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Dan Wang
National Laboratory for Tourism & eCommerce School of Tourism & Hospitality Management Temple University

Sangwon Park
National Laboratory for Tourism & eCommerce School of Tourism & Hospitality Management Temple University

Florian Zach
National Laboratory for Tourism & eCommerce School of Tourism & Hospitality Management Temple University

Daniel R. Fesenmaier
National Laboratory for Tourism & eCommerce School of Tourism & Hospitality Management Temple University

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Dan Wang
National Laboratory for Tourism & eCommerce
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Temple University

Sangwon Park
National Laboratory for Tourism & eCommerce
School of Tourism & Hospitality Management
Temple University

Florian Zach
National Laboratory for Tourism & eCommerce
School of Tourism & Hospitality Management
Temple University

and

Daniel R. Fesenmaier
National Laboratory for Tourism & eCommerce
School of Tourism & Hospitality Management
Temple University

ABSTRACT

The Internet has grown to be one of the most effective means for trip planning and recent research shows that that the nature and extent of travel planning behavior has evolved over time. This study builds upon this literature by examining the impact of the Internet on fifteen different facets of travel planning using data sets describing online American travel in 2007 and 2009. The results indicate that the use of the Internet has resulted in an increase in the number of places considered visiting, the number of destinations actually visited, the amount of time spent on advance planning, and the number of information sources used for planning while the likelihood of calling to make a reservation or to request travel information decreased. However, the extent of impact appears to have declined significantly from 2007 to 2009. Further, the findings of this study indicate that the impact of the Internet on travel planning behavior are directly associated with the perceived benefits of Internet use. Based upon these findings, it appears that the extent to which traditional Internet-based information channels affect travel planning behavior has stabilized and that emerging Internet based technologies such as Web 2.0 and mobile computing are looming as major forces reshaping traveler planning behavior. This paper argues that future research should focus on better understanding the ways these new systems affect travel planning behavior.

Keywords: *impact of Internet, change, travel planning.*

INTRODUCTION

The Internet, with its distinctive efficiency and effectiveness in information processing, has penetrated into every facet of travel planning process. The U.S. Travel Association reported that around 105 million people, one third of the U. S. population, used the Internet to plan their trips in 2009 (TIA 2009). Recent studies also indicate that the travel planning process has changed significantly by the use of the Internet (e.g. Bertitelli, Bieger and Laesser 2007; Law, Leung, and Wong 2004; Pan and Fesenmaier 2006; Wynne et al. 2000). However, there appears to be a lack in understanding of how the Internet affects the nature and degree travel planning behavior changes over time (Park and Fesenmaier 2010). Thus, the primary goal of this study is to identify the trend in the changes of travel planning behavior due to the use of the Internet.

Studies have identified the perceived benefits of the Internet for travel planning such as less uncertainty (Walker 2001), greater satisfaction (Fodness and Murray 1997), saving time and money (Brynjolfsson and Smith 2000; Clemons, Hann, and Hitt 2002), easier information sharing (Wang, Yu, and Fesenmaier 2002). However, few studies have examined the relationship between the perceived benefits of Internet use for travel planning and the changes of travel planning behavior. However, it appears logical that the extent of the perceived benefits of Internet use may be directly associated with the extent to which the travel planning behavior changes. For example, one might expect that travelers using the internet to share their travel experiences with others will perceive that the Internet to be highly beneficial while the opposite, in part, should be true. Based upon this logic, a second objective of this study is to investigate the relationship between the perceived benefits of online travel planning and changes in travel planning behavior caused by the use of the Internet.

