FULL LENGTH RESEARCH PAPER

Technology Acceptance Analysis of Local Government Tourism Website

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This study examines what factors affects tourists’ intention to use tourism websites designed by local governments to increase the exposure of local tourism. The study relies on the Technology Acceptance Model to assess the advantages and disadvantages of a specific tourism website and to examine the reasons that motivate tourists to use online tourism websites for travel information searches. The results indicate that self-efficacy, perceived usefulness and user attitudes have a direct impact on behavioral intention. This study provides authorities with information on improving the usability of their tourism websites.

Key words: Tourism website, behavioral intention, technology acceptance, perception.

INTRODUCTION

In recent years, rising living standards, a growing overseas tourism market and improving Information Technology (IT) development have made the Internet the fastest-growing resource for gathering tourism information. Before departing on a trip, tourists may collect information via tourism websites to make personalized itineraries and to make their travel as enjoyable as possible. In fact, Internet searches for tourism information have become a key factor in making decisions about where to go and what to do while traveling. Taiwan is an island with a beautiful environment and a moderate climate all year round; therefore, many local governments in Taiwan have identified tourism as a major area for development.

The establishment of a local tourism administration in every local government indicates the importance of the tourism industry to this small, dynamic island. In general, planning for the tourism industry should start with infrastructure: ensuring quality dining, lodging and transportation for tourists. Thus, in recent years, many local governments have made a substantial investment in building facilities intended to improve the experience of tourists. However, the success of these efforts depends not on infrastructure, but also on local features that can attract tourists. Based on these local features, the tourism industry can design travel itineraries that offer a variety of options and can advertise them widely. Because an increasing number of tourists are going online for their travel information searches, the Internet has become an extremely important communication channel between the industry and tourists – one that has the capacity to expose more local options in tourism to more potential tourists.

Presently, every local government in Taiwan has an official tourism website. Whether that website can accurately and effectively convey information to potential tourists depends on website design and content management. Our research focused on the tourism website of one particular county in Taiwan in order to conduct a survey on the opinions of tourists about that particular website and their intentions to use tourism websites in the future. The results of the survey were analyzed in order to identify the key factors in the respondents’ intention to use tourism websites and in order to make suggestions for improvement. These suggestions aim to improve the efficacy of the websites, which should, in turn, benefit the local tourism industry.

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The primary goal of this study is to understand the opinions of those tourists who use local government tourism websites and gauge their intentions to use them in the future. A secondary goal is to construct an acceptance model of tourism websites that investigates the key factors in respondents' intention to use these websites and to make suggestions for improvements in such websites.

In tourism field, the diffusion of innovation theory by Rogers (1983) has been applied in studying the attributes that affect tourists' adoption decisions. However, only a few studies have emphasized on the factors for using tourism websites by employing the theories form the information system literature. The technology acceptance model (TAM) is an information system theory that can explain the usage of information system and have ability to predict user acceptance of information system. TAM, first developed by Davis (1989), was derived from the theory of Fishbein and Ajzen (1975) to show that people's perceived beliefs first affect their attitudes, then their intentions and, finally, their behaviors. Thus, considering the characteristics of the tourism website's information system, the research employed TAM to analyze tourists' acceptance of the tourism website.

Figure 1 shows the generic TAM model. This concept is helpful in analyzing the behaviors of information system users and can explain the key factors in the acceptance of technological products (Davis et al., 1989). The framework of TAM is based on the concept that people's attitudes (A), which depend on perceived beliefs, determine their behavioral intentions (BI) and that these intentions determine usage. The perceived beliefs of TAM include the perceived usefulness (PU) and perceived ease of use (PEOU) of information systems.

PU measures the extent to which the survey respondent believes using the information system will increase work efficiency, and PEOU measures the extent to which the survey respondent believes using the information system can help the respondent to obtain the desired result with little time and effort required. User attitude becomes more positive under circumstances in which the information system is easier to use and provides more useful information. PEOU can also directly affect PU, but PU does not affect PEOU. Moreover, PU affects behavioral intention more than PEOU does.

