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Full Length Research Paper

The influence of predictors on travel web site adoption among Malaysian travellers

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A research framework of travel web site acceptance was developed based on technology acceptance model and theory of reasoned action. This study examined the influences of web site effectiveness characteristics, social factors and Internet self-efficacy on future intention to use travel web sites. From a multistage cluster sampling among employees in selected organizations in the Malaysian Klang valley, a total of 679 questionnaires were returned and analyzed. The results revealed significant influences of web site effectiveness characteristics and social factors on future intention to use travel web sites. Internet self-efficacy moderated negatively the influence of technical adequacy and system quality on future intention to use travel web sites. The paper highlights its theoretical, marketing and managerial implications.

Key words: Social factor, web site effectiveness characteristics, intention to use, Internet self-efficacy.

INTRODUCTION

Tourism is one of the fastest growing sectors in the economies of many countries (Page et al., 2001). The sector is an information-intensive industry in which electronic commerce plays a very significant role (Werthner and Ricci, 2004). Today, the majority of travel products and services are purchased through the Internet (Tierney, 2000). The ubiquitous nature of the Internet and its global access has made it an extremely effective mode of communication between businesses and customers (Rowley, 2001). The online transactions in the tourism industry have grown continuously even during the economic downturn in the late 1990s. Internet provides consumers with useful information, effective decision making strategies and online experiences.

Commercial use of the Internet has also been regarded as a powerful source of competitive advantage in global markets. The report from the United Nations Conference on Trade and Development (UNCTAD) (2000) indicated that governments, tour operators, hotels, airlines and travellers are affected by the changes brought about by electronic commerce. UNCTAD (2000) added that these changes have presented opportunities, especially for a developing country to improve its relative position in the international market. Hanson (2000) added that the Internet can be a vital marketing tool, which is the online equivalent of 'word of mouth' for many industries. For tourism organizations, its adoption is no longer an option: "If you are not online, you are not on sale" (WTO 1999).

In 2008, tourist arrivals in Malaysia were 22.1 million which is substantially higher than its stronger tourism image neighbours of Singapore (7.8 million) and Thailand (14.6 million) (UMWTO World Tourism Barometer, 2009). In Malaysia, travellers increasingly purchase tickets on-line. According to Sulaiman et al. (2008) more than half of their 500 respondents in Kuala Lumpur purchased airline tickets online within the last two years. The Internet penetration in Malaysia is at 33.3% and by the end of 2010 it is expected to reach 50% (Bernama, 2010).

The rapidly growing importance of the Internet in e-commerce and as a source of information demands a greater understanding of users' acceptance and electronic tourism. The knowledge is necessary for the formulation of marketing strategies and the design of web site features that differentiate them from the competitors. Various studies have been conducted to explore the acceptance of travel web sites in different countries: United States (Park et al., 2007), India (Vathianathan and Roy, 2009) and Taiwan (Lin, 2010). Even though there have been three studies carried out in Malaysia

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pertaining to the subject (Ahmad and Juhdi, 2008; Sulaiman et al., 2008; Zailani et al., 2008), the theoretical underpinnings and the methodologies employed were relatively weak. Thus, the generalization of the findings is questionable.

This study examines the tourist's acceptance of the travel web site by incorporating two well known models of technology acceptance. These are technology acceptance model (TAM) and theory of reasoned action (TRA). Based on these two models the current research framework which is called the Travel Web Acceptance (TWA) is developed. The framework is a holistic approach in examining the acceptance of the Internet in planning for a vacation.

There are three main predictors identified in TWA which could influence the Internet usage among travellers. These are social factors (Vogt and Fesenmaier, 1998; Gitelson and Crompton, 1983; Venkatesh and Morris, 2000), travel web site effectiveness characteristics (Moon and Kim 2001; Jeong et al., 2003; Werthner and Ricci, 2004; Bonn et al., 1998) and Internet self-efficacy (Taylor and Todd, 1995; Compeau and Higgins, 1995, 1999; Davis et al., 1989; Igbaria et al., 1995; Hsu and Chiu, 2004; Dabholkar and Bagozzi, 2002). This study also measures the moderating effect of Internet self-efficacy for the two other predictors in influencing future intention to use travel web sites.

Therefore the objectives of this study are:

i.) To identify the influence of social factors on future intention to use travel web sites.
ii.) To explore the influence of travel web site effectiveness on future intention to use travel web sites.
iii.) To measure the moderating effect of internet self-efficacy on the relationship between travel web site effectiveness characteristics and social factors on future intention to use travel web sites.

LITERATURE REVIEW

The technology acceptance model (TAM) and the theory of reason action (TRA)

Mathieson and Wall (1982) indicated that consumers are purposive beings and active information seekers in their holiday planning. Tourists are extensively involved in the decision making process due to the fact that travelling is associated with high price and high risk (Mill and Morrison, 1985). The decision making process is dynamic and tourists rely on various information sources (Fodness and Murray, 1997; Mok and Armstrong, 1996). One of the sources is the Internet.

As stated earlier the acceptance of the Internet among users is normally examined with technology acceptance model (TAM) and theory of reason action (TRA). Davis (1989) developed TAM as a general model applied to studies of individual perception, attitudes and behavior when using information systems. It is an extended model that adopts TRA developed by Ajzen and Fishbein (1980) which will be explained later.

TAM posits that perceived ease of use and perceived usefulness determine the attitude towards the use of technology. Both perceived usefulness and perceived ease of use are determined by external variables (e.g. system characteristics, development process and training). At the same time perceived usefulness also influences perceived ease of use. TAM predicts that the actual system use is determined by users' behavioural intention to use, and this is influenced by a user's attitude toward the usage (Davis, 1989). Often researchers ignore attitude variables and study the direct effect of ease of use and usefulness on intention to use and subsequently the system usage.

Although the constructs in TAM are mainly used to explain the acceptance of technology within organizations, the variables of the model are general and universal and can be applied to different types of computer systems and user population (Davis et al., 1989; Nysveen and Pedersen, 2004).

Fishbein and Ajzen (1975) utilized Fishbein's attitude measurement method and created theory of reason action (TRA). TRA assumes that humans are rational information-processing beings who use available information to make behavioural decisions (Fishbein, 1979). It is an information-processing view of attitude formulation towards performing behaviour. Fishbein hypothesizes that a person's behavioural intentions are determined by attitudinal (personal) and a normative (social) components. The personal attitude refers to the person's judgment of being in favour of or against performing the behaviour. On the other hand, the subjective norm is the person's perception of the social pressure to perform the behaviour in question (Lee and Green, 1991, p.290). While Fishbein methodology is used to evaluate attitudes toward an object, TRA is created to evaluate attitudes towards performing behaviour.

Behavioural intention to use travel web sites

Behaviour is defined as a specific action directed at some target objects and occurs in a situational or environmental context at a particular time (Peter and Olson, 1999, p. 137). Behavioural intention is linked to oneself and future action that is created through a choice or decision process involving the integration of attitudes, beliefs and subjective norms (Peter and Olson, 1999). TRA assumes that consumers will take into account the impact of their actions and they will make decisions whether or not to take action (Ajzen and Fishbein, 1980). There is a lack of focus on the use of TAM in the context of Internet usage, especially in the travel related industry.

According to Chen et al. (2002) TAM has proven the existence of the relationship between intention and behaviour with respect to information technology usage and acceptance. They found that the behavioural intention to use a virtual store is a significant factor in predicting the actual usage of the virtual store among consumers.

Fakeye and Crompton (1991) stated that experienced travellers do not need an extensive amount of information to help them in their travel decisions. This claim is supported by Kersttetter and Cho (2004) who wrote that individuals with greater levels of prior knowledge, such as experience and familiarity with a destination are less likely to use and place trust in the Internet as a source of information to travel.

The intention is a mental state of readiness to perform behaviour. According to Chen et al. (2002), there are strong theoretical and empirical correlations between intention to engage and actual behavior. Fishbein and Ajzen (1975) stated that a behavioural intention measure will predict the performance of any act. Empirical research has shown that attitude is not a significant mediating variable and the reduced model has been used successfully (Venkatesh and Davis, 1996; Venkatesh, 1999). In this study, the authors have chosen to use behavioural intention as a surrogate to the actual behaviour and define it as future intention to use travel web sites.

Travel web site effectiveness characteristics

According to Yang et al. (2003) the effectiveness of a web site is determined by the organisation's ability to customize its site so as to create value to customers. They added that four major factors which constitute the success of web sites are system use, system design quality, information quality and playfulness. