TRAVEL DECISION FLEXIBILITY

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ABSTRACT

This study builds on previous research examining the concept of travel decision flexibility based on theories related to adaptive decision making which argue that travelers perceive different levels of flexibility depending on the trip-related decision. The results of this study indicate that there are two distinctive two types of decision flexibility which are related to the timing and components of the trip: Pre-trip and En-route flexibility. The constructs are examined for their external validity using several travel situational factors including number of alternatives, prior knowledge, length of stay, planning horizon, and types of travel groups. These findings are important in that they help us to understand better the underlying structure and characteristics of travel decision, and in turn, help us identify potential ways to design more effective information delivery systems using information technology.

Key words: Travel decision making, adaptive behavior, decision flexibility

Introduction

Travel decision making has been a research focus for many years (Decrop & Snelders, 2005; Hyde & Lasser, 2009; Jeng & Fesenmaier, 2002; Sirakaya & Woodside, 2005). Tourism scholars have contributed to our understanding of how travelers make their decisions using a number of lens including economics, psychology and geography, and have resulted in a number of theories including information-processing theory (Crotts, 1999), choice-set theory (Mansfield, 1992), attitude theory (Ajzen, 1991), and ecological systems theory (Woodside, Caldwell, & Spurr, 2006). These models are largely based upon the assumption that travelers are rational and seek to maximize satisfaction through thorough planning the various aspects of their trip. However, Bettman, Johnson, and Payne (1991), among others, argue that consumers display a great deal of flexibility in their decision making process whereby individuals use a variety of decision strategies depending upon the task environment (e.g., characteristics of decision problems and social contexts). Within the context of travel, Stewart and Vogt (1999) proposed a theory of case-based vacation planning where they argue that due to uncertainty of the travel products, travelers expect and prepare for contingencies within the overall trip itinerary. More recent studies that build on this basic notion include March and Woodside (2005) and Hwang and Fesenmaier (2011) wherein they show that trips involve a multiplicity of partial decisions (for example, destinations, travel party, budget, and accommodations) which are largely made following a dynamic, successive, and multistage contingent process (Jeng & Fesenmaier, 2002). Based upon this literature, it can be concluded that travelers use different heuristics depending upon the perceived importance of the trip decisions and the degree to which they are (or can be) responsive (or flexible) to changes in travel plans.

This adaptive model of travel decision making is important in that it provides insight into how travelers develop strategies to manage the complexity of a trip and gains even

greater accuracy as travelers adapt to a new and dynamic information environment afforded by mobile technology. Indeed, recent research by Gretzel, Fesenmaier, and O'Leary (2006), MacKay and Vogt (2012), Wang, Park, and Fesenmaier (2012) and Tussyadiah and Zach (2012) indicates that information technology significantly transforms travel behavior increasing travelers' flexibility in their timing and location choices. For example, systems such as GPS, online mapping, and on-the-go recommendation services (e.g., Yelp) offer the potential for travelers to bypass the spatial constraints of previous experience/knowledge and existing social networks resulting in change to their already planned choices. However, despite the importance of the potential impact of these responses to new technology, little research has been conducted focusing on understanding how and the degree to which individuals are adaptive or willing to adjust their trip plans.

Within this context, the goals of this study are to first identify and define the concepts that underlie the notions of trip flexibility; a second goal is to evaluate the logic of these results through a series of external validity checks; finally, analyses are conducted to identify the extent to which travelers are willing to negotiate both pre-trip and en route aspects of their trip.

Flexibility in Consumer Decision Making

A number of consumer behavior studies have examined the notion of decision flexibility (or adaptive behavior) using one of two approaches. The first approach defines flexibility as attribute of the individual while the second approach defines flexibility as a situational characteristic. Specifically, the personality trait stream of the research defines individual flexibility is an attribute of one's personality which is reflected in their proactiveness and a tolerance of ambiguity (e.g., Bing & Lounsbury, 2000; Connor, 1992; Raudsepp, 1990; Rhinesmith, 1993; Ronen, 1989). A leading article in this area of research is

Connor (1992), who argued that a flexible person has a sense of being empowered during change, believes the change to be manageable, adapts one's own assumptions, and needs a short time to recover from adversity; also, he argued that flexible people do not see environment as something to which they should passively respond, but as something they actively shape. In contrast, less flexible people, tend to see changes or challenges in the environment as threats rather than opportunities, and have little openness to the new, the unexpected, or the unpredictable.

The second research stream considers situation-based flexibility as people's preference, appraisal of uncertainty, and choices which can be influenced by changes in the task environment. The literature focusing on situational flexibility is largely based on Belk's (1974; 1975) taxonomy suggesting that decision context can be described by a specific time, place, physical surroundings, social settings, time and antecedent states (e.g., moods and physical conditions) and explains better the variation in consumer response. The underlying idea of situational flexibility is that preference judgments, appraisal of uncertainty, and choices among all of the alternative courses can be influenced by the task environment.

Following Belk (1974, 1975), Park and Lutz (1982) examined the dynamics of consumer choice and distinguished a three-stage contingency decision plan that consist of pre-search, after-search, and post-choice processes. The results of this research indicate that decision criteria used at an earlier decision state may be replaced by other decision criteria at a later stage due to learning during search and deliberation periods. More recently, Payne, Bettman, and Johnson (1993) proposed a model of adaptive decision making where it is assumed that decision makers are highly flexible and adaptive to their task environment. In particular, they argue that individuals tend to use a variety of decision strategies depending upon the problem. For example, a decision maker will tend to prioritize things that need to be

done and make decisions regarding the allocation of available resources based on their perceived importance, and resolve the complexity using a sequential decision process. Importantly, the resolution process is generally a "time-phased" structure or hierarchy where the degree of adaptivity is highly related to the centrality (i.e., importance) and rigidity of beliefs and attitudes towards a decision object at a particular point of time (Benjaafar, Mortin, & Talavage, 1995).

Adaptive behavior has also be explained by variety seeking behavior arguing that consumers' tastes change over time or that consumers may not know which alternatives they will prefer at the specific time (Kahn, 1995; Guo, 2010; Walsh, 1995). Hence, consumers are likely to "take actions now that maintain future options for acting when future preferences are clear" (March, 1978). Kahn and Lehmann (1991) provide empirical evidence consistent with the idea that consumers prefer flexible over inflexible choices whereby the uncertainty about future consumption utility exists and consumers make a conscious effort to ensure the uncertain utility of alternatives (Guo, 2006; Hauser & Wernerfelt, 1990; Simonson, 1990; Xie & Shugan, 2001). Thus, the results of consumer research suggests that decision flexibility as a context variable is a central aspect of behavior either because the consumer wants to avoid decision conflict or because the consumer is uncertain in terms of preferences, and therefore puts off the ultimate choice (Simonson, 1990).