TAM theory has been tested for more than a decade and has been applied widely in order to predict and analyze users' acceptance of new products and services (Haynes and Thies, 1991; Igbaria et al., 1995; Lai and Li, 2005; Morris and Dillon, 1997; Lederer et al., 2000; Peng et al., 2006; Wixom and Todd, 2005; Shin and Kim, 2008). No matter what the research subject belonged, the results of these studies show that the behavioral intention to use an information system is directly or indirectly affected by the survey respondents' perceptions. Thus, this study applied TAM to measure tourists' satisfaction with a tourism website in terms of the website's information system characteristics.

METHODS

The use of the Internet has proliferated rapidly since the world wide web (WWW) has been brought up. According to International Telecommunication Union's 2010 report, the proportion of the internet user in Taiwan has exceeded 70% in June 2010. We use Internet-based survey for investigating user's intention because of the large population coverage, rapid response rate of internet and the diversity content of Internet media. The questionnaire covered seven dimensions that were drawn from the relevant literature. The survey used a TAM framework for testing and analysis and was targeted at people who have used the tourism website of a local county in Taiwan. The questionnaire was placed on the Internet for tourists to answer online and was also accessed via the tourism website.

Experimental design

As discussed in the literature review, our survey employed TAM theory to analyze tourist satisfaction with a local government tourism website. The model included the four basic dimensions: perceived ease of use (PEOU), perceived usefulness (PU), attitude (A) and behavioral intention of use (BI). However, the survey also aimed to understand the influence of the internet and tourism information by adding three dimensions for exogenous variables: information quality (Q), website response time (RT) and Internet self-efficacy (SE). The seven dimensions can be defined as follows:

**Perceived ease of use (PEOU)**

Perceived ease of use refers to the ease in accessing specific
information (Liawa and Huang, 2003). The dimension represents the survey respondent’s perception of the ease of using the website to search for tourism information on the local county.

**Perceived usefulness (PU)**

The perceived usefulness dimension indicates the benefits that survey respondents perceive from searching for tourism information on the local county website.

**Attitude (A)**

Attitude refers to an individual’s positive or negative feelings about something. The dimension is used to measure a survey respondent’s feelings about using the tourism website (Ma and Liu, 2005).

**Behavioral intention of use (BI)**

Behavioral intention concerns an individual’s intention to perform a certain behavior. According to the principles of website design planning (Lai and Li, 2005; Lee and Lee, 2003), one indicator of the success of a website is the user’s intention to revisit or reuse. Thus, this dimension investigates whether the survey respondent will continue to use the tourism website to research tourism information on the local county.

**Information quality (Q)**

This dimension is used to measure how well the information of tourism websites meets survey respondents’ needs and whether it is accurate, instant, abundant and complete. The study also measures survey respondents’ opinions about the website’s tourism information.

**Website response time (RT)**

Response time is the time needed for survey respondents to interact with the website. The dimension measures survey respondents’ opinions of website transmission speed (Lin and Lu, 2000).

**Internet self-efficacy (SE)**

Internet self-efficacy refers to survey respondents’ confidence in their abilities to complete the Internet operation process (Ma and Liu, 2005). When a survey respondent lacks confidence in using the Internet or feels uncomfortable with it, the survey respondent’s Internet self-efficacy is low.

The questionnaire was organized into two parts. The first part investigated the respondents’ opinions about and behavioral intentions toward the tourism website for the local county. This part of the survey contained 26 statements related to the 7 dimensions outlined above. Every statement was measured using a five-point Likert scale designed to measure respondents’ degree of agreement with the question, where a response of one represented “strongly disagree” and a response of five represented “strongly agree.” The second part of the questionnaire investigated the survey respondents’ socioeconomic characteristics, including gender, age, occupation, education and average monthly income.

**Model framework hypothesis**

Given the wide applicability of TAM in information systems, the general causalties found in TAM were also applicable to a tourism website (Lederer et al., 2000). This study proposed 12 hypotheses for testing causalties between dimensions; these hypotheses are described as follows: When the information provided by a website is accurate, instant, abundant and complete, the website user benefits more and feels that the website is easier to use. Thus, the first hypotheses were derived as follows:

$H_{1a}$: $Q$ has a significant, positive effect on respondents’ $PU$.

$H_{1b}$: $Q$ has a significant, positive effect on respondents’ $PEOU$.

Website download speed might have an effect on a user’s perceived ease of use, which suggests that website response times could affect perceived usefulness. This study proposed two hypotheses for website response time (Lin and Lu, 2000; Liawa and Huang, 2003):

$H_{2a}$: $RT$ has a significant, positive effect on respondents’ $PU$.

$H_{2b}$: $RT$ has a significant, positive effect on respondents’ $PEOU$.

Website users’ confidence in their abilities to search for information on the Internet could have a positive effect on PEOU and PU (Ma and Liu, 2005). Thus, the research proposed three hypotheses related to Internet self-efficacy:

$H_{3a}$: $SE$ has a significant, positive effect on respondents’ $PU$.

$H_{3b}$: $SE$ has a significant, positive effect on respondents’ $PEOU$.

$H_{3c}$: $SE$ has a significant, positive effect on respondents’ $BI$.

Finally, regarding the hypothesis for behavioral intentions in TAM, when a website user perceives greater usefulness and ease of use, his/her attitude toward the website will be more positive, and the user’s behavioral intention to use the website will increase (Liawa, 2002; Moon and Kim, 2001). Therefore, this study proposed five hypotheses related to behavioral intention:

$H_{4a}$: $PU$ has a significant, positive effect on respondents’ $A$.

$H_{4b}$: $PU$ has a significant, positive effect on respondents’ $BI$.

$H_{4c}$: $PEOU$ has a significant, positive effect on respondents’ $PU$.

$H_{4d}$: $PEOU$ has a significant, positive effect on respondents’ $A$.

$H_{4e}$: $A$ has a significant, positive effect on respondents’ $BI$.

**RESEARCH RESULTS**

**Sample structure and characteristics**

During the online survey (conducted between July and August 2008) 405 questionnaires were returned. After excluding 146 invalid questionnaires that were incomplete or answered inconsistently, 259 valid questionnaires were analyzed. Among all of the survey respondents, 55% were male and 45% were female; the majority was 21 to 40 years old, and their monthly income ranged between $30,000 and $50,000 NTD.

**Structural model testing**

SEM contains measurement models that study the relationship between observable variables and latent variables in addition to variable structure models that study the relationship among latent variables. Thus, this study considered the questionnaire’s statements to be
Table 1: Descriptive and reliability analysis of the model

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Mean</th>
<th>SD</th>
<th>Coefficient Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Quality (Q)</td>
<td>4.25</td>
<td>0.92</td>
<td>0.89</td>
</tr>
<tr>
<td>Self-Efficacy (SE)</td>
<td>3.75</td>
<td>1.25</td>
<td>0.89</td>
</tr>
<tr>
<td>Perceived Ease of Use (PEOU)</td>
<td>4.14</td>
<td>0.95</td>
<td>0.89</td>
</tr>
<tr>
<td>Website Response Time (RT)</td>
<td>4.19</td>
<td>0.98</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Figure 2. Estimates of proposed model.
Note: 1. Solid line path presents statistically significant effect; dotted line path does not.
2. Numbers on the path represent the extent of effect and numbers in parentheses are t-values.

Structural paths and hypotheses tests

Structural paths are presented in Figure 2. Q had a positive effect on PU and PEOU. Its path coefficients were 0.646 and 0.225, and its t-values were 11.56 and 4.82 for H1a and H1-b, respectively, indicating that H1-a and H1-b were supported. Thus, the users felt that the tourism information provided by the website met their needs and that using the website was easy. In addition, Q had more effect on PU, indicating that when the information provided by the website is timely, accurate and abundant it will benefit the user more. RT had a significant, positive effect on PEOU (H2-a was supported). Its path coefficient was 0.397 with a t-value of 6.27, but it did not have a significant effect on PU (t-value = -0.79). This result indicates that the user’s PEOU will increase when the website’s download time decreases and the response speed increases.

SE had a positive effect on PU, PEOU, and BI. Its path coefficients were 0.124 (t-value = 2.14), 0.367 (t-value = 4.72) and 0.193 (t-value = 2.75) for H2-a, H2-b and H2-c, respectively. This result indicates that, when the user’s ability to use Internet searches increases, measures of information quality, ease of use and behavioral intention all increase. PU had a positive effect on A and BI. Its path coefficients were 0.715 (t-value = 10.69) and 0.316 (t-value = 3.33) for H2-a and H2-b, respectively. This result indicates that satisfaction increases when the user feels that the website can provide useful information, which directly affects the user’s intention to continue to use the website to obtain tourism information. PEOU had a positive effect on PU and A. Its path coefficients were 0.255 (t-value = 2.75) and 0.318 (t-value = 4.92) for H3-a and H3-b, respectively, which means that when the ease of using the website is increased, the user can obtain more information. Besides positively affecting attitudes, PEOU can also indirectly affect attitudes through PU. In short, increasing the ease of use will increase satisfaction. The study also attempted to test whether PEOU had a direct and positive effect on BI, but the result was not statistically significant. In other words, perceived ease of use affected behavioral intention through attitudes.
A had a positive effect on BI, and its path coefficient was 0.426 (t-value = 4.24). Thus, after using the website, the user was willing to continue to use the website because the user’s satisfaction had increased.

CONCLUSION AND DISCUSSION

Tourism is an important developing industry for local governments in Taiwan. One channel by which to promote tourism is the Internet, which allows open access to communication around the world. This study assessed a tourism website as an information system by employing the TAM to investigate respondents’ opinions about tourism websites. The results indicate that perceived usefulness and perceived ease of use were the two most important factors that affected the users’ intention to revisit the site. This empirical study not only applies technology acceptance research to local governments’ tourism websites, but also provides authorities with information on improving the usability of their tourism websites.

This study offers two suggestions for tourism websites. First, tourism websites should focus on information quality. The model adopted by the research shows that the effect of information quality on perceived ease of use and, especially, perceived usefulness is significant. Local tourism authorities should take into account the user’s perspective when designing their tourism websites. A helpful strategy might be to divide first-time tourists from returning tourists so that different information and different options are available to tourists with different needs. The second suggestion is to improve the websites’ user interfaces. While the effect of perceived ease of use on attitudes is not as great as that of perceived usefulness on attitudes, the former is still significant. Therefore, making the website easier to use will also enhance its usefulness. For example, an interactive forum could be provided or the website could link to well-known non-governmental websites that also feature specific tourist attractions.

By increasing convenient access to tourism information on their websites, local Taiwanese governments can increase the contribution of the tourism industry to local economic development. Therefore, understanding the Internet user’s motivation and intention to use such a tourism website becomes important in terms of improving usability and providing useful information to users. Besides, Tourism websites can play an essential role in tourists’ decision-making before their departure. Previous research (Fesenmaier and Jeng, 2000; Pan, 2003) showed that although tourists make different decisions, the major decisions are made at the beginning of travel planning and usually hard to change. The attractiveness of tourism websites has important impact on tourists’ choices. Thus, based on the results of this study, a well-designed tourism website should consider information seeking behaviors of internet user to attract tourists’ intentions to (re)visit.

Future research will be placed on examining the content and functions of tourism websites.

REFERENCES