LITERATURE REVIEW

The travel planning process, different from a single goal-oriented decision-making model, includes multiple decisions and interactions among decisions (Fesenmaier and Jeng 2000; Stewart and Vogt 1999; Sirakaya and Woodside 2005). Stewart and Vogt (1999) defined travel planning as a process entailing information search behavior, information uses and applications, purchase behaviors, actual trip behavior, as well as the learning process from all these experiences. The Internet has intensified the complexity of the travel decision-making process by making it easier for travelers to collect information, purchase travel products, and change their decisions at any stage of the decision-making process (Jun, Vogt, and Mackay 2007; Gretzel, Fesenmaier, Formica & O'Leary, 2006). Studies have identified some specific impacts of Internet use on travel planning behaviors. For example, tourists who searched on the Internet tend to spend more at their destination as compared to those who consult other information sources (Bonn, Furr, and Susskind 1998; Luo, Feng, and Cai 2004). Also, research indicates that the Internet has dramatically increased the number of destinations considered by the consumers in the travel planning process (Buhalis and Law 2008). More recently, Park and Fesenmaier (2010) argued that online travel planners can be differentiated by their involvement in online travel planning whereby the categorized online American travelers into three groups (see Figure 1): The travel planners at the stage 1 (low involvement group) did less travel planning on the Internet than those at the stage 3 (high involvement group). They found that travelers differed substantially in terms travel activities, travel planning and the impact of the internet on the travel planning process (Park and Fesenmaier, 2010). Based on this understanding, one would expect that the nature and extent of impact of the Internet may change over time as online travel

planners move from Stage 1 (i.e., low use) to Stage 3 (high use). Therefore, it is important to identify the changing trend of impacts of Internet use on travel planning behavior.
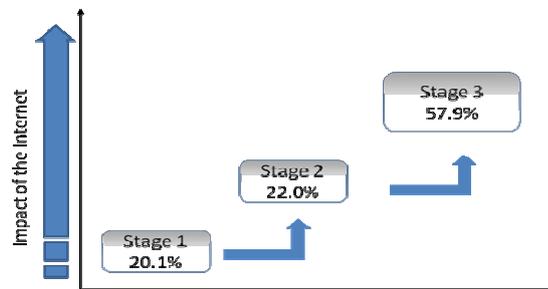

Figure 1 Stages of Internet Use for Travel Planning
(Park and Fesenmaier, 2010, p. 4)

The use of the Internet for travel planning also influences travelers' perception of the benefits of the Internet for travel planning. The studies of the impact of Internet on travel planning behavior indicate that online travel planners claim less uncertainty (Walker 2001), more satisfaction (Fodness and Murray 1997), save time and money (Brynjolfsson and Smith 2000; Clemons, Hann, and Hitt 2002), and it is much easier to share information (Wang, Yu, and Fesenmaier 2002). However, how the perceived benefits vary in response to changing planning behavior remains unknown. Following Sirakaya and Woodside (2005) and others (Jun, Vogt, and Mackay 2007), it is posited in this study that the extent to which travel planning behavior changes is directly associated with the benefits perceived by online travel planners. Thus, it is expected that over time the rate of impact of the Internet will decrease as more travelers gain experience and therefore, about the benefits of Internet use as compared to other channels.

METHODOLOGY

The objectives of this study were achieved by examining the data sets describing online American travel in 2007 and 2009. Data was collected in January 2008 and 2010 (respectively) based upon an online survey panel maintained by Survey Sampling International. The survey was distributed to a random set of 3,026 and 2,793 panel members (2007 and 2009 respectively) of that used the Internet and traveled at least 50 miles and/or stayed overnight. The datasets were weighted based upon age, race and gender in order to represent the adult U.S. population from the 2000 census.

The questionnaire consisted of three sections and included a number of questions related to online travel behaviors. The first set of questions included Internet usage including frequency of Internet use, perceived Internet skills, perceived usefulness of and benefit achieved with online information found, electronic equipment owned, perceived individual innovativeness in the use of technology, and perceived information overload. The next section included questions regarding online search behavior such as types of online information sources used to obtain information, the impact of the Internet on travel planning, and the perceived benefits of Internet on travel planning. In the last section of the survey we collected demographic information such as age, gender, income and family status. The impact of Internet on travel planning behavior was measured using 15 items (see Table 1) which covered five dimensions of travel planning

including actual travel behavior, efficiency of travel planning, use of traditional information channels/materials, the communication with traditional distribution channels and travelers' social behavior. Specifically, respondents were asked to indicate the extent to which they change their travel planning behavior based on a five point Likert scale with 1=Decreased a lot and 5=Increased a lot. The perceived benefits of Internet for travel planning were measured on 11 items (see Table 2), which covered four dimensions including reducing uncertainty, increasing satisfaction, saving time and money, and sharing information ("1=Strongly disagree" and "5=Strongly agree").

Table 1 The Impact of Internet Use on Facets of Travel Planning Behavior

Actual travel behavior	Number of places/destinations actually visited
	Amount of money spent on travel
Efficiency of travel planning	Number of places/destinations considered to visit
	Amount of time spent on advance planning
	The number of info. Sources used for planning
Use of traditional information channels/materials	Use of ads in TV, radio or press for travel ideas
	Stops at visitor infor centers at destination
	Likelihood of buy travel guidebooks/maps
	Number of travel brochures ordered
	Amount of incfinration(print-outs) taken on trips
Communication with traditional distribution channels	Likelihood of calling a travel agency or airlines
	Likelihood of calling to make hotel reservations
	Likelihood of calling a car rental agency
	Likelihood of calling state/local tourism offices
Travelers' social behavior	Extent to which you share your travel experiences with others

Table 2 The Perceived Benefits of Internet on Travel Planning Behavior

Reducing uncertainty	I can find more information about a destination.
	I can get more involved in planning my trip.
	I can better evaluate where to go and what to do.
	I can better imagine what the destination is like
	I am more confident that my trip will be successful.
	I have a clearer idea of what to expect from the trip.
Saving time and money	I can save time planning my trip.
	I can get better value for my money.
	I do not have to waste time looking for information during the trip/at the destination.
Increasing satisfaction	I get a feeling of accomplishment and satisfaction.
Sharing information	I can more easily share the information I find.

Data was analyzed in two stages. First, the respondents were split into three groups based upon the impact of Internet on travel planning: the respondents that indicated "Increased" or "Increased a lot" (labeled the Increase Group), those that indicated "Decreased" or "Decreased a lot" (i.e., the Decrease Group) and those that indicated no change in travel planning behavior (i.e., the Stationary Group). The differences in terms of the percentages of respondents within each group between the two years were calculated (i.e. % of Increased group 2009 - % of Increased group in 2007) and then examined in order to assess the extent to which the impact of Internet changes from 2007 to 2009. The Student T-test was used to evaluate the significance of differences between the two years. Second, correlations (using the original 5 point scales) were calculated between the impact of Internet on travel planning behavior and the perceived benefits. As part of this analysis, crosstab analyses were conducted to examine the structure (linearity) of the relationship between the two aspects of online travel planning. In order to do crosstab analysis, the respondents were split into three groups based upon the perceived benefits of Internet for travel planning: respondents that indicated "Somewhat agree" or "Strongly agree" (i.e., the Agree Group), those that indicated "Somewhat disagree" or "Strongly disagree" (i.e, the Disagree Group) and those that hold a neutral attitude (i.e., the Neutral Group). Again, Student T-tests were used to assess the significance of the differences between the two years for the perceived benefits.

RESULTS AND DISCUSSION

Table 3 presents the results of the frequency analyses describing the extent of impact of use of the Internet for each of the 15 facets of travel planning behavior (five dimensions) for each year (2007 and 2009 separately). As can be seen, around half of respondents claimed that they "stayed the same" on most aspects of travel planning. Only a small portion of respondents (3.2% in 2008 and 4.2% in 2010) visited fewer places while about half of respondents visited more places; about a third of respondents spent more money on traveling. Overall, it appears that the Internet stimulated people to visit slightly more places and spend slightly more on travel. For the "efficiency of travel planning" (3 items), the Internet helped around 45% of respondents to consider more places to visit, but around half of respondents indicated that the use of Internet didn't influence their "choice-set". Also, the results show that the Internet actually increased the amount of advance planning and the number of information sources used. However, in 2009, the use of Internet change travel planning behavior less as the respondents in the stationary group are more than other two groups. There were similar findings for the use of traditional information channels/materials. That is, around half of respondents (i.e., the Stationary Group) indicated that their behavior didn't change on these aspects due to the use of Internet, while approximately one third of respondents claimed that the Internet made them use less traditional information channels/ materials. For "communication with traditional distribution channels" (4 items), the portion of respondents indicating no influence is similar to the portion of respondents that claimed decreasing communication (around 40% for each item in each year). Generally, only less than 20% of respondents indicated that Internet use lead to more communication with traditional distribution channels. However, different from other facets regarding the traditional information channels, the "amount of information (print-outs) taken on trips" is increasing for each year. Last, use of Internet appears to result in an increase in the extent to which people share travel experiences with others in both years.

Table 3 The Impact of Internet on Travel Planning Behaviors

The impact of Internet on travel planning behavior		Decrease Group (%)		Increase Group (%)		Stationary Group (%)	
		2007	2009	2007	2009	2007	2009
Actual travel behavior	Number of places/destinations actually visited	3.2	4.2	42.2	35.7	54.6	60.1
	Amount of money spent on travel	19.5	19.2	32.0	26.5	48.5	54.3
Efficiency of travel planning	Number of places/destinations considered to visit	2.8	3.8	47.3	43.7	49.8	52.5
	Amount of time spent on advance planning	20.9	21.7	42.2	37.3	36.9	41.0
	The number of info. Sources used for planning	9.0	9.9	53.3	47.3	37.7	42.8
Use of traditional information channels/materials	Use of ads in TV, radio or press for travel ideas	30.4	33.0	16.0	12.5	53.6	54.5
	Stops at visitor infor centers at destination	27.8	28.9	18.4	14.5	53.9	56.6
	Likelihood of buy travel guidebooks/maps	33.6	39.8	15.9	12.9	50.5	47.3
	Number of travel brochures ordered	32.6	38.4	19.7	15.6	47.8	46.1
	Amount of information (print-outs) taken on trips	14.4	19.6	40.6	34.6	45.0	45.7
Communication with traditional distribution channels	Likelihood of calling a travel agency or airlines	40.9	44.8	16.5	13.3	42.6	41.9
	Likelihood of calling to make hotel reservations	35.6	35.0	23.1	21.2	41.3	43.8
	Likelihood of calling a car rental agency	38.7	40.9	15.6	13.2	45.7	45.9
	Likelihood of calling state/local tourism offices	40.7	44.3	14.1	10.6	45.2	45.1
Travelers' social behavior	Extent to which you share your travel experiences with others	7.8	8.4	40.1	39.1	52.2	52.5

The second analysis examined the rate of change in impact for each facet of travel planning behavior over the three years period (see Figure 2). Overall, the results indicate that the impact of Internet is decreasing during this time as a greater percentage of respondents are moving from the Increase Group to the Stationary Group. For the dimensions of the use of traditional information channels/ materials (F – J facets) and the communication with traditional distribution channels (K – N facets), on the other hand, the impact of Internet appears to be increasing as the respondents were moving from the Increase Group and the Stationary Group to the Decrease Group for eight out of ten facets (G and L facets are exceptions). In terms of social behavior of travel planners, there is no apparent trend over time.
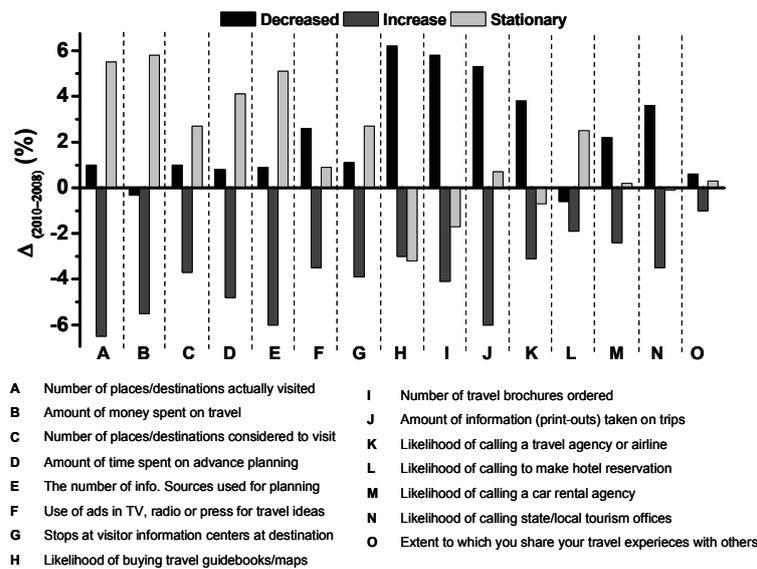
A	Number of places/destinations actually visited
B	Amount of money spent on travel
C	Number of places/destinations considered to visit
D	Amount of time spent on advance planning
E	The number of info. Sources used for planning
F	Use of ads in TV, radio or press for travel ideas
G	Stops at visitor information centers at destination
H	Likelihood of buying travel guidebooks/maps
I	Number of travel brochures ordered
J	Amount of information (print-outs) taken on trips
K	Likelihood of calling a travel agency or airline
L	Likelihood of calling to make hotel reservation
M	Likelihood of calling a car rental agency
N	Likelihood of calling state/local tourism offices
O	Extent to which you share your travel experieces with others

Figure 2 The Differences of the Impact of Internet on Travel Planning Behavior between 2007 and 2009.

Finally, we examined the relationship between the impact of the Internet and the perceived benefits using the Internet for travel planning (using the 2009 dataset only). Table 4 presents the results of the correlation analyses and indicates that there is a strong (and significant) correlation between the impact of Internet and actual travel behavior, efficiency of travel planning, and travelers' social behavior are positively correlated with total eleven items measuring the perceived benefits ($\alpha = 0.05$). The items in the dimension of the use of traditional information channels/materials are mainly positively correlated ($\alpha = 0.05$) with the dimension of reducing uncertainty and increasing satisfaction, which including the items such as "I can better evaluate where to go and what to do"; "I can better imagine what the destination is like"; "I am more confident that my trip will be successful"; and "I get a feeling of accomplishment and satisfaction". This indicates that the traditional information channels/ materials are mainly helpful in building destination image and travelers' consumption confidence.

The Table 4 also shows that the extent to which the travelers communicate with traditional distribution channels is negatively correlated with the perceived benefits of Internet for travel planning, specifically, with the aspects of "I can find more information about a destination"; "I can get more involved in planning my trip"; "I can save time planning my trip", "I do not have to waste time looking for information during the trip/at the destination". That is, the respondents who are more likely to use the traditional distribution channels benefit less from the use of Internet for travel planning and enjoy less on the efficiency brought by the Internet. As part of this analysis, a series of crosstab analyses were conducted to investigate the structure of these relationships using the 2009 dataset and to verify the positive relationships identified in the Pearson correlation analyses.

Table 4 Pearson Correlations between the Impact of Internet on Travel Planning Behavior and the Perceived Benefits of the Internet for Travel Planning

