H. (1925). "The Psychology of Belief, The Law of Primacy in Persuasion." *Journal of Abnormal & Social Psychology,* 69: 381-391.

Luo, X. (2002). "Uses and Gratification Theory and E-consumer Behaviors: a Structural Equation Modelling Study." *Journal of Interactive Advertising,* 2 (2): 4-26.

Machlis, S. (1988b). "Believe It or Not, Web Stores Can Make Money." *Computerworld,* 32 (20): 4.

Marchionini, G. (1995). *Information Seeking in Electronic Environments.* Cambridge, United Kingdom: Cambridge University Press.

McQuarrie, E., and J. Munson (1991). "A Revised Product Involvement Inventory: Improved Usability and Validity." *Advances in Consumer Research.* 19: 108-115.

Miller, J. E. (1980). *Menu Pricing and Strategy.* Boston, MA: CBI Publishing.

Miller, N., and D. T. Campbell (1959). "Recency and Primacy in Persuasion as a Function of the Timing of Speeches and Measurements." *Journal of Abnormal & Social Psychology,* 59: 1-8.

Miller, T. E. (1996). "Segmenting the Internet." *American Demographics,* 18 (8): 48-52.

Mitchell, A. A. (1979). "Involvement: A Potentially Important Mediator of Consumer Behavior." *Advances in Consumer Research,* 6: 191-196.

Morrison, A. M., J. O'Leary, and L. A. Cai (2001). "Predicting Usage of the Internet for Travel Bookings: An Exploratory Study." *Information Technology & Tourism,* 4: 15-30.

Morrison, A. M., J. S. Taylor, and A. Douglas (2004). "Website Evaluation in Hospitality and Tourism: The Art Is Not Yet Stated." *Journal of Travel & Tourism Marketing,* 17 (2/3): 233-251.

Murphy, J., C. Hofacker, and R. Mizerski (2006). Primacy and Recency Effects on Clicking Behavior. *Journal of Computer-Mediated Communication,* 11 (2), http://jcmc.indiana.edu/vol11/issue2/murphy.html.

Murphy, P. K., J. F. Long, T. A. Hollerana, and E. Esterly (2003). "Persuasion Online or On Paper: A New Take on an Old Issue." *Learning and Instruction,* 13: 511-532.

Na, L., and P. Zhang (2002). "Consumer Online Shopping Attitudes and Behavior: An Assessment of Research." Proceedings of the Americas Conference on Information Systems, Association for Information Systems, Dallas, TX, August.

Nickerson, R. S. (1998). "Confirmation Bias: A Ubiquitous Phenomenon in Many Guises." *Review of General Psychology,* 2: 175-220.

Nielson, J. (2000). *Designing Web Usability: The Practice of Simplicity.* Indianapolis, IN: New Rivers Publishing.

Nielson Media (2006). Search Engines Most Popular Method of Surfing the Web. http://www.commerce.net/news/press/0416.html.

Pan, B., and D. R. Fesenmaier (2006). "Travel Information Search and Navigation on the Internet." In *Travel Destination Recommendation Systems: Behavioral Foundations and Applications,* edited by D. R. Fesenmaier, H. Werthner, and K. W. Wöber. Oxfordshire: CABI publishing, pp. 30-44.

Pandir, M., and J. Knight (2006). "Homepage Aesthetics: The Search for Preference Factors and the Challenges of Subjectivity." *Interacting with Computers,* 18 (6): 1-20.

Perfetti, C. (2005). Five-Seconds Tests: Measuring Your Site's Content Pages. http://www.uie.com/articles/five_second_test.

Petty, R. E., and J. T. Caccippo (1981). *Attitudes and Persuasion: Classic and Contemporary Approaches.* Dubuque: Westview Press.

Ramsey, L. (2004). How to Seal the Deal in Seven Seconds. http://www.jobbankusa.com/CareerArticles/Personal_Aspects/ca80304b.html.

Rieh, S. Y. (2002). "Judgment of Information Quality and Cognitive Authority in the Web." *Journal of the American Society for Information Science & Technology,* 53 (2): 145-161.

Rothschild, M. L. (1984). "Perspectives on Involvement: Current Problems and Future Directions." *Advances in Consumer Research,* 11: 216-217.

Sandhu, K., and B. J. Corbitt (2002). "Assessing Web-based E-Services Adoption Model (E-SAM)." Proceedings of the *European Conference on Information Systems,* Naples, Italy, June.

Scioli, A., & Averill, J. R. (1998). "Emotion and Cognition." In *Encyclopaedia of Mental Health,* edited by H. S. Friedman. New York: Academic Press.

Slone, D. J. (2002). "The Influence of Mental Models and Goals on Search Patterns During Web Interaction." *Journal of the American Society for Information Science & Technology,* 53 (13): 1152-1169.

Smith, A. G. (1996). Criteria for Evaluation of Internet Information Resources. http://www.vuw.ac.nz/~agsmith/evaln/index.htm.

Straub, D. (1989). "Validating Instruments in MIS Research." *MIS Quarterly,* 13 (2): 147-169.

Stromer-Galley (2004). "Interactivity as Process and Interactivity as Product." *The Information Society,* 20 (5): 391-394.

Tapscott, D., and A. D. Williams (2006). *Wikinomics: How Mass Collaboration Changes Everything*. New York, NY: Portfolio Hardcover.

Thrash, T. M., and A. J. Elliot (2003). "Inspiration as a Psychological Construct." *Journal of Personality & Social Psychology,* 84: 871-889.

Travel Industry Association (2005). Domestic Travel Market Report: Travel Industry Association.

Venkatesh, V., and M. G. Morris (2000). "Why Don't Men Every Stop to Ask for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage." *MIS Quarterly,* 24 (1): 115-139.

Wang, P., W. B. Hawk, and C. Tenopir (2000). "Users' Interaction with World Wide Web Resources: An Exploratory Study Using a Holistic Approach." *Information Processing & Management,* 36 (2): 229-251.

Wang, S., S. E. Beatty, and W. Foxx (2004). "Signalling the Trustworthiness of Small Online Retailers." *Journal of Interactive Marketing,* 18 (1): 53-69.

Wang, Y., Y. Hwang, and D. R. Fesenmaier (2003). "Assessing Web-based Marketing Strategies in the U.S. Tourism Industry: Current Status and Future Trends." Proceedings of the Annual Conference of the Travel and Tourism Research Association, Travel and Tourism Research Association, St. Louis, Missouri. July.

Werther, H., and S. Klein (1999). *Information Technology and Tourism - A Challenging Relationship*. Wien, NY: Springer-Verlag.

Widyantoro, D. H., and J. Yen (2001). "A Fuzzy Ontology-Based Abstract Search Engine and Its User Studies." Proceedings of the International Conference on Fuzzy Systems, Melbourne, Australia, December.

Winter, S. J., C. Saunders, and P. Hart (2003). "Electronic Window Dressing: Impression Management with Websites." *European Journal of Information Systems,* 12 (4): 309-322.

Wöber, K. (2006). "Domain Specific Search Engines." In *Travel Destination Recommendation Systems: Behavioral Foundations and Applications*, edited by D. R. Fesenmaier, H. Werthner, and K. Wöber: CAB International, pp. 205-226.

Xiang, Z., and D. R. Fesenmaier (2006). "Assessing the Initial Step in the Persuasion Process: Meta Tags on Destination Marketing Websites." Information Technology & Tourism, 8 (2): 91-104.

Xiang, Z., S. E. Kim, H. Clark, and D. R. Fesenmaier (forthcoming). "Language Representation of Restaurants: Implications for Developing Online Recommendation Systems." *International Journal of Hospitality Management*.

Yang, X., A. Zafar, M. Ghingold, G. Boon, T. Mei, and L. Hwa (2003). "Consumer Preferences for Commercial Web Site Design: An Asia-Pacific Perspective." *Journal of Consumer Marketing,* 20 (1): 10-27.

Zach, F., Z. Xiang, and D. R. Fesenmaier (2007). "An Assessment of Innovation in Web Marketing: Investigating American Convention and Visitors Bureaus." Proceedings of the ENTER conference, Ljubljana, Slovenia, December.

Zaichkowsky, J. L. (1985). "Measuring the Involvement Construct." *Journal of Consumer Research*, 12 (December): 341-352.

Zhang, P., and G. Von Dran (2001). "User Expectations and Rankings of Quality Factors in Different Web Site Domains." *International Journal of Electronic Commerce*, 6 (2): 9-33.

Zhang, P., G. von Dran, R. Small, and S. Barcellos (2000). "A Two-Factor Theory for Website Design." Proceedings of the Hawaii International Conference on Systems Science, Hawaii, January.

Zhao, Z. (1997). "Clutter and Serial Order Redefined and Retested." *Journal of Advertising Research*, 72 (2): 89-104.

FIGURE 1. THE PROCESS OF INFORMATION SEARCH USING THE INTERNET

FOR TRAVEL PLANNING
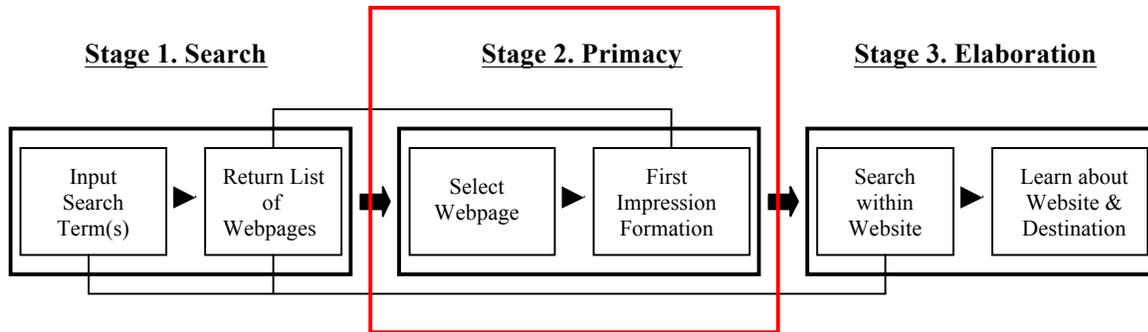
FIGURE 2. FACTORS AFFECTING THE PERSUASIVENESS OF DESTINATION

WEBSITES
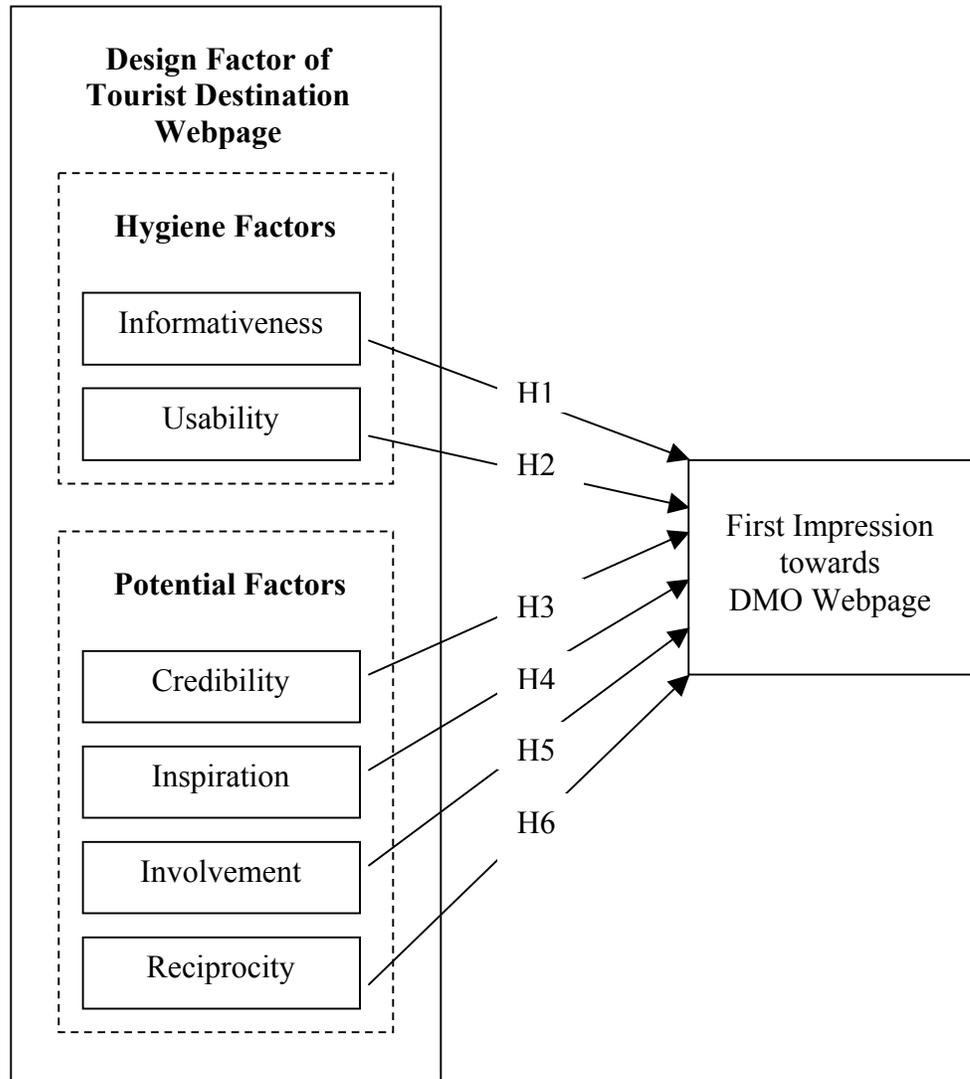
TABLE 1. ITEMS RELATED TO DESIGN FACTORS IN DESTINATION WEBPAGES

			Items
			The destination homepage …..
Hygiene Factors	Informativeness	INFO1	provides a variety of information.
		INFO2	provides useful information.
		INFO3	provides up-to-date information
	Usability	USE1	is easy to understand.
		USE2	is easy to use.
		USE3	helps me to easily find the information I need.
Potential Factors	Credibility	CRED1	is trustworthy.
		CRED2	Represents a tourism information provider I can trust.
		CRED3	Represents a tourism office that will keep its promises.
	Inspiration	INSP1	represent the destination in an appealing way.
		INSP2	helps me to be imaginative about the destination.
		INSP3	inspires me to visit the destination.
	Involvement	INV1	is highly interactive.
		INV2	helps me become involved in planning my trip.
		INV3	is enjoyable/fun to plan my trip.
	Reciprocity	RECP1	offers travel brochures I like to request.
		RECP2	enables me to directly contact the tourism office.
		RECP3	provides helpful customer service.
		RECP4	enables me to register for special offers, newsletter, personalization, etc.

TABLE 2. COMPLETION RATES OF DESTINATION WEBPAGE DESIGN

CONSTRUCTS

Construct	Items in Scale	Percentage of Completion
Informativeness	INFO1	95.1%
	INFO2	88.3%
	INFO3	54.2%
Usability	USE1	88.2%
	USE2	85.6%
	USE3	91.2%
Credibility	CRED1	70.9%
	CRED2	51.1%
	CRED3	50.0%
Inspiration	INSP1	93.5%
	INSP2	92.9%
	INSP3	94.6%
Involvement	INV1	82.8%
	INV2	76.9%
	INV3	77.1%
Reciprocity	RECP1	59.5%
	RECP2	48.4%
	RECP3	39.9%
	RECP4	43.4%

TABLE 3. MEASUREMENT PROPERTIES OF SCALES

Construct	Items in Scale	Internal Consistency	Unidimensionality	
		Cronbach's Alpha	Factor Loading	Variance Explained
Informativeness		.79		70.4%
	INFO1		.85	
	INFO2		.87	
	INFO3		.80	
Usability		.86		77.4%
	USE1		.89	
	USE2		.87	
	USE3		.88	
Credibility		.85		76.8%
	CRED1		.85	
	CRED2		.89	
	CRED3		.89	
Inspiration		.91		84.6%
	INSP1		.92	
	INSP2		.93	
	INSP3		.91	
Involvement		.82		74.1%
	INV1		.88	
	INV2		.85	
	INV3		.85	
Reciprocity		.85		68.5%
	RECP1		.80	
	RECP2		.84	
	RECP3		.85	
	RECP4		.82	

TABLE 4. DESCRIPTIVE STATISTICS OF DESTINATION WEBPAGES

Construct	Sample Size	Mean	S.D.	Range
1. Informativeness	766	3.69	.79	2.90 – 4.48
2. Usability	1184	3.67	.87	2.80 – 4.54
3. Credibility	592	3.50	.77	2.73 – 4.27
4. Inspiration	1306	3.31	1.09	2.22 – 4.40
5. Involvement	969	3.48	.88	2.60 – 4.36
6. Reciprocity	350	3.53	.86	2.67 – 4.39

Note. ** Correlation is significant at the .01 level (two-tailed).

TABLE 5. MULTIPLE REGRESSION RESULTS

Dependent variable	Overall impression towards a tourism destination webpage formed within seven seconds of interaction					
Goodness of fit						
Multiple R = .870, R^2 = .757, Adjusted R^2 = .750, SE = .439						

Analysis of variance	*df*	Sum of Squares	Mean Square			
Regression	6	126.848	21.141			
Residual	211	40.753	.193			
F = 109.461						
Significant F = .000						

Independent variable	B	*SE* B	Beta	*T*	Sig.	Tolerance Value
Inspiration	.30	.08	.30	6.04	.00**	.465
Usability	.26	.09	.24	3.00	.00**	.182
Credibility	.16	.08	.14	2.08	.04*	.244
Informativeness	.15	.09	.14	1.72	.09	.165
Involvement	.13	.08	.12	1.55	.12	.193
Reciprocity	.03	.08	.03	.35	.70	.209
Constant	-.11	.14		-7.33	.46	

Note: * significant at p < .05, ** significant at p < .01