Flexibility in Travel Decisions

Tourism researchers have also examined flexibility in travel decisions, which is defined as travelers' willingness to change their trip made in the early stages of their trip planning effort (Decrop & Snelders, 2004; Hwang & Fesenmaier, 2011; Hyde & Laesser, 2009; Jeng & Fesenmaier, 2002; March & Woodside, 2005). This research suggests that flexibility in travel decision making reflects the level of centrality of the travel decision (e.g.,

destination, timing, travel party, overnight accommodations, attractions to visit, etc.) along with the continuum of salience, the degree of commitment, the amount of time a person spends thinking about it, and the level of uncertain utility for future consumption. Flexibility also can be seen as the degree to which a travel decision is planned in that travelers do not always "plan" or "commit to" every aspect of the trip in advance; thus, the "rigidity" of a trip itinerary varies from one facet or component of the trip to another, and from one person to another (Jeng, 2000; Jeng & Fesenmaier, 2002; March & Woodside, 2005). In the same vein, Decrop and Snelders (2004) found that travelers who are likely to be highly adaptable tend not to have well defined decision criteria and destination preference. The flexible travelers are open to numerous alternatives and likely to rely on incidental learning (or information search) than intentional learning process.

The current study builds upon this research and argues that travelers tend to develop different travel choice strategies (i.e., the levels of flexibility in this study) depending upon the trip decision and the stage of the travel decision-making process. Hyde and Laesser (2009) found that travelers assign different perceived importance on the different stages of decisions, and the level of importance is associated with the level of behavioral adaptivity (or flexibility to change). This argument is correspondent with the view of situation-based flexibility in the consumer study. That is, the multi-travel facets reflect different tasks containing different levels of importance and complexity, which require travelers to put different cognitive efforts (i.e., the decision strategies). Woodside and MacDonald (1994) suggest that every choice of tourism related products/services is interdependent to some degree on the basis of the sequential process. Likewise, Fesenmaier and Jeng (2000) proposed a multistage hierarchical trip decision net model consisting of core, secondary and en-route decisions. *Core* decisions are usually planned ahead and of time in details, such as travel budget, length of trip, travel party, primary destination, and accommodation; *secondary* decisions are tentative and remain

flexibility to accommodate the possibility of the changes including activities, attractions, and trip route; and, *en route* decisions are largely flexible and considered during the trip (e.g., gifts/souvenirs purchasing, rest stops, food stops, and shopping) (March & Woodside, 2005). Hyde (2004), and Decrop and Snelders (2005) suggest that there may exist a plurality of vacation decision-making processes. For example, the decision made before departure (e.g., primary destination) can be explained by a typical decision process (deliberate, purposeful, and reasoned), but the decisions made while on vacation (e.g., restaurants for dining and shopping places) might be characterized by a less deliberate and rather simplistic decision process. Thus, it can be argued that all the subdecisions have different roles and display the different levels of flexible to change; hence, core and second decisions are less flexible and more planned ahead than en-route decisions (Jeng & Fesenmaier, 2002).

Hypothesis 1a: Travelers have different levels of perceived flexibility on the travel decisions (i.e., destinations, accommodations, places/attractions, restaurants and shopping stores)
Hypothesis 1b: Travel decision flexibility consists of two dimensions (i.e., Pre-trip and En-route flexibility).

Research by March and Woodside (2005) indicates that the degree to which planned and actual trip itineraries match varies significantly according to contingency variables, such as tourist group, product experience and travel motivation. Based upon this research, Gretzel, Hwang, and Fesenmaier (2012) recently proposed a framework that emphasizes the importance of situational needs/constraints (e.g., travel party, length of trip, knowledge etc.) in defining the frame within which a trip is planned. Thus, it is posited that perceived decision flexibility differs significantly by trip component (i. e., travel party, timing, destination, etc.), and that the decision flexibility for each trip component is conditioned by

several situational factors including the number of alternatives, knowledge of the destination and the nature of travel party; each of these situational factors is briefly discussed below.

Flexibility and the Number of Alternatives

A number of studies indicate that choice strategy is affected by the number of alternatives considered whereby information acquisition becomes more attribute-based as the number of alternatives increases (Payne & Braunstein, 1978; Shields, 1980). For example, Payne et al. (1993), Wright and Barbour (1975) and Walsh (1995) confirm that a decision maker intuitively recognizes that a large number of potential choices raise his or her chance for an optimal choice. Studies by Reibstein, Youngblood, and Fromkin (1975), Kahn, Moore, and Glazer (1987) and Broniarczyk, Hoyer and McAlister (1998) further indicate that perceived flexibility increases as the number of options in the choice set increases because consumers can experience additional utility from multiple items in the choice set. Lastly, Kahn and Lehmann (1991) found a positive relationship between preferences for an assortment of items.

Flexibility and Product Knowledge

Studies also indicate that knowledge influences the range of alternatives considered. Within the context of tourism, this research suggests that the greater knowledge travelers about the various aspects of the trip being planned, the greater the number of alternatives being considered. Further, knowledge about a specific travel product plays an important role with regard to how the product is categorized during the decision-making process because a traveler can be aware of how well it could perform (i.e., the expected utility) when it is selected as a travel consumption (Woodside & Lysonski, 1989). Thus, it can be argued that travelers who are knowledgeable about a destination (or other travel products within the

overall trip plan) are more able/willing to change/modify their decisions because the opportunity cost of deferring their decisions is smaller than for novice (or less experienced) travelers (Oppermann, 1992; Decrop, 2006; Hwang & Fesenmaier, 2011).

Flexibility and Travel Party Composition

Travel party composition also substantially effects adaptive behavior in a number of ways. Importantly, studies indicate that travel parties differ substantially in terms of risk perceptions (McKercher, 1998; Zeithaml, 1981). Roehl and Fesenmaier (1992) and more recently, Thornton, Shaw, and Williams (1997) found that travel groups with children are likely to complete their itinerary including accommodations before departure, and are not willing to change them as they have a higher level of uncertainty avoidance compared to those excluding children. So and Lehto (2007) also found that the benefits sought and travel activities differed substantially between those traveling with friends, with family, and alone, and found that those travel groups which included friends are more likely to be active and focused on social engagement and, as such, tend to be more flexible to changes in their activity choices. Crompton (1981), Jeng and Fesenmiaer (2002), and Sirakaya and Woodside (2005) also show that the size of group is an important factor that influences what product/destination will be chosen; in particular, this research indicates that as the number of travel party increases, the number of travel needs increase and in turn, number of alternatives considered increases.

Hypothesis 2: Travel decision flexibility has significant relationships with travel-related situational factors

Methodology

This study examines trip flexibility within the context of American travelers to plan a pleasure trip to Chicago, Illinois as a main tourism destination. The travelers who have seen, read, and/or heard the Chicago tourism advertising are contacted to invite this research in that those people are familiar to the destination and likely to be involved in planning a trip to Chicago. Chicago as a focal point for the study was selected for two reasons including: (1) Chicago is one of the most popular and well-known destinations so that people can easily respond their travel behaviors. Choose Chicago (2010) reported Chicago Travel Statistics that there are approximately 37 million visitors per year between 1998 and 2010, and (2) Chicago includes a variety of natural and cultural attractions which offers diverse opportunities instead of being dominated by a small number of big attractions, and thus facilitates diversified spatial behaviors.

The population of this study is comprised of American travelers who contacted the advertising company and/or official destination websites to obtain travel information and who reside in the Midwest United States (i.e., Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin). It is important to concern that the previous studies in tourism conclude that the travel distance influences traveler's information processing (Park, Nicolau, & Fesenmaier, 2013) and in turn, travel decision making process (Ankomah, Crompton, & Baker 1996; Sirakaya & Woodside, 2005). Accordingly, this study targets people who reside in geographically identical regions (i.e., the Midwest), in order to reduce the confounding effect (or errors) on the result that could be generated from the sampling method. Then, respondents are asked to imagine a pleasure trip to Chicago within next 12 months so as to simulate the travel planning process and then respond to a survey. The data set was obtained during the summer season in 2012 based upon an initial survey effort that includes a cover letter at the first page, explaining the purpose of this current research project

and the research setting to facilitate respondents conducting the survey. In order to maximize the response rate, two reminders were sent after an initial invitation along with the URL of the survey. Additionally, an incentive to encourage in responding to survey was provided by a way of a drawing.

The survey was organized into three sections. The first section asked a series of general questions about their previous travel experience such as number of trips in the last 12 months, prior knowledge (or knowledge uncertainty), and attitude toward Chicago destination. To assess product knowledge, this study used the measurements of knowledge uncertainty that refers to the extent to which consumer's knowledge about products is enough to judge the products and execute reasonable product comparisons in the decision-making process. The questions were adapted from Urbany, Dickson, and Wilkie (1989). The next set of questions invites respondents to imagine a pleasure trip to Chicago and then asks a series of questions regarding their willingness to change aspects of trip including additional destinations, overnight accommodations, the places or attractions to visit, restaurants and shopping stores. A number of fundamental tourism articles for the decision making have constantly argued that the choices of travel facets are multiplicity, and developed the main 'choice sets' that include destination, activity, accommodation, attraction, shopping, eating, and travel model/route (see Fesenmaier & Jeng, 2000; Woodside & King, 2001; Woodside & MacDonald, 1994). This research, however, did not consider the travel route because the types of travel mode/route would be homogenous due to the characteristics of the sample resided in the Middlewest area. Hyde (2004) suggest that based upon the statement that many vacations include multi-destinational, or touring in nature (Lue, Crompton, & Fesenmaier, 1993), a model of travel decision making should take into account not only the primary destination but also the choice of the secondary destinations. The research by Hyde (2000) shows evidence where a plan to visit a series of secondary destinations is formulated before

commencing the trips. Thus, this current study asked the choice of secondary destinations to respondents in the section of the survey questions about decision flexibility. Other than the measurement about flexibility, the size of travel party, planning horizon, and length of trip are asked to the subjects following the work by Fesenmaier and Jeng (2000) and Hwang and Fesenmaier (2011). As part of this sequence, respondents were also asked to indicate potential alternatives they would consider for each of five travel components (Payne et al. 1993). The last section of the online survey included demographic questions regarding the gender, age, annual income, and number of persons that would be included in the hypothetical travel party.

It is important to recognize that there are some limitations to this approach in that this research used a hypothetical trip to Chicago as the basis to simulate the travel planning process. Also, because this trip is within driving distance to an 'attractive' destination within the United States, the specific nature of trip cannot be generalized to all trips. However, it is argued following Jeng and Fesenmaier (2002) and Stewart and Vogt (1999) that the respondents are reasonably able to assess their responses to changes to many (i.e., most likely) situations, and therefore they can provide reasonably consistent and accurate descriptions of their responses. Further, it is argued that the structural relationships between the respective responses/constructs will be consistent while their overall distribution may vary substantially by the fundamental nature of the trip; for example, one might expect that travelers are less willing (or able) to adapt to changes to more distant trips that require air travel, visas, and financial commitments prior to actual travel, etc.

An online survey method was used to collect data from American travelers, excluding people who live in the Chicago Metropolitan area. Several advantages of this approach include the ability to obtain response information from a large number of American travelers within a target population by using carefully designed questions (Fraenkel & Wallen, 1996)

as well as in the ability to obtain highly precise and reliable results by enforcing uniform definitions upon the participants and standardized questions, and by reaching remote locations (Burns, 2000). Further, the online survey method can help to minimize sampling error (i.e., sampling precision and size) because of the low cost, fast response, and wide accessibility of the Internet enabled researchers to send surveys to a large sample (Fricker & Schonlau, 2002; Hwang & Fesenmaier, 2004; Park & Fesenmaier, 2012). However, non-response bias could be problematic as response rates have declined substantially over the last decade and are often extremely low when using the Internet (Dolnicar, Laesser, & Matus, 2009; Park & Fesenmaier, 2012; Sheehan, 2001). Accordingly, non-response bias was tested using the wave difference approach which compares response patterns between different survey blasts (Crompton & Cole, 2001; Lankford, Buxton, Hetzler, & Little, 1995; Woodside & Ronkainen, 1984).

Data analysis followed a three-step process in order to address the research questions of this study. The first phase of the data analysis uses frequency analysis to identify profiles of respondents including information about demographic and travel behaviors. The descriptive results provide basic information identifying the respondents and their travel behaviors by indicating the frequency and proportion of the variables. The second phase implements two types of factor analyses (exploratory and confirmatory factor analysis) in order to identify the underlying structure of the constructs about flexibility and to test the validity and reliability of the flexibility constructs proposed. Then, a number of statistical tests (e.g., correlation, T-test, ANOVA and cross tabulation) were used to estimate the relationships between decision flexibility and various travel related variables.

RESULTS

Of the 34,447 American travelers who have received the invitations, 699 people answered the survey (about 2% response rate) and of them, 355 (51%) number of respondents have searched for Chicago travel information and completed all of questions in the survey. Thus, this study is based upon the 355 respondents for the following data analysis. Non-response bias error was assessed by comparing respondents who answered the survey in different time periods with regards to demographic and travel characteristics (Armstrong & Overton, 1976). Survey subjects were categorized into three groups: early, middle and late respondents. Early respondents (n = 148, 41.6%) are defined as people who participated in the survey after first blast; middle respondents (n = 105, 29.5%) are those who responded to the survey after second invitation, and the late respondents (n = 103, 28.9%) are persons who answered the online survey after third invitation. The results of the Chi-square analyses indicate that there are no significant difference between groups (p > .05) and therefore indicate that the risk of non-response bias is limited.

Table 1 presents a summary of demographic characteristics and travel behaviors of the survey respondents. Approximately 67 percent of respondents are female and over 90 percent are 30 years old or above. Annual household income seems to follow normal distribution whereby people who report annual income between $40,000 and $99,999 represent 59 percent of the sample; 56 percent of respondents report that they have 2 persons (age 18 and over) in their household, and 69.0 percent of them indicate they do not have any children under age 18 in their family; one third of respondents reside in Illinois (33.0%). In terms of travel characteristics, 45.3 percent of respondents have taken trips in the Midwest about 2 – 3 times, and 81 percent of the travelers indicated that they have visited Chicago at least once in the past 12 months.

[Insert Table 1 here]

A series of statistical analyses was conducted to assess the underlying structure of decision flexibility within the context of trip planning. Table 2 presents the descriptive results for the five travel related decisions included in the study. As proposed, the level of perceived flexibility on each trip component appears to vary depending on different travel attributes. Specifically, travelers tend to be the most flexible for their restaurant decisions (Mean = 4.23 and SD = 0.93), followed by shopping stores (Mean = 4.04 and SD = 1.08), the places/attractions to visit (Mean = 3.95 and SD = 0.84), additional destinations (Mean = 3.71 and SD = 0.97), and least in terms of their overnight accommodation choices (Mean = 3.14 and SD = 1.19). This result is consistent with Fesenmaier and Jeng (2000) and suggests that decisions regarding the destination and accommodation represent core travel decisions where travelers are likely to make these decisions in advance, and once made, are unlikely to change their decisions. In contrast, secondary decisions such as activities and attractions are partially planned in advance but may be changed in en route; these decisions include places to go shopping and restaurants.

[Insert Table 2 here]

Principal component analysis was conducted and the results indicate that the five trip components can best be represented by two constructs with eigenvalues of 2.49 and 1.01, respectively and which account for 70.0 percent of the total explained variance (see Table 3). The first factor is labeled "En-route flexibility" as it reflects decisions related to restaurants and shopping stores while the second construct is labeled "Pre-trip flexibility" as it reflects trip decisions related to accommodations, additional destinations, and places/attractions. The

internal consistency of each construct was then assessed using Cronbach's Coefficient alpha; these analyses resulted in Coefficient alpha values of 0.69 for En-route flexibility and 0.68 for Pre-trip flexibility, which marginally meets the cut-off level of 0.70 as suggested by Nunnally and Bernstein (1994).

[Insert Table 3 here]

Confirmatory factor analysis was then used to test the validity and reliability of the two types of travel decision flexibility constructs. As can be seen in Figure1a and Table 4, the various goodness-of-fit indexes confirm that the model consisting of two flexibility constructs fits reasonably well; the model x^2 value was 11.97 with df as 4 which indicates that the value of x^2/df is lower than cut-off level 3.0 (Klien, 2011); also, the Comparative Fit Index (CFI) and the Tucker–Lewis Index (TLI) support the conclusion that the two factor model fits well (CFI = .98 and TLI = .95) (see Table 4). Last, the Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA) were calculated to evaluate the model fit (SRMR = .03 and RMSEA = .07) as they adjust for parsimony by assessing the discrepancy per degree of freedom in the model (Chi & Qu, 2008).

[Insert Figure 1a here]

An alternative model that considers a single dimension of flexibility containing all five travel decisions was also evaluated (see Figure 1b). The same goodness-of-fit indexes were considered and the results of alternative model consistently show lower values (x^2/df = 13.12, CFI = .85, TLI = .71, SRMR = .05, and RMSEA = .19) than one of original model (i.e., two latent constructs). In addition, the chi-square values are compared between original (i.e.,

two latent constructs of flexibility) and alternative models (i.e., sing latent construct of flexibility). The difference was statistically large to be significant (V.2 (1) = 53.63, p < .001). That is, it is empirically supported that the original model (i.e., two dimensions of decision flexibility) is acceptable (see Table 4). As a result of these analyses, it was concluded that travel decision flexibility should be defined as two dimensions (i.e., Pretrip and En-route flexibility) to reflect the timing and the nature (i.e., trip component) of the travel decision process

[Insert Figure 1b and Table 4 here]

A series of statistical analyses (e.g., Pearson correlation and Student T-test) were then conducted to estimate the relationships between decision flexibility and the various travel-related factors discussed previously. As shown in Table 5, the Pearson correlation coefficients indicate that Pre-trip flexibility has a positive relationship with number of alternatives considered to make travel decisions ($r = .14$, $p < .05$) while En-route flexibility correlates positively with knowledge uncertainty ($r = .12$, $p < .01$) and the number of alternatives ($r = .21$, $p < .01$). These results suggest that travelers who are more flexible in their trip related decisions are more likely to be knowledgeable and they take into account a greater number alternatives; moreover, the travelers who stay longer in Chicago are more likely to be flexible for both pre-trip (i.e., accommodations, additional destinations, places/attractions) ($r = .17$, $p < .01$) and en route decisions (i.e., restaurants and shopping store) ($r = .21$, $p < .01$). Finally, travelers who are highly flexibility for en route decisions tend to spend more time planning their trips ($r = .14$, $p < .01$) (see Table 5).

[Insert Table 5 here]

Analyses were also conducted to evaluate if trip flexibility differed significantly by various aspects of the travel group; the results of these analyses indicate that, as expected, travelers to Chicago without children are more flexible in deciding overnight accommodations (T-value = 2.40, p < .05) and those travelers with friends tend to be more flexible in terms of their pre-trip decisions (T-value = -2.09, p < .05), especially for the places/attractions to visit (T-value = -1.98, p < .05) (see Table 6).

[Insert Table 6 here]

Having established the validity and reliability of the two constructs, the last series of analyses focused on their basic distributional properties. As can be seen in Table 7a, the majority of the respondents rated themselves quite flexible in both Pre-trip (64.4 % flexible – very flexible) and En-route flexibility (78.6%); and, as one might expect, respondents were more flexibility to changes while en route as compared to making changes to the core aspects of the trip including primary destination, and the activities and attractions that might be visited. A cross tabulation was also conducted to identify the joint distribution of the two constructs so as to evaluate the extent to which the respondents would be willing to change either one or both aspects of the trip. As shown in Table 7b, the results of this analysis indicate that relatively few (2.0%) respondents were unwilling to change both Pre-trip decisions and En-route decisions while 65.2 percent of the respondents indicated that they were very to extremely flexible in both aspects of their trip. The table also shows that an additional 27 percent of the respondents were not entirely willing to change their pre-trip planning, but were much more willing to negotiate en route decisions.

[Insert Table 7 here]

Discussion

This study argues that understanding the willingness of travelers to make changes to their trip is extremely important, especially today as mobile technology has begun to significantly shape the nature of the tourism experience. The results of this research indicate that there are two reasonably distinct dimensions of trip flexibility, which were characterized as "Pre-trip flexibility" (components of a trip that relate to decisions regarding overnight accommodations, additional travel destinations, and places or attractions to visit) and "En-route flexibility" (i.e., decisions related to shopping facilities and restaurants). Further, the results of this study indicate that decision flexibility correlates with several situational factors and roughly support the proposed argument that highly flexible travelers are likely to preserve their future options, have less knowledge about the destination, take longer to plan their trips (especially for accommodation, destination and attraction decisions), and actually take have longer trips. Decision flexibility also differs significantly depending on the composition of travel parties; for example, travelers with friends are more likely to be flexible to changes in pre-trip decisions (mainly for places/attractions) than those traveling with children. With these findings, it is important to acknowledge that the specific responses are sensitive to nature of trip, but it is expected that the concepts themselves including their structural relationships should be reasonably stable and therefore generalizable across most types of pleasure trips.

These findings support several implications. First, marketing/communication strategies of destination marketing organizations (DMOs) need to respond to the ways people actually plan their trips. Many travelers "fix-in-concrete" certain aspects of the trip plan while they are adaptive to changes for other aspects. This suggests that DMOs need to examine the

strategies they use to influence each of the trip decisions and the degree to which they contribute to the overall 'value' of the trip. That is, destination marketing efforts tend to focus on the destination choice based upon the argument that this decision conditions all other choices; however, recent research indicates that for many trips destination choice is made prior to seeing information about the destination, and therefore, is determined by factors outside the influence of DMO. Importantly, this research indicates that a number of travelers are somehow 'flexible' in their trip decisions and that they may be influenced by destination marketing programs. Further, the results of this study suggest that mobile technology using the location-based systems offer the potential to substantially affect the way travelers plan trips and, as such, have the opportunity to help travelers make "better" choices of restaurants and shopping stores by offering personalized information, based upon the tendency to preserve high flexibility for these decisions. Last, decision flexibility does not simply mean behavioral change, but rather reflects situational contingencies of travel (e.g., number of alternatives, knowledge uncertainty, length of trip, and planning horizon). Thus, DMOs should consider the integration of these 'situations' such as the many environmental characteristics that travelers confront when providing travel information.

There are several limitations in this study. First, as mentioned about methodological constraints that use the hypothetical trip, the future research conducting in the aspect of actual trips is recommended so that the researchers can understand the adaptive behavioral patterns with contingencies of the trips. Second, while this research focuses on five travel decisions to measure the levels of decision flexibility including destinations, attractions/activities, accommodations, restaurants, and shopping stores, it is suggested for future researchers to consider more diverse travel facets. Third, applying a variety of tourism destinations other than Chicago and different seasons visiting the destinations is also suggested to ascertain the generalizability of the findings obtained from this research.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179–211.

Anckar, B., & Walden, P. (2002). Self-booking of high and low complexity travel products: Exploratory finding. Information Technology and Tourism, 4, 151–165.

Ankomah, P. K., Crompton, J. L., & Baker, D. (1996). Influence of cognitive distance in vacation choice. *Annals of Tourism Research, 23*(1), 138–150.

Beldona, S., Morrison, A.M., & O'Leary, J. (2005). Online shopping motivations and pleasure travel products: A correspondence analysis. Tourism Management, 26, 561–570.

Belk, R. W. (1974). An exploratory assessment of situational effects in buyer behavior. *Journal of Marketing Research, 11*, 156-163.

Belk, R.W. (1975). Situational variables and consumer behavior. *Journal of Consumer Research, 2*(3), 157-164.

Benjaafar, S., Mortin, T. L., & Talavage, J. J. (1995). The strategic value of flexibility in sequential decision making. *European Journal of Operational Research, 82*(3), 438-457.

Bettman, James R., Eric J. Johnson, and John W. Payne (1991), "Consumer Decision Making," in Handbook in Consumer Behavior, Thomas S. Robertson and Harold H. Kassarjian, eds. Englewood Cliffs, NJ: Prentice-Hall, Inc., 50-84.

Bing, M. N., & Lounsbury, J. W. (2000). Openness and job performance in U.S.-based Japanese manufacturing companies. *Journal of Business & Psychology, 14*(3), 515-522.

Broniarczyk, S. M., Hoyer, W. D., & McAlister, L. (1998). Consumers' Perceptions of the Assortment Offered in a Grocery Category: The Impact of Item Reduction. *Journal of Marketing Research, 35*(2), 166-176.

Chicago Travel Statistics. (2010). *Chicago Travel Statistics*. Available from http://www.choosechicago.com/Document%20Resource%20Gallery/2010ChicagoTravelStatistics.pdf.

Connor, D. R. (1992). Managing *at the Speed of Change: How Resilient Managers Succeed and Prosper where Others Fail.* Chichester: John Wiley and Sons

Crompton, J. (1981). Dimensions of the social group role in pleasure vacations. *Annals of Tourism Research, 8*(4), 550-567.

Crompton, J. L., & Cole, S-T. (2001). An analysis of 13 tourism surveys: Are three waves of data collection necessary? *Journal of Travel Research, 39*, 356-368.

Crotts, J. (1999). Consumer decision making and prepurchase information search. *Consumer behavior in travel and tourism.* Y. Mansfield and A. Pizam. Binghamton, N. Y., Haworth Press**:** 149-168.

Decrop, A. (2006). *Vacation decision making*, CABI Publishing, Wallingford.

Decrop, A., & Snelders, D. (2005). A grounded typology of vacation decision-making. *Tourism Management, 26,* 121-132.

Dolnicar, S., Laesser, C., & Matus, K. (2009). Online versus paper: Format effects in tourism surveys. *Journal of Travel Research, 47,* 295-316.

Fesenmaier, D. R., & Jeng, J. (2000). Assessing structure in the pleasure trip planning process. *Tourism Analysis, 5*(1), 13-27.

Fricker, R. D., & Schonlau, M. (2002). Advantages and disadvantages of Internet research surveys: Evidence from the literature. *Field Methods, 14*(4), 347-367.

Gretzel, U., Fesenmaier, D. R., & O'Leary, J. T. (2006). *The transformation of consumer behaviour. In Tourism Business Frontiers,* edited by D. Buhalis and C. Costa. Oxford, UK: Butterworth-Heinemann.

Gretzel, U., Hwang, Y., & Fesenmaier, D. R. (2006). *A Behavioral Framework for Travel Destination Recommendation Systems* Design. In D. Fesenmaier, H. Werthner and K. Wöber (Eds.), Destination Recommendation Systems: Behavioral Foundations and Applications, pp. 53-64. Cambridge, MA: CAB International.

Guo, L. (2006). Consumption flexibility, product configuration, and market competition. *Marketing Science, 25*(2), 116-130.

Guo, L. (2010). Capturing consumption flexibility in assortment choice from scanner panel data. *Management Science, 56*(10), 1815-1832.

Hauser, J. R., & Wernerfelt, B. (1990). An evaluation cost model of consideration sets. *Journal of Consumer Research, 16*, 393-408.

Hyde, K. (2004).A duality in vacation decision-making. *Tourism Analysis, 8*, 183–186.

Hyde, K. F., & Lasser, C. (2009). A structural theory of the vacation. *Tourism Management, 30,* 240-248.

Hwang, Y-H., & Fesenmaier, D. R. (2011). Unplanned tourist attraction visits by travelers. *Tourism Geographies, 13*(3), 398-416

Jeng, J-M. (2000). *Exploring the travel planning hierarchy: An interactive web experiment.* Unpublished doctoral dissertation. Urbana-Champaign IL: University of Illinois.

Jeng, J., & Fesenmaier, D. R. (2002). Conceptualizing the travel decision-making hierarchy: A review of recent developments. *Tourism Analysis, 7*(1), 15-32.

Kahn, B. E. (1995). Consumer variety-seeking among goods and services: An integrative review. *Journal of Retailing and Consumer Services, 2*(3), 139-148.

Kahn, B. E. & Lehmann, D. R. (1991). Modeling choice among assortments. *Journal of Retailing, 67*(3), 274-299

Kahn, B., Moore, W. L., & Glazer, R. (1987). Experiments in Constrained Choice. *Journal of Consumer Research, 14*(1), 96-113.

Kramer, R., M. Modsching, K. Hagen, and U. Gretzel. (2007). "Behavioural Impacts of Mobile Tour Guides." In *Information and Communication Technologies in Tourism 2007*, edited by M. Sigala, L. Mich, and J. Murphy. Vienna: Springer, pp. 109-118.

Lankford, S. V., Buxton, B. P., Hetzler, R., & Little, J. R. (1995). Response bias and wave analysis of mailed questionnaires in tourism impact assessments. *Journal of Travel Research, 33,* 8-13.

Lue, C., Crompton, J., & Fesenmaier, D. R. (1993). Conceptualization of multidestination pleasure trips. *Annals of Tourism Research, 20,* 289-301.

MacKay, K., & Vogt, C. A. (2012). Information technology in everyday and vacation contexts. *Annals of Tourism Research, 39*(3), 1380–1401.

March, R., & Woodside, A. G. (2005). Testing theory of planned versus realized tourism behavior. *Annals of Tourism Research, 32*(4), 905–924.

Mansfeld, Y. (1992). From motivation to actual travel. *Annals of Tourism Research, 19*, 399–419.

McIntosh, R., & Goeldner, C. (1990). *Tourism: Principles, Practices, Philosophies.* New York: Wiley.

McKercher, B. (1998). The effect of market access on destination choice. Journal of Travel Research, 37, 39-47.

Mondschein, A. (2011). Passeggiata Nuova: Social travel in the era of the Smartphone. Working Paper, New York University.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw Hill.

O'Leary, J. T., Field, D. R.,&Schreuder, G. (1974). Social groups and water activity clusters: An exploration of interchangeability and substitution. In D. R. Field, J. C. Barron, & B. F. Long (Eds.), Water and community development: Social and economic perspectives (pp. 195-215). Ann Arbor, MI: Ann Arbor Science.

Oppermann, M. (1992). Intranational tourist flows in Malaysia. *Annals of Tourism Research, 19,* 482-500.

Park, C. W., & Lutz, J. R. (1982). Decision plans and consumer choice dynamic. *Journal of*

Marketing Research, 16, 108–115.

Park, S., & Fesenmaier, D. R. (2012). Non-response bias in internet-based advertising conversion studies, *International Journal of Culture, Tourism, and Hospitality Research, 6*(4), 340 – 355.

Park, S., Nicolau, J. L. , & Fesenmaier, D. R. (2013). Assessing advertising in a hierarchical decision model. *Annals of Tourism Research, 40*(1), 260-282.

Payne, J. W., Bettman, J. R., & Johnson, E. J. (1993). *The Adaptive Decision Maker*. Cambridge: Cambridge University Press.

Payne, J. W., & Braunstein, M. L. (1978). Risk choice: An examination of information acquisition behavior. *Memory & Cognition, 6,* 554-561.

Raudsepp, E. (1990). Are you flexible enough to succeed? *Manage, 42*(2), 6-10.

Reibstein, D. J., Youngblood, S. A., & Fromkin, H. L. (1975). Number of choices and perceived decision freedom as a determinant of satisfaction and consumer behavior. *Journal of Applied Psychology, 60*(4), 434-437.

Rhinesmith, S. (1993), A Managers' Guide to Globalisation, Homewood, Irwin.

Roehl, W., & Fesenmaier, D. R. (1992). Risk perceptions and pleasure travel: An exploratory analysis. *Journal of Travel Research, 30*(4), 17-26.

Ronen, S. (1989), "Training the international assignee", in Goldstein, I. (Ed.) Training & Development in Organisations, Jossey-Bass, San Francisco, CA..

Sheehan, K. (2001). E-mail survey response rates: A review. *Journal of Computer-Mediated Communication, 6*(2), Available at http://www.ascuse.org /jcmc/vol6/issue2/sheehan.html.

Shields, M. D. (1980). Some effects of information load on search patterns used to analyze performance reports. *Accounting, Organizations and Society, 5,* 429-442.

Simonson, I. (1990). The effect of purchase quantity and timing on variety-seeking behavior. *Journal of Marketing Research, 27*(2), 150-162.

Sirakaya, E., & Woodside, A. G. (2005). Building and testing theories of decision making by travelers. *Tourism Management, 26,* 815-832.

So, S., & Lehto, X. (2006). The situational influence of travel group composition: Contrasting family travelers with other travel parties. *Journal of Travel & Marketing Research, 20*(3-4), 79-91.

Stewart, S. I., & Vogt, C. A. (1999). A case-based approach to understanding vacation planning. *Leisure Sciences,* 21(2), 79-95.

Thornton, P. R., Shaw, G., & Williams, A. M. (1997). Tourist group holiday decision making and behaviour: the influence of children. *Tourism Management, 18*(5), 287-297.

Tussyadiah, I. P., & Zach, F. J. (2012). The role of geo-based technology in place experiences. *Annals of Tourism Research, 39*(2), 780–800

Urbany, J. E., Dickson, P. R., & Wilkie, W. L. (1989). Buyer uncertainty and information search. *Journal of Consumer Research, 16*(2), 208-215.

Walsh, J. W. (1995). Flexibility in consumer purchasing for uncertain future tastes. *Marketing Science, 14*(2), 148-165.

Wang, D., Park, S., & Fesenmaier, D. R. (2012). The role of smartphones in mediating the touristic experience. *Journal of Travel Research,* 51(4), 371-387

Woodside, A., Caldwell, M., & Spurr, R. (2006). Advancing ecological systems theory in lifestyle, leisure, and travel research. *Journal of Travel Research, 44*(3), 259–272.

Woodside, A. G., & Dubelaar, C. (2002). A general theory of tourism consumption systems: A conceptual framework and an empirical exploration. *Journal of Travel Research, 41*(2), 120-132

Woodside, A. G., & King, R. (2001). Tourism consumption systems: Theory and empirical research. *Journal of Travel and Tourism Research, 10*(1), 3–27.

Woodside, A. G., & Lysonski, S. (1989). A general model of traveler destination choice. *Journal of Travel Research, 27*(4), 8-14

Woodside, A., & MacDonald, R. (1994). *General system framework of customer choice processes of tourism services.* In R. Gasser, & K. Weiermair (Eds.), Spoilt for choice: Decision-making processes and preference changes of tourists – Intertemporal and intercountry perspectives. Thaur, Austria: Kulturverlag.

Woodside, A. G., & Ronkainen, I. A. (1984). How serious is nonresponse bias in advertising conversion research? *Journal of Travel Research, 22*, 34-37.

Wright, P. (1980). Message-envoked thoughts: Persuasion research using thought verbalizations. *Journal of Consumer Research, 7,* 151-175.

Wright, P., & Barbour, F. (1975). The relevance of decision process models in structuring persuasive messages. *Communications Research, 2*, 246-259.

Xie, J., & Shugan, S. M. (2001). Electronic tickets, smart cards, and online prepayments: When and how to advance sell. *Marketing Science, 20*(3), 219–243.

Zeithaml, V. A. (1981). *How consumer evaluation processes differ between goods and services in Marketing of Services*, J. H. Donnelly and W. R. George, eds., Chicago: American Marketing, 186-190.

Figure 1a. Measurement Model of Travel Decision Flexibility - Two latent based model
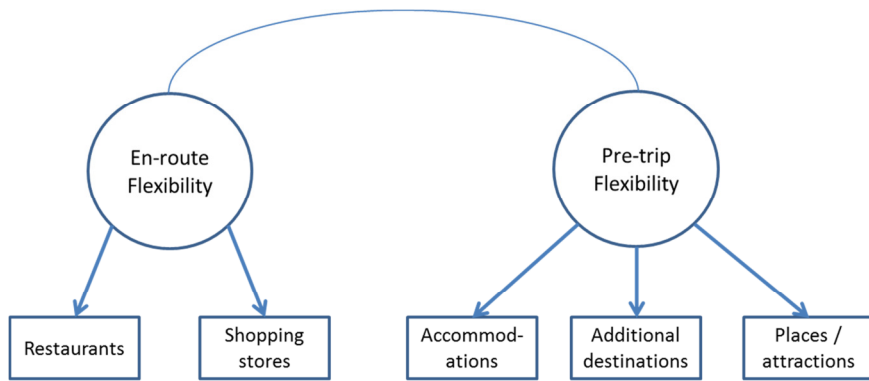

Figure 1b. Measurement Model of Travel Decision Flexibility - One latent based model
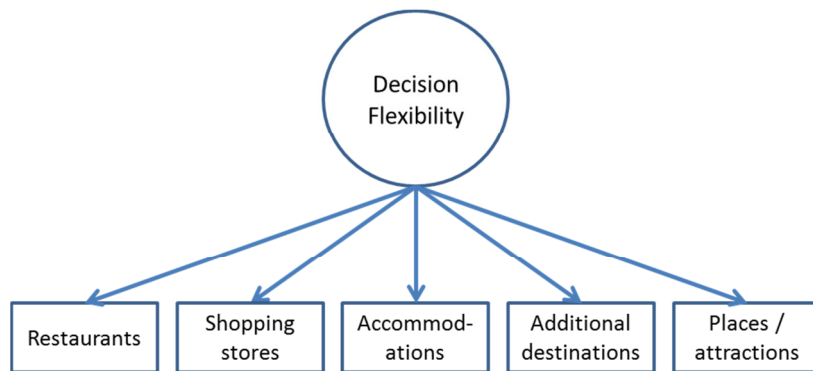
Table 1. Profiles of Respondents

Variables	Frequency	%
Demographic Characteristic		
Gender (N = 348)		
Female	234	67.2
Male	114	32.8
Age (N = 345)		
18-21 years	1	.3
22-29 years	8	2.3
30-39 years	20	5.8
40-49 years	70	20.3
50-59 years	116	33.6
60-69 years	93	27.0
70 and above years	37	10.7
Annual household income (N = 348)		
Less than $19,999	18	5.2
$20,000 to $ 39,999	41	11.8
$40,000 to $59,999	89	25.6
$60,000 to $79,999	67	19.3
$80,000 to $99,999	49	14.1
$100,000 to $129,999	49	14.1
$130,000 to $159,999	17	4.9
$160,000 and over	18	5.2
Number of people in household (Age 18 and over) (N = 348)		
1 person	64	18.4
2 persons	195	56.0
3 persons	63	18.1
4 – 6 persons	26	7.5
11 or more	64	18.4
Number of people in household (Under Age 18) (N = 348)		
None	240	69.0
1 person	56	16.1
2 persons	34	9.8
3 persons	14	4.0
4 – 6 persons		
Resident states (N = 356)		
Illinois	117	33.0
Missouri	50	14.1
Wisconsin	41	11.5
Michigan	39	11.0
Louisiana	34	9.6

Ohio	32	9.0
Indiana	24	6.8
Minnesota	18	5.1

Travel characteristics

Number of trips in Midwest United States
(N = 338)

None	21	6.2
1 trip	54	16.0
2 trips	76	22.5
3 trips	77	22.8
4 trips	43	12.7
5 - 10 trips	55	16.3
11 or more trips	12	3.6

Number of trips visited in Chicago (N = 356)

None	72	20.2
1 visit	75	21.1
2 visits	51	14.3
3 visits	42	11.8
4 visits	24	6.7
5 - 10 visits	49	13.8
11 or more visits	43	12.1

Table 2. Descriptive Statistics for Travel Decision Flexibility

Flexibility	Mean	SD	Min.	Max.
Restaurants	4.23	.93	1	5
Shopping stores	4.04	1.08	1	5
The places or attractions to visit	3.95	.84	1	5
Additional destinations besides Chicago, Illinois to visit	3.71	.97	1	5
Overnight accommodations	3.14	1.19	1	5

Note: SD means Standard Deviation; Min. means Minimum; Max. means Maximum

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Table 3. Principal Components Factor Analysis for Decision Flexibility

Types of Flexibility	Factor loadings		Communalities
Restaurants	.86		.77
Shopping stores	.83		.71
Overnight accommodations		.81	.65
Additional destinations		.78	.66
The places or attractions to visit		.68	.71
Eigenvalues	2.49	1.01	
Variance explained	49.81%	20.20%	
Coefficient alpha	.69	.68	

Table 4. Confirmatory Factor Analysis for Decision Flexibility

	χ^2	df	χ^2/df	CFI	TLI	SRMR	RMSEA
Two latent based model	11.97	4	2.99	.98	.95	.03	.07
One latent based model	65.60	5	13.12	.85	.71	.07	.19

Model Comparison	$\Delta\chi^2$ (Δdf)	p Value
Model 2 – Model 1	53.63 (1)	.<001

Note: χ^2 = chi-square; df = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; SRMR = Standardized Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation

Table 5. Correlation between Flexibility and Travel Situational Factors

	1	2	3	4	5	6	7	8
1. En-route flexibility	.1							
2. Pre-trip flexibility	.41**	.1						
3. Knowledge uncertainty[1]	.12**	.14**	1					
4. Knowledge uncertainty[2]	.04	.10	.78**	1				
5. Alternatives[1]	.21**	.12**	.39**	.20**	1			
6. Alternatives[2]	.08	.14*	.09	.14**	.54**	1		
7. Length of trip	.21**	.17**	-.03	-.01	.20**	.33**	1	
8. Planning horizons	.14**	.05	-.13*	-.07	.14**	.26**	.38	1

Note: $*p < .05$; $**p < .01$; Knowledge uncertainty[1] refers to the average on knowledge uncertainty about restaurant and shopping stores; Knowledge uncertainty[2] refers to the average on knowledge uncertainty about additional destination, the places or attractions, and accommodation; Alternatives[1] means that the summation value of restaurant and shopping stores is considered; Alternative[2] means that the summation value of additional destination, the places or attractions, and accommodation is considered;

Table 6. Comparison of Decision Flexibility between Travel Groups

	Alone		With Children		With Spouse/partner		With Friends	
	No	Yes	No	Yes	No	Yes	No	Yes
En-route Flexibility	4.13	4.27	4.11	4.19	4.07	4.17	4.10	4.21
Restaurants	4.22	4.32	4.23	4.24	4.18	4.26	4.21	4.27
Shopping stores	4.28	4.21	3.99	4.14	3.96	4.08	3.98	4.15
Pre-trip Flexibility	3.59	3.75	3.64	3.52	3.58	3.62	3.54*	3.72*
Accommodations	3.12	3.41	3.25*	2.93*	3.20	3.13	3.08	3.25
Additional destinations	3.71	3.76	3.73	3.66	3.63	3.75	3.64	3.84
Places or attractions to visit	3.95	4.09	3.95	3.96	3.91	3.98	3.89*	4.07*

Note: *p < .05; **p < .01; t-test was used to compare the means of each group; The summated mean value was used for each construct

Table 7a. Frequency table

Values	Pre-trip flexibility Percent (n = 1,065)	En-route flexibility Percent (n = 710)
Not at all flexible	5.88	3.5
Not flexible	9.3	2.8
Neutral	20.5	15.1
Flexible	47.1	33.4
Extremely flexible	17.3	45.2

Table 7b. Joint distribution of Pre-trip and En-route Decision Flexibility

		En-route Flexibility				
		Not at all Flexible	Not Flexible	Flexible	Somewhat Flexible	Extremely Flexible
Pre-trip Flexibility	Not at all flexible	1.1	0.6	0.0	0.6	0.3
	Not flexible	0.6	0.3	1.1	1.7	1.4
	Neutral	0.0	0.6	3.7	11.3	15.8
	Flexible	0.3	1.1	4.2	21.4	23.4
	Extremely flexible	0.0	0.3	0.0	1.4	9.0