Pearson Correlations

The impact of Internet on travel planning behavior		The perceived benefits of the Internet for travel planning									Increasing satisfaction	Sharing information
		Reducing uncertainty						Saving time and money				
		I can find more information about a destination.	I can get more involved in planning my trip.	I can better evaluate where to go and what to do.	I can better imagine what the destination is like	I am more confident that my trip will be successful	I have a clearer idea of what to expect from the trip.	I can save time planning my trip.	I can get better value for my money.	I do not have to waste time looking for information during the trip/at the destination.	I get a feeling of accomplishment and satisfaction.	I can more easily share the information I find.
Actual travel behavior	Number of places/destinations actually visited.	.346**	.371**	.390**	.376**	.379**	.356**	.304**	.322**	.290**	.329**	.342**
	Amount of money spent on travel.	.125**	.163**	.169**	.169**	.210**	.177**	.154**	.132**	.104**	.198**	.168**
Efficiency of travel planning	Number of places/destinations considered to visit.	.404**	.396**	.417**	.405**	.392**	.387**	.291**	.331**	.304**	.341**	.364**
	Amount of time spent on advance planning.	.174**	.205**	.214**	.191**	.185**	.187**	.045*	.168**	.111**	.213**	.166**
	The number of info. sources used for planning.	.317**	.349**	.355**	.324**	.301**	.317**	.208**	.279**	.247**	.305**	.317**
Use of traditional information channels/ materials	Use of ads in TV, radio or press for travel ideas.	-.020	.009	.023	.050*	.022	.022	.025	.020	-.018	.048*	.038
	Stops at visitor information centers at destination.	.018	.032	.047*	.058**	.048*	.052*	.020	.044*	.012	.076**	.045*
	Likelihood of buying travel guidebooks/maps.	-.017	-.009	.023	.026	.031	.040	-.010	.005	-.043	.053*	.020
	Number of travel brochures ordered.	.010	.013	.080**	.096**	.065**	.081**	.022	.040	-.003	.084**	.049*
	Amount of information (print-outs) taken on trips.	.211**	.209**	.220**	.191**	.201**	.227**	.154**	.214**	.141**	.212**	.218**
Communication of traditional distribution channels	Likelihood of calling a travel agency or airline.	-.129**	-.112**	-.066**	-.038	-.048*	-.036	-.090**	-.041	-.088**	-.020	-.065**
	Likelihood of calling to make hotel reservations.	-.039	-.045*	-.054*	-.017	-.015	.001	-.047*	-.014	-.026	-.003	-.021
	Likelihood of calling a car rental agency.	-.108**	-.090**	-.066**	-.011	-.041	-.039	-.045*	-.035	-.083**	.000	-.060**
	Likelihood of calling state/local tourism offices.	-.063**	-.059**	-.020	.002	.021	.029	-.018	.000	-.043	.013	.006
Travelers' social behavior	Extent to which you share your travel experiences with others.	.323**	.339**	.346**	.317**	.336**	.306**	.270**	.301**	.276**	.305**	.357**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

CONCLUSION AND IMPLICATIONS

This study indicates that the different facets of travelers' planning behavior have changed substantially over the past three years as the result of the Internet use. It appears that the rate of impact is decreasing for many aspect of travel planning; however, it appears that the rate of adoption of trip sharing and travel planning activity continues to increase. One reason behind the diminishing impact is that travelers have transferred from the novice stage to the veteran stage in terms of the use of Internet for travel planning, therefore, the impact of the Internet on the facets of planning behavior which are heavily influenced by the adoption of Internet (i.e. the number of information sources, planning time, calling travel agency to book flight) is decreasing.

However, this diminishing impact does not necessary suggest the disappearing impact of Internet on other aspects of travel planning behavior. That is, the impact of the Internet on travel planning behavior should be studied on new dimensions which are derived from the continuously use of the Internet such as the selection of different online information channels, the efficiency of online information search. Considering the flourishing of new online information channels (i.e. mobile web), innovative online recommendation system, and diversified online communication models (i.e. social media), the interactions are now considered are the ones originated from web 2.0 or even web 2.0 (mobile computing). Therefore, the impact of Internet on travel planning behavior is actually increasing but just on the dimensions that are different from the ones the current studies measured.

This study also identified that the impact of the Internet on travel planning behavior is directly associated with the perceived benefits of Internet for travel planning. Specifically, the items in the impact dimension of the use of traditional information channels/materials are positively correlated with the benefits dimension of reducing uncertainty and increasing satisfaction, while the communication with traditional distribution channels is negatively associated with the benefits dimension of saving time and money. These findings suggest the supporting role of traditional information channels/materials (i.e. travel brochure, ads in TV) for travel planning, that is, to build destination image and travelers' consumption confidence. This indicates that the traditional information channels/materials still have important values in destination marketing, and they are effective tools in helping travelers before the trip and on the road.

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