Examining e-travel sites: an empirical study in Taiwan

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Abstract
Purpose – For the internet to realise its full marketing potential, travel agencies need a well-designed e-travel site. Yet the attributes that affect customers’ perceptions leading to acceptance of e-travel sites are still unclear. This study seeks to focus on why users accept or reject e-travel sites and how users’ acceptance is affected by three widely recognised features of sites – relevant information content, information quality, and functionality needs service.

Design/methodology/approach – The study analysed a survey of 242 users of Taiwanese e-travel sites to test the hypothesised expanded technology acceptance model.

Findings – The empirical results indicate that the information content, information quality and functionality service of e-travel sites strongly determine the perceived ease of use. Relevant information content and information quality also strongly determine perceived usefulness, which in turn leads to the behavioural intention to use e-travel sites.

Originality/value – The findings of the study suggest that web site information must be sufficiently provided, quickly expanded and constantly updated to maintain correct and current content to meet users’ information needs as well as an appropriate assistance function to provide good levels of web-based customer service. These attributes should satisfy visitors, making them likely to revisit e-travel sites.

Keywords Taiwan, Internet, Travel, Marketing strategy

Paper type Research paper

Introduction
Internet development and use, especially of the worldwide web (WWW), has proliferated rapidly since the initial commercial applications in 1994. According to Internet World Stats (2008), 1412 million people had internet access in 2008, penetrating approximately 21.2 percent of the population. Internet spending has also increased tremendously, estimated at US$144.6 trillion in 2004 and expected to surge to US$316.1 trillion by 2010 (Strauss et al., 2006).

According to various studies (Walle, 1996; Kasavana et al., 1997) the internet is most effective when used as an advertising and marketing tool. The information-intensive tourism/hospitality industry has used the internet as part of its marketing efforts since 1997 (Connolly et al., 1998). In order to use the internet to its fullest potential and keep abreast of new technology, travel agencies continuously redesign their web sites for users’ ease and convenience and upgrade the technology to make their sites more personalised for customers.

The potential of the internet has made traditional marketing practices obsolete. According to Rayman-Bacchus and Molina (2001) tourism is one of the fastest growing sectors on the internet. Furthermore PhoCusWright (2009) estimated that the online travel market will comprise more than 40 percent of the total tourism market by 2010,
compared with 32 percent in 2006, surpassing $95 billion in the USA. The tourism industry in Taiwan has used web sites as marketing tools since the mid-1990s (Wan, 2002). Trends indicate that web site usage will continue to grow significantly in the coming years. Most recent reports (Market Intelligence Centre, 2009) indicate that online travel packages are the most popular product in online shopping networks in Taiwan and were expected to reach NT 311.6 billion (about $9.46 billion) in 2009.

The internet has already demonstrated its ability to provide ample opportunities and particular utility for dealing with the intangible nature of tourism services by transforming marketing-mix variables to gain a competitive advantage (Baloglu and Pekcan, 2006). Thus travel agents have rushed with great enthusiasm to construct web sites with the hope of benefiting from this communication channel and exploring the potential for attracting customers in the virtual marketplace. Unfortunately several web site analyses have shown that tourism organisations in Australia and hotels in Greece, Taiwan and Turkey have failed to utilise the internet effectively (Benckendorff and Black, 2000; Sigala, 2001; Wan, 2002; Baloglu and Pekcan, 2006).

The internet user typically visits e-travel sites for at least two reasons:

(1) To search for particular information such as a travel offer or a competitive price.

(2) To purchase something in particular such as booking online.

Relevant information content, information quality and functionality needs service are the key factors driving visitors to web sites (Jung and Baker, 1998; Doolin et al., 2002; Cai et al., 2004; Ozturan and Roney, 2004; Baloglu and Pekcan, 2006; Ho and Lee, 2007; Park et al., 2007). Site design and internet functions contribute to effective delivery of messages, the quality of products and services, and brand image (Perdue, 2001). A company providing inappropriate information on a site can endanger its precious business image. With continuing growth of the internet market and rapidly increasing new technologies, understanding the factors that promote effective web site utilisation continues to be a vital issue for tourism researchers and travel agencies.

Although many studies have focused on identifying various factors influencing user acceptance behaviour of tourism-related web sites (Benckendorff and Black, 2000; Sigala, 2001; Doolin et al., 2002; Wan, 2002; Cai et al., 2004; Ozturan and Roney, 2004; Baloglu and Pekcan, 2006; Ho and Lee, 2007; Park et al., 2007), researchers are still developing e-travel site evaluation techniques, using subjective approaches based on individual preferences (Cai et al., 2004). Few of these techniques are based on well-constructed theoretical models, and some proposed conceptual frameworks have not been verified. As a result, although subjective researchers have made some contributions to design and marketing features of the online tourism industry, they may not have adequately conducted direct evaluations through assessing users’ perceptive reasoning processes. Without theoretical reference models there is significant ambiguity on how to build well-constructed e-travel sites and evaluate them in practice.

The technology acceptance model (TAM) introduced by Davis and his colleagues (Davis, 1989; Davis et al., 1989) has received considerable attention among researchers and information professionals, having become established as a concise yet powerful model for explaining and predicting usage intentions and acceptance behaviour (Yi and Hwang, 2003). In an extension of this, Venkatesh et al. (2003) integrated eight
models of technology acceptance into the unified theory of acceptance and use of technology (UTAUT). Nevertheless the perceived usefulness and perceived ease of use factors of the TAM remain the two most robust components in several recent technology acceptance meta-analyses, which include UTAUT (King and He, 2006; Schepers and Wetzels, 2007; Yousafzai et al., 2007). Thus this study utilised the TAM to analyse internet tourism in Taiwan by the features (relevant information content, information quality and functionality needs service) provided by e-travel sites. The results of this study can provide the tourism industry with a theoretical study model and professionals with information for building well-constructed e-travel sites.

**Literature review**

**Web site studies in tourism**

Since the internet has proven to be an effective means for advertising, marketing, providing information and distributing digital products, the information-intensive nature of the tourism industry, in particular, uses the internet to promote and market destinations and to obtain the bulk of its business. According to one study (Kasavana et al., 1997) the internet is changing the way in which the travel industry plans, controls, operates and integrates a majority of its business activities, including its marketing activities. As a result more than two-thirds of travel companies view an internet site as a significant competitive weapon within their industry. Moreover about 60 percent describe the internet as playing a major role in acquiring new customers (Mullen, 2000). Both researchers and marketing practices have demonstrated that both design and internet marketing features contribute to web site success. Thus researchers have claimed that a web site must provide the user with a satisfactory online experience and a reason to visit and return (Breitenbach and Van Doren, 1998). To maintain current customers and gain new ones, travel agencies must evaluate their web sites since they directly affect and reflect the success of the company in the electronic market (Spiliopoulou and Pohle, 2001).

To help tourism-related operators measure the effectiveness of their web sites, numerous web site evaluation techniques have been developed using subjective approaches based on individual preferences (Cai et al., 2004). Most researchers suggest that web site quality indicators include download speed, site accessibility, ease of navigation and visual attractiveness (Breitenbach and Van Doren, 1998). One study focused primarily on “hit-counting” techniques (Perdue, 2001) although traffic is not necessarily a good indicator of web site success (Tweney, 1999). Recently Ho and Lee (2007) developed five core components – information quality, security, web site functionality, customer relationships and responsiveness – for measuring e-travel quality service. They also found that the e-travel quality service scale has strong predictive capability in relation to online customer satisfaction and loyalty intention. Park et al. (2007) also identified six quality dimensions – fulfilment, ease of use, security/privacy, information/content, responsiveness and visual appeal – to examine the influence of perceived web site quality on willingness to use. They found that with the exception of visual appeal, these dimensions have strong predictive capability for users’ willingness to use.

Information content is the key factor driving visitors to web sites (Cai et al., 2004). As a result, many researchers have used content analysis to evaluate the sites of tourism-related industries (Rachman and Richins, 1997; Wan, 2002; Doolin et al., 2002;
Cai et al., 2004; Baloglu and Pekcan, 2006). Rachman and Richins (1997) identified 43 features with which to evaluate e-travel sites of New Zealand tour operators to determine their development status. They found that the main purpose of the New Zealand sites was to provide logistical data and information. Site functionalities were still elementary back then, and email mainly facilitated business transactions. Wan (2002) used the three general criteria of user interface, variety of information and online reservations to evaluate the sites of international tourist hotels and tour wholesalers in Taiwan. The results indicated that internet use in Taiwan’s tourism/hospitality industry is primarily for advertising, not marketing. Using 14 functionalities to evaluate the relative maturity of sites in New Zealand’s regional tourism organisations, Doolin et al. (2002) pointed out that these organisations generally displayed moderate-to-high levels of interactivity consistent with their role in providing comprehensive destination marketing for geographic regions wherein many local tourism operators lack an internet presence benchmark. Cai et al. (2004) used 31 expectation features for tour-operator web sites to evaluate the content-delivery performance of US tour operators. The results indicated substandard performance, implying that the sites did not include important features necessary for operators to remain viable in a highly competitive market. Baloglu and Pekcan (2006) also utilised content analysis to analyse the sites of a selected group of hotels in Turkey in terms of site design characteristics (interactivity, navigation and functionality) and marketing practices on the internet. Their findings indicate that Turkish hotels are not utilising the internet to its full potential in effectively e-marketing their accommodations.

Although various researchers have contributed to site design and internet marketing features in the tourism industry, these researchers may not have adequately asked users to directly evaluate sites through perceptive reasoning processes. Furthermore several analytical web site content studies have shown that tourism organisations are not effectively using the internet for marketing and e-commerce (Benckendorff and Black, 2000; Sigala, 2001; Wan, 2002; Baloglu and Pekcan, 2006). In effect the existing travel and tourism literature emphasises the importance of e-commerce and the conceptual effects of the internet on the travel industry. Empirical evidence and realistic suggestions for measuring and improving e-travel site attractiveness have so far been lacking (Tsai et al., 2005). Thus how to satisfy customers with both information-gathering results and value-added processes to attract them to visit web sites again is an essential objective for site designers and travel agencies (Smith, 2004). Exploring customers’ perceptions about an e-travel site is vital since these may provide a clue to effective design and management of such sites.

**Technology acceptance model**

System usage reflects the perception of an information system by users. Achieving the intended level of system usage is one of the key measures of successful implementation. A significant number of studies in the last two decades have focused on identifying various factors influencing perceived user behaviour toward technology systems. The majority of models are inspired by the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975). Based on social psychology, TRA is very important to other models, as it is one of the most fundamental and influential theories of human behaviour (Venkatesh, 2000). TRA asserts that both the attitude towards a specific behaviour and subjective norms have an impact on behavioural intention,
which in turn determines actual behaviour. Intentions are assumed to capture the motivational factors, that influence a behaviour, and thus indicate how hard people are willing to try or to what extent they are planning to make an effort, in order to perform the behaviour (Ajzen and Fishbein, 1980).

Sharing a common thread with TRA, TAM (Davis, 1989), as shown in Figure 1, was the first model to mention psychological factors affecting computer acceptance, and the model assumes that both perceived usefulness and perceived ease of use of the new technology are the most important factors affecting the behaviour of using technology. However TAM deviated from TRA by leaving subjective norms out of the model. Furthermore the attitude component was omitted since the mediating role was doubtful, and the perceived technology characteristics directly influenced the individual’s intention to use the new technology under consideration. TAM mainly offers a basic framework to explain the influence of external variables towards behavioural ideas. In practice one must cooperate with the theme characteristics to choose different external variables and probe into the roles that these variables play.

With the flourishing of studies using TAM, more and more external variables that apply to different fields have been found. Venkatesh et al. (2003) reviewed the relevant studies and found that the models whose evidence was based in the past differ from those, which have been verified in each field and category separately. As a result they combined the eight models in the previous literature to create a unified theory of acceptance and use of technology (UTAUT). UTAUT represents a significant step forward in the technology acceptance literature and it suggests four core constructs to explain and predict user acceptance of a new technology: performance expectancy (equivalent to perceived usefulness), effort expectancy (equivalent to perceived ease of use), facilitating conditions and social influence. These constructs explain up to 70 percent of the variance in usage intention.

This study, however, did not take UTAUT as the basis for its model. First of all UTAUT’s high $R^2$ is only achieved when moderating the key relationships with up to four variables (gender, age, experience and voluntariness) in order to yield more significant coefficients. This makes the model more cumbersome than TAM. Moreover the results of several technology acceptance meta-analyses, which include UTAUT have showed that perceived usefulness and perceived ease of use remain the two most robust components in the technology acceptance model (King and He, 2006; Schepers and Wetzel, 2007; Yousafzai et al., 2007). Additionally the major aim of e-travel sites is to provide services and communicate information with their target customers (Ho and Lee, 2007). Considering the shortcomings of UTAUT, and the purpose of e-travel sites, this study used the more traditional and verified TAM as the basis for its conceptual model, and presents a structural equation model of users' perceptions concerning
e-travel sites from the technical issues perspective. The study presented here also applied the proposed model to explore the empirical strength of the relationships therein.

Research model and hypotheses
This study explored external variables that influence perceived usefulness and perceived ease of using e-travel sites in Taiwan. In this study the travel industry provides e-travel sites (such as Eztravel, Ezfly, Startravel, etc. in Taiwan) that offer customers virtually any type of online travel function, such as airlines, hotel reservations, cruise bookings, car rentals, vacation packages and other travel services. Studying the influence of external variables on the constructs not only contributes to theoretical development but also helps in designing appropriate features, such as site functionality and information content and quality that might lead to improved acceptance by users. This is particularly true in a site-implementation environment. Figure 2 shows the model, which is based on TAM constructs and postulated relationships (enclosed in boxes). The model hypothesised that three external variables – relevant information content, information quality and functionality – of e-travel sites influence perceptions of usefulness and ease of use, which in turn affect behavioural intention to use the site.

Relevant information content
Saracevic’s (1970) algorithm defines relevant information content as an estimate of appropriateness existing between provision and information use as judged by an individual. This appropriateness is a multi-dimensional cognitive concept depending on user perceptions of both information obtained and that required at a specific time (Schamber et al., 1990). An individual perceives relevant information content subjectively, based on personal information needs, which vary with the environment. From a user perspective, relevant content refers not only to the type of information the web site offers, but also to the quality and accessibility of that information. Many researchers (Jung and Baker, 1998; Doolin et al., 2002; Wan, 2002; Cai et al., 2004; Baloglu and Pekcan, 2006; Park et al., 2007) have used relevance-of-information-content analysis to evaluate tourism industry web sites and have found that such relevance is
the key factor driving visitors to e-travel sites. Furthermore as Sachs and Stair (1997) 
pointed out, the internet user typically visits e-travel sites for at least two reasons: 

1. To search for particular information. 
2. To purchase something in particular. 

Thus e-travel sites, which contain particular travel-related information, will influence 
perceived ease of use and usefulness of their sites. Based on the literature review, this 
study proposed the following hypotheses:

**H1.** Relevant information content will have a positive effect on perceived ease of 
use of an e-travel site.

**H2.** Relevant information content will have a positive effect on perceived 
usefulness of an e-travel site.

*Information quality*

According to a ten-year study conducted by DeLone and McLean (2003) quality 
measures are important constructs related to the success of an information system 
(IS). Their study defined information quality as the reliability, currency, relevancy, 
completeness and accuracy of information on a web site facilitating customers’ 
decision-making. Based on a study of users’ behavioural intentions to use a web 
site, Lin and Lu (2000) found that information quality, response time and system 
accessibility affect users’ perceptions. Furthermore according to several studies of 
consumers’ behavioural intentions to use online travel agencies (Ho and Lee, 2007; 
Park *et al.*, 2007), lodging web sites (Jeong and Lambert, 2001; Jeong *et al.*, 2003) 
and airlines (Shchiglik and Barnes, 2004) information quality is a significant 
indicator for predicting such intentions. Smith (2004) further claimed that 
information quality has been and will remain a key factor affecting users’ beliefs 
about e-travel sites. Based on the literature review, this study proposed the 
following hypotheses:

**H3.** Information quality will have a positive effect on perceived ease of use of an 
e-travel site.

**H4.** Information quality will have a positive effect on perceived usefulness of an 
e-travel site.

*Functionality needs service*

Potential customers typically visit commercial web sites for at least two purposes: they 
are either searching for information on a particular product or service or desiring to 
purchase something in particular. Furthermore DeLone and McLean (2003) placed IS 
organisations in the dual role of information providers and service providers with 
emerging end user computing in the mid-1980s. Thus this paper defines functional 
needs service as the e-travel site’s ability to provide specific activities when users go 
online. The service can be a transaction in which users buy and sell products or 
services such as a sufficient product description and purchasing online (Armstrong 
and Hagel, 1996). The service can also support information gathering and seeking for 
facilitating and making a correct choice as well as providing personalised 
communication and services such as a search engine or a mechanism for interaction.
and tour-route planning. Since functionality contributes to effective site operation, there is a positive relationship between perceived functional benefits and usefulness level (Baloglu and Pekcan, 2006). Scholars (Ho and Lee, 2007) have pointed out that web site functionality has strong predictive capability for online customer satisfaction and loyalty intention toward the e-travel site. Careful reflection on findings reported in the literature review led to the following hypotheses:

**H5.** Functional needs service will have a positive effect on the perceived ease of use of an e-travel site.

**H6.** Functional needs service will have a positive effect on the perceived usefulness of an e-travel site.

**Perceived ease of use and perceived usefulness**

The TAM proposition indicates that the behavioural intention to use (BITU) is a determinant of actual technology system use, and this behavioural intention is determined by two antecedent beliefs: perceived usefulness (PU) and perceived ease of use (PEU).

### Table I.
Profiles of respondents from three samples

<table>
<thead>
<tr>
<th>Demographic characteristics of respondents</th>
<th>This study(^a)</th>
<th>Ho and Lee(^b) (2007) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>123</td>
<td>50.8</td>
</tr>
<tr>
<td>Female</td>
<td>119</td>
<td>49.2</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 years old or under</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20-30</td>
<td>117</td>
<td>48.3</td>
</tr>
<tr>
<td>31-40</td>
<td>74</td>
<td>30.6</td>
</tr>
<tr>
<td>41-50</td>
<td>44</td>
<td>18.2</td>
</tr>
<tr>
<td>Over 50</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>70</td>
<td>28.9</td>
</tr>
<tr>
<td>Government, military or education</td>
<td>51</td>
<td>21.1</td>
</tr>
<tr>
<td>Free lance</td>
<td>8</td>
<td>3.3</td>
</tr>
<tr>
<td>Business</td>
<td>82</td>
<td>33.9</td>
</tr>
<tr>
<td>Farming or fishing</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td>Other</td>
<td>28</td>
<td>11.6</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below secondary school</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Secondary school</td>
<td>11</td>
<td>4.6</td>
</tr>
<tr>
<td>University</td>
<td>155</td>
<td>64</td>
</tr>
<tr>
<td>Postgraduate study</td>
<td>75</td>
<td>31</td>
</tr>
<tr>
<td><strong>Last time travel web sites visited</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within one month</td>
<td>152</td>
<td>62.8</td>
</tr>
<tr>
<td>Three months ago</td>
<td>54</td>
<td>22.3</td>
</tr>
<tr>
<td>Six months ago</td>
<td>27</td>
<td>11.2</td>
</tr>
<tr>
<td>12 months ago</td>
<td>9</td>
<td>3.7</td>
</tr>
</tbody>
</table>

**Notes:** \(^a\)Sample size = 242; \(^b\)Sample size = 382; \(^*\)denotes significant difference at 0.01 levels
use (PEU). Furthermore PEU is a determinant of PU because, when assuming other factors are equal, users consider a technology system more useful when it is free of frustration and undue effort. Table I presents the items used for measuring PU, PEU and BITU.

Continuing the TAM proposition this study revalidated constituent relationships in the context of e-travel sites with the following hypotheses:

H7. Perceived ease of use will have a positive effect on perceived usefulness.

H8. Perceived ease of use will have a positive effect on the behavioural intention to use.

H9. Perceived usefulness will have a positive effect on the behavioural intention to use.

Survey design

Questionnaire and measurement scale

The primary objective of this study was to track antecedent variables of the TAM constructs PU, PEU and BITU of travel web sites. Thus the questionnaire design can be grouped into two major categories: external variables, which affect user acceptance and behavioural intention to use a travel web site, and variables of the TAM constructs. In order to effectively capture tourists’ cognitive performance (external construct variables) the scale development was based on theory (Aladwani and Palvia, 2002; Marsico and Leviaidi, 2004), a tourism-related literature review (Benckendorff and Black, 2000; Sigala, 2001; Wan, 2002; Cai et al., 2004; Ozturan and Roney, 2004; Baloglu and Pekcan, 2006; Park et al., 2007; Ho and Lee, 2007) and structured interviews with four practitioners. The practitioners represented travel agency managers or senior staff with first-hand knowledge of the travel web site operation of their companies. Thus several items were generated to measure the different aspects of information content, information quality and functionality needs service of travel web sites.

Next the scales were evaluated and modified by ten experienced travel web site users and academics in a formal pre-test. The academic community included faculty from three universities with expertise in tourism/hospitality. Eventually six items pertaining to relevant information content performance, two items on information quality and five items on functionality needs service were obtained. When respondents are presented with either too many or too few response categories, it is possible that respondent fatigue might occur with a corresponding drop-off in response rate and reliability. According to Mertler’s (2005) recommendation, this study used a five-point Likert-type scale as the response format, with assigned values ranging from 1 (“completely disagree”) to 5 (“completely agree”).

The current study measured TAM construct variables using an adapted five-point Likert-type scale devised by Davis (1989) and Taylor and Todd (1995). This study changed some of the wording to suit the travel web site context, the assigned values being identical to those on the aforementioned scale. Four different statements were developed to measure PEU, four to measure PU and five to measure BITU.

A pilot study of 30 travel web site users comprised the survey items listed in Table II to verify the wording, ease in responding and applicability of statements (Heung and Cheng, 2000). This study made some modifications to the wording of statements as a
result of the pre-test. The survey included items worded with proper negation and randomisation to reduce the monotony of items measuring the same construct. The items were developed bilingually, in Chinese and English, considering the linguistic difficulties of interpreting problems and to prevent misleading the participants.

Data collection
In the first stage the researcher asked 20 travel agencies for assistance in recruiting volunteers who had visited or booked online using any of Taiwan's top 20 travel web sites in the past two years and who would be willing to participate in the survey. The recruitment process was implemented over a two-month period from March to May 2007, initially recruiting 315 volunteers. However, since the number of students volunteering was high, 35 were eliminated, for a total of 280 respondents. In the second stage the questionnaires were sent to the respondents to complete by e-mail. Finally, the analysis used 242 fully completed questionnaires.

The frequency distribution of the variables shown in Table I analysed the demographic characteristics of the respondents. The sample population for both

<table>
<thead>
<tr>
<th>Construct Item Measure</th>
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<tbody>
<tr>
<td>Behavioural intention to use (BITU)</td>
</tr>
<tr>
<td>BITU 01 Like to use e-travel sites</td>
</tr>
<tr>
<td>BITU 02 Like to visit or purchase at e-travel sites</td>
</tr>
<tr>
<td>BITU 03 Will visit or purchase at e-travel sites again</td>
</tr>
<tr>
<td>BITU 04 Like to collect information at e-travel sites</td>
</tr>
<tr>
<td>BITU 05 Will suggest e-travel sites to friends</td>
</tr>
<tr>
<td>Perceived usefulness (PU)</td>
</tr>
<tr>
<td>PU01 E-travel sites are useful</td>
</tr>
<tr>
<td>PU02 Enhance efficiency of tour searching</td>
</tr>
<tr>
<td>PU03 Enhance performance of travel purchases</td>
</tr>
<tr>
<td>PU04 Make better travel decisions</td>
</tr>
<tr>
<td>Perceived ease of use (PEU)</td>
</tr>
<tr>
<td>PEU01 Learning to use is easy</td>
</tr>
<tr>
<td>PEU02 Clear, understandable and straightforward to use</td>
</tr>
<tr>
<td>PEU03 Flexible and easy communication</td>
</tr>
<tr>
<td>PEU04 Easy to become skilful</td>
</tr>
<tr>
<td>Relevance of information content (RIC)</td>
</tr>
<tr>
<td>UI01 Good visual information such as photographs, maps, etc.</td>
</tr>
<tr>
<td>UI02 Comprehensive coverage (sufficient amount of information provided)</td>
</tr>
<tr>
<td>UI03 Information about tours offered for sale</td>
</tr>
<tr>
<td>UI04 Customer/agent membership information</td>
</tr>
<tr>
<td>UI05 Ease in collecting specific information</td>
</tr>
<tr>
<td>UI06 Information about different tourist destinations</td>
</tr>
<tr>
<td>Information quality (IQ)</td>
</tr>
<tr>
<td>IQ01 New/current information</td>
</tr>
<tr>
<td>IQ02 Correct/reliable information</td>
</tr>
<tr>
<td>Functionality needs service (FNS)</td>
</tr>
<tr>
<td>FNS01 Good mechanism for interaction (e.g. contact information)</td>
</tr>
<tr>
<td>FNS02 Hyperlinks to relevant web sites</td>
</tr>
<tr>
<td>FNS03 Surveys to collect information on different issues</td>
</tr>
<tr>
<td>FNS04 Travel schedule/plans</td>
</tr>
<tr>
<td>FNS05 Easy online select/purchase</td>
</tr>
</tbody>
</table>

Table II.
Survey items used in this study
genders – females (49.2 percent) and males (50.8 percent) – were similar. The ages of
the respondents had a concentrated distribution where the largest category extended
from 20 to 30 years of age (48.3 percent). The next largest category comprised
respondents from 31 to 40 years old (30.6 percent). In regard to education level most of
the respondents had or were completing undergraduate (64 percent) or postgraduate
(31 percent) degrees. It seems that the majority of the respondents were young and well
educated, and most respondents had visiting/shopping experience at e-travel sites
within the previous three-month period. The respondents were also employed in a
variety of occupations, thereby reducing survey bias.

In order to assess the representativeness of the sample, the author collected and
compared the demographic characteristics for these respondents with those reported in
previous studies conducted by Ho and Lee (2007) that investigated Taiwan’s travel
services online. The \( \chi^2 \)-test was conducted, as shown in Table I. With the exception of
occupation, the survey results of the two studies were similar. The minor discrepancy
may have been due to the differences in numbers of students and people in business.
The results showed that the sample is sufficiently representative.

**Measurement model**
Researchers developed the structural equation model (SEM) to evaluate how well a
proposed conceptual model containing observed multiple indicators and hypothetical
constructs explains or fits the collected data (Yoon and Uysal, 2005). This study
utilised SEM to empirically test the relationships between constructs using the LISREL
8.72 software. To test and estimate the hypothesised model, this work employed a
two-step approach with an initial measurement model and a subsequent structural
model.

According to Anderson and Gerbing (1988) confirmatory measurement models
should be evaluated and re-specified before assessing measurement and structural
equation models. Thus before testing the measurement model the internal consistency
of each construct in the model was separately analysed using confirmatory factor
analysis (CFA). Jöreskog (1993) argued that an item with an alpha coefficient below
0.30 is unacceptable and must be eliminated from further analysis. According to this
recommendation the present study removed one indicator of functionality needs
service, two indicators for relevant information content and one indicator of perceived
usefulness. Table III shows that the result of the Chi-square, \( p \)-values and the values of
goodness-of-fit indexes of each construct exceeded the minimum value.

With each successive construct validation the overall six-construct measurement
model was validated with 22 indicators (ten for exogenous variables and 12 for
endogenous variables) using a CFA. In testing the measurement model, it was modified
so that it came to represent the theoretical causal model of interest in this study.
Indicators having an alpha coefficient of less than 0.30 were eliminated. Moreover, the
model was evaluated and revised until it was theoretically meaningful as well as
statistically acceptable. In particular, one indicator of relevant information content
among the exogenous variables highly correlated with the other constructs. After
examining the model fits of the overall measurement model excluding the correlated
indicators, the indicator was eliminated because without this indicator the model
produced better-fit indices. The results indicated that the \( \chi^2 \) of the model were 285.72
with 181 degrees of freedom \( (p = 0.0000) \) and a root mean square error of approximation \( \text{RMSEA} \) of 0.068.

Because of the likely effect of a large sample size on the \( \chi^2 \) values, other fit indices were also selected to measure the fit of the tested model. Other indicators included a goodness-of-fit index (GFI) of 0.87, a parsimony goodness-of-fit index (PGFI) of 0.65, a non-med-fit index (NFI) of 0.94, a non-normed fit index (NNFI) of 0.96 and a comparative fit index (CFI) of 0.96. The values of NFI, NNFI and CFI ranged from zero to 1.00, with a value close to 1.00 indicating good fit (Bryne, 1998). Moreover as Table IV shows, the \( t \)-value associated with each of the standardised loadings exceeded the critical level \( (1.96, p = 0.05) \). The reliability of all six constructs exceeded the minimum level of 0.70 \( (0.886, 0.756, 0.862, 0.918, 0.711 \text{ and } 0.753) \). The discriminant validity was examined by correlation estimating between constructs with the variance extraction measure (Babin et al., 2004). For variance extraction, except for the functionality needs service construct, the other five constructs exceeded the minimum level of 0.50 \( (0.903, 0.509, 0.610, 0.558 \text{ and } 0.789) \). Although the variance extraction value of functionality needs service was only 0.434, it still met this conservative test of discriminant validity, since the variance extraction estimates from each construct exceeded the squared correlation between each construct. This procedure demonstrated that each construct was statistically different from the others (see Table IV). According to the result of the foregoing analysis, the psychometric properties of each respective latent construct, especially for the purpose of this research, are acceptable.

### Structural equation model

In this study the SEM procedure was an appropriate solution for measuring parametric values \( (\text{i.e. path coefficients}) \) for each of the research hypotheses to determine their respective significance, implemented on the basis of the TAM and prior tourism research (Benckendorff and Black, 2000; Sigala, 2001; Wan, 2002; Marsico and Levialdi, 2004; Cai et al., 2004; Ozturan and Roney, 2004; Baloglu and Pekcan, 2006; Park et al., 2007; Ho and Lee, 2007). After assessing the measurement model, this work estimated an initial theoretical model having six constructs with six gamma paths and three beta paths. As the first step in assessing the hypothesised relationships, the structural equation model was evaluated by examining:

<table>
<thead>
<tr>
<th>Goodness-of-fit index</th>
<th>Behavioural intention to use</th>
<th>Perceived usefulness</th>
<th>Perceived ease of use</th>
<th>Relevant information content</th>
<th>Information quality</th>
<th>Functionality needs service</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \chi^2 )</td>
<td>5.23</td>
<td>0</td>
<td>1.24</td>
<td>3.78</td>
<td>2.16</td>
<td>2.65</td>
</tr>
<tr>
<td>df</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>( P )</td>
<td>0.388</td>
<td>1</td>
<td>0.539</td>
<td>0.15123</td>
<td>0.34</td>
<td>0.26643</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.014</td>
<td>0.000</td>
<td>0.000</td>
<td>0.065</td>
<td>0.018</td>
<td>0.052</td>
</tr>
<tr>
<td>NFI</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>0.99</td>
<td>0.99</td>
<td>0.96</td>
</tr>
<tr>
<td>GFI</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Table III. Goodness-of-fit indices of each construct for modified measurement model

Notes: \( n = 242 \). \( \chi^2 \): Chi-square; df: degrees of freedom; RMSEA: root mean square error of approximation; NFI: normed fit index; GFI: goodness-of-fit index
Examining e-travel sites

<table>
<thead>
<tr>
<th>Item</th>
<th>BITU</th>
<th>PU</th>
<th>PEU</th>
<th>FNS</th>
<th>IQ</th>
<th>RIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like to use e-travel sites</td>
<td>0.73</td>
<td>8.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Like to visit or purchase</td>
<td>0.86</td>
<td>10.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will visit or purchase again</td>
<td>0.87</td>
<td>10.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Like to collect information or purchase</td>
<td>0.66</td>
<td>7.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will suggest to friends</td>
<td>0.66</td>
<td>7.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-travel sites are useful</td>
<td>0.74</td>
<td>7.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance efficiency of tour searching</td>
<td>0.68</td>
<td>6.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance performance of travel purchase</td>
<td>0.68</td>
<td>6.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning to use is easy</td>
<td>0.77</td>
<td>9.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear, understandable and straightforward to use</td>
<td>0.77</td>
<td>9.49</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible and easy communication</td>
<td>0.69</td>
<td>8.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy to become skilful</td>
<td>0.76</td>
<td>9.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperlinks to relevant web sites</td>
<td>0.72</td>
<td>7.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surveys to collect information on different issues</td>
<td>0.63</td>
<td>6.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel schedule/plan</td>
<td>0.69</td>
<td>7.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy online selection/purchase</td>
<td>0.60</td>
<td>6.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New/current information</td>
<td>0.62</td>
<td>5.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct/reliable information</td>
<td>0.86</td>
<td>6.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good visual information such as photographs, maps, etc.</td>
<td>0.86</td>
<td>11.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive coverage (sufficient amount of information provided)</td>
<td>0.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information about different tourist destinations</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construct reliability</td>
<td>0.886</td>
<td>0.756</td>
<td>0.862</td>
<td>0.753</td>
<td>0.711</td>
<td>0.918</td>
</tr>
<tr>
<td>Variance extracted</td>
<td>0.903</td>
<td>0.509</td>
<td>0.610</td>
<td>0.434</td>
<td>0.558</td>
<td>0.789</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>285.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>181</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GFI</td>
<td>0.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGFI</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFI</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NNFI</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table IV. Confirmatory factor analysis results including standardised loading estimate ($t$-values)

(continued)
The results indicated that the $\chi^2$ were 282.12 with 180 degrees of freedom ($p = 0.0000$), thereby showing an insignificant $\chi^2$. Since sample size heavily influences the chi-square (Bollen and Long, 1993) researchers have suggested other goodness-of-fit indexes to assist in model evaluation (Jöreskog and Sörbom, 1996). Thus the recommendations in the literature suggest a more complete examination of the fit indexes. For the hypothesised model (see Table V) the $\chi^2/df$ was 1.567, less than the standard of 3 suggested by Hayduk (1987); the GFI was 0.85, a value exceeding the standard of 0.8 recommended by Hair et al. (2006); the NFI was 0.93, the NNFI was 0.94 and the CFI was 0.96, exceeding the standard of 0.9 recommended by Brown and Cudeck (1993); the RMSEA was 0.069, within the standard (less than 0.8) suggested by Hair et al. (2006). When examining the variance explained for the structural equations, the hypothesised model explained 0.61 of variance in attitudes toward use. To summarise, these indicators are consistent in indicating an acceptable fit of the hypothesised model to the data. Figure 3 shows the standardised theoretical paths linking relevant information content, information quality, functionality needs service, perceived ease of use, perceived usefulness and behavioural intention to use e-travel sites.

Table VI is a summary of the standardised parameter estimates for the structural model. As indicated in this table, the results supported the relationships hypothesised between the endogenous constructs (behavioural intention to use, perceived usefulness and perceived ease of use) at a significance level of 0.05. These results also revalidated

\begin{table}[h!]
\centering
\begin{tabular}{llllllll}
\hline
\textbf{Fit index} & $\chi^2/df$ & GFI & PGFI & NFI & NNFI & CFI & RMSEA \\
\hline
Recommended value & $< 3$ & $> 0.8$ & $> 0.50$ & $> 0.90$ & $> 0.90$ & $> 0.90$ & $< 0.08$ \\
Hypothesised model & 282.12/180 = 1.567 & 0.85 & 0.66 & 0.93 & 0.94 & 0.96 & 0.069 \\
\hline
\end{tabular}
\caption{Goodness-of-fit measures for structural equation model ($n = 242$)}
\end{table}
the relationships in the TAM proposed by Davis (1989). Consequently behavioural intention to use was positively affected by perceived usefulness, as indicated by the completely standardised coefficient of 0.50 and a $t$-value of 3.97. Behavioural intention to use was also positively affected by perceived ease of use, as indicated by the completely standardised coefficient of 0.37 and a $t$-value of 3.29. Moreover perceived usefulness was positively affected by perceived ease of use, as indicated by the completely standardised coefficient of 0.52 and a $t$-value of 3.76. The results in Table VI also offer support for the five hypothesised relationships between exogenous variables and endogenous variables at a significance level of 0.05, that is, perceived ease of use was positively affected by relevant information content, as indicated by the completely standardised coefficient of 0.46 and a $t$-value of 5.87. Perceived ease of use was
positively affected by information quality, as indicated by the completely standardised coefficient of 0.41 and a t-value of 3.78. Perceived ease of use was also positively affected by functionality needs service, as indicated by the completely standardised coefficient of 0.41 and a t-value of 3.95. Moreover perceived usefulness was positively affected by relevant information content, as indicated by the completely standardised coefficient of 0.36 and a t-value of 3.78. Perceived usefulness was also positively affected by the information quality, as indicated by the completely standardised coefficient of 0.30 and a t-value of 2.46. However the data did not support another hypothesised relationship, which perceived usefulness was affected by functionality needs service. It may be that tourists’ requirements for collecting information and booking travel online does not include a complicated functionality pertaining to use-oriented management information systems.

Discussion and implications

Discussion

In the measurement instrument, the empirical results of the exploratory factor analyses coincide with the research findings of previous studies (Wan, 2002; Cai et al., 2004; Ozturan and Roney, 2004; Baloglu and Pekcan, 2006; Park et al., 2007; Ho and Lee, 2007) including the extracted factors in regard to functionality needs service, information quality and relevant information content. This finding enhances the applicability of the scale in the e-travel site service setting. The dimensions bear the same name as those of previous studies, however the content can be somewhat different. To some extent the differences may relate to different services and functions provided by the e-travel industry across nations (Ho and Lee, 2007). There may be nationality-specific service requirements and web site attributes that lead to content differences in certain service dimensions.

Furthermore, the exploratory factor analyses also revealed that even if each construct retains its original characteristics, the significance of relevant information content largely reduces with the number of reliable and appropriate items that can be used to measure this construct, such as information about tours for sale and specific information collecting, which implies that internet users visit e-travel sites for acquiring information rather than purchasing something in particular, and customer/agent membership information, which implies that consumers are concerned about privacy and do not disclose their information in public. Thus travel agencies should pay attention to security and privacy features to protect the customers’ information.

These results are not fully consistent with the findings of Ozturan and Roney (2004) and Park et al. (2007). In addition the indicator of good mechanisms for interaction was dropped from the factor of functionality needs service. This result is not consistent with the findings of Ozturan and Roney (2004) and Cai et al. (2004). The differences might be due to the different level interaction mechanisms that play an important role in the determinants of service quality. For example, online customers may like to interact with an entire organisation instead of an employee while seeking help from a travel web site since the “help” mechanism cannot provide a total solution. Therefore the hybrid service providers should focus much more on the output from the service encounter (i.e. the content and quality of information) due to the lack of much human interaction on the internet. Moreover it is difficult to determine consistent measurement indicators for this construct. Although this finding results from a single empirical
investigation, tourism scholars and practitioners should be aware of the need to conduct further studies to develop more effective measurement scales for assessing this construct. This observation suggests that since travel web site users may have varied motivations and may react differently, future research should explore and refine consistent measurement scales and constructs. Even with such a limitation, the relevant information content grouped three items, presenting the particular content that relates to travel specific areas of interest. Researchers can use this information to assess whether information content meets the needs of travel web site users.

Finally even the reliability of functionality needs service (0.753) exceeded the minimum level of 0.70 and the variance extraction estimates from this construct exceeded the squared correlation between each construct, meeting the conservative test of discriminant validity. However, its variance extraction measure was only 0.434, indicating that the correlations are still very high, and suggesting that the measure does not actually capture a distinct or isolated trait. Thus the result implies that this dimension is suitable for further investigation.

The overall empirical results of this study also provide tenable evidence that the proposed causal relationships model is acceptable, although the original hypothesis that functionality needs service directly determines perceived usefulness (H6) is not significant. The model was tested by the structural equation model to consider relevant information content, information quality and functionality needs service relating to travel web sites as important constructs that determine perceived ease of use, which affects perceived usefulness, in turn influencing behavioural intention for visiting/booking online. The author believes this study substantially generates more precise applications related to travel web site usage behaviour than previous research.

As in most empirical results from TAM studies (King and He, 2006; Schepers and Wetzels, 2007; Yousaafzai et al., 2007), the findings of this study show that perceived ease of use influences both perceived usefulness (H7) and final behavioural intention to use travel web sites (H8) and that perceived ease of use directly influences visitors’ behavioural intention for such usage (H9). Additionally in accordance with the results of Kim and Lee (2004) and Davis et al. (1989) but in contrast to the results of Cho and Agrusa (2006) and Park et al. (2007), this study also found that perceived usefulness influences users’ behavioural intention to use travel web sites by examining more than perceived ease of use (H9 > H8). Thus a useful site allows visitors to form more positive behavioural intention to use the site. Like most information systems, travel web site users evaluated working productivity as mainly depending on site effectiveness when surfing or searching for information and communicating with others (Ho and Lee, 2007) – they were more interested in using the site if it was useful. This phenomenon also explains mechanisms related to travel web site behaviours.

Implications
Rapid changes in technology and fierce competition from within the tourism industry are forcing online travel agencies (OTA) to increase their understanding of consumers’ expectations, needs and wants, which in turn leads to developing a well-designed travel web site. Yet the attributes that affect customers’ perception leading to acceptance of e-travel sites are still unclear. The TAM has been widely used by researchers and practitioners for explaining and predicting usage intentions and acceptance behaviour toward information technologies. This study focused on why
users accept or reject e-travel sites and how users’ acceptance is affected by three widely recognised features (relevant information content, information quality and functionality needs service) of sites.

Although some limitations were found by the exploratory factor analyses, the major findings of this study have significant managerial implications for travel agencies. First, respondents in this study demonstrated a high perceived ease of use and usefulness of travel sites with regard to relevant information content, including sufficient amount of information provided, information about different tourist destinations and good visual information such as photographs, maps, etc. These findings imply that travel web sites offering a wide variety of relevant information content may be at an advantage in relation to the user expectations. Furthermore the information content of a travel web site is particularly important because it directly influences the perceived image of the travel web site and creates an experience for the consumer (Doolin et al., 2002). Therefore travel web sites should contain varied and comprehensive relevant information such as galleries or photo albums, and offer added value and carve out niche products or services such as unique vacation packages to attract as many users and potential customers as possible. Furthermore one of the distinctive characteristics of web based communications is multimedia. Cai et al. (2004) asserted that the web has a capacity for addressing senses far surpassing that of any other media. This capacity allows OTAs to present appealing images of the destinations on their web sites such as live chat features, videos or “virtual trips” that are more engaging for visitors than static pictures (Park et al., 2007; Breitenbach and Van Doren, 1998). Furthermore in order to provide suitable information content services, travel web sites should provide personalised information to the consumers by analysing consumer behaviours in the web site. For instance, travel web sites should actively recommend other travel information or products when a consumer reads travel information or purchases one travel product. Then travel web sites can incorporate data mining techniques into the online travel services, since the use of these techniques can be helpful to achieve the objective mentioned previously by finding interesting and potentially useful information or content from databases.

Next, respondents also showed a high-perceived ease of use and usefulness of travel sites with regard to information quality including newness/currency and correctness/reliability. These findings imply that travel web sites offering a wide variety of current and reliable information may be at an advantage. Thus to meet users’ expectations regarding quality and travel, OTAs should offer and select the newest and most reliable information for their web sites, and use the web as a dynamic medium (Ainscough and Luckett, 1996). To do this, OTAs must constantly re-examine their sites to determine whether features are missing or need updating or expanding. Furthermore OTAs also can imitate American Airlines by providing helpful, up-to-date information on their web sites and collecting timely, relevant information. OTAs should also compare their own web sites with those of their competitors and regularly update all postings (Perdue, 2001). It is noteworthy that Kaynama and Black (2000) pointed out that a potential customer must depend on the site’s reputation to verify the correctness/reliability of the information provided. In other words, improving the reputation could affect perception of the correctness/reliability of the information provided. Thus how to make public praise powerful for a travel web site should be particularly emphasised by OTAs.
Another result showed that the functionality needs service of a travel web site relates to the visitor’s perceived ease of use (H5). The functionality needs service includes hyperlinks to relevant web sites, surveys to collect information on different issues, travel schedules and planning, and easy online selection and purchase. A travel site possessing an appropriate functionality service is associated with greater perceived ease of use. Sachs and Stair (1997) pointed out that visitors typically turn to web sites for two reasons: web sites either perform a particular function or provide particular content. The functionality needs service permits visitors to do something, such as searching for information on the World Wide Web using quick and easy hyperlinks to relevant web sites. Thus the web site design of product and tourism search engines should allow visitors to further explore topics of interest. Moreover such innovative tools can be installed free of charge, for example, both the Google and Yahoo! web sites provide free search engines enabling visitors to locate information on many different sites.

Furthermore, two other items emphasise the function of travel plans and online selection and purchase to help customers solve their problems, either by themselves or with technical support. The travel web site must have intelligent web assistance systems that tailor the service to web user requirements, such as accessing a greater amount of relevant information needed to plan a trip and making product suggestions and evaluations based on their own travel knowledge and experiences. Wang et al. (2002) found that when people consider buying online, about half of them consider the opinions of their fellow community members. One third of online community users acknowledge that those opinions influence their purchase decision. Individuals place great weight on the judgements of their fellow community members, particularly the expert judgement of insiders and devotees. Thus relationship-building tools such as a travellers’ forum, travel communities, customer/agent membership information (e.g. blogs, bulletin boards and chat rooms), and interaction mechanisms (e.g. contact information) should also be included to enable information sharing (e.g. travel experience and tips) between participants (Wang et al., 2002).

In contrast with the relationship between functionality needs service and perceived ease of use, the path between functionality needs service and perceived usefulness is weaker and insignificant, even non-existent. Therefore, a functionality needs service providing utilitarian value does not necessarily lead to another advantage in travel web site use. A tourist’s requirement for collecting information and booking travel online may not include a complicated functionality pertaining to use-oriented management information systems. Tourists who believe that a site provides an easy use functionality service, especially for travel planning (Park et al., 2007), will consider the site valuable and will likely return in the future. The finding also indicates that services of system functions and operations that remain unchanged may not be acceptable. This means that a travel web site should keep improving functions to provide satisfactory services.

Summary and suggestions for future research
Evidence that the internet can provide ample service opportunities have generated both a challenge and an opportunity for travel agencies. Such organisations have rushed to set up web sites to benefit from this communication channel and to explore customer potential in a virtual marketplace. However, several analytical studies of web
site content have shown that tourism organisations have failed to effectively utilise the internet. OTAs now look after consumers by using IT to help them find the best products. Understanding the factors promoting effective utilisation continues to be a vital issue for researchers and tourism organisations. Providing relevant content, current and reliable information and a practical functionality are particularly important since users will likely be actively involved in searching and gathering travel-related information on the travel web site. This paper proposes that the perception of features such as relevant information content, information quality and functionality needs service of travel web sites constitutes an important construct for measuring visitors’ behavioural intentions. It was hypothesised that such features of a site influence perceived ease of use and perceived usefulness, which in turn affect intention-to-use behaviours. The results of this study are generally consistent with this hypothesis, showing that perceptions of an e-travel site affect intention-to-use behaviours. Overall this research clearly shows that tourists may be encouraged to acquire intention to use based on appropriate functionality and current, reliable and relevant information on a web site.

This study explored external variables that influence perceived usefulness and perceived ease of using e-travel sites in Taiwan with regard to TAM constructs. Thus from an academic viewpoint the results of this study are consistent with the general technology acceptance model and contribute to the travel web site evaluation literature. From a practitioner’s viewpoint, the proposed model can provide the tourism industry with a theoretical model and professionals with information for building well-constructed e-travel sites from the consumer’s perspective. In other words the study establishes the representative dimensions of the acceptance of e-travel sites and the relevant indicators that measure each dimension. The indicators constitute a valid and reliable measurement instrument. Furthermore online travel agencies face a challenging future. Since web sites are their main interface with consumers, monitoring the service performance of their web site offerings on a continuous basis and in a comprehensive way is crucial in ensuring their competitiveness. Such a scale can serve as a managerial tool to the extent that e-travel service providers can evaluate the performance of their online services and initiate proper practices, which are aimed at improving e-travel site services.

However, several limitations should be discussed regarding the content and functionality of future research. This study tested the model in a specific setting, Taiwanese travel web sites, and generalising the model with replication or modification for other countries or across nations having different e-travel site features is recommended. Applying the model to other countries will help produce reliable indicators and further validate the constructs, thereby producing a more robust and stable model across different cultures. This work also suggests that others evaluate travel sites beyond Taiwan to determine whether Taiwanese sites have better delivery-performance features than sites based in other countries. Moreover this study did not consider the relationship between delivery and business-performance features and user loyalty. Hence another area for exploration is a scoring framework (Cai et al., 2004) to evaluate whether e-travel sites delivering features with low expectation scores will be beneficial to their respective marketing aspects or whether the sites with high delivery performance also motivate visitors to high degrees of site loyalty.
References


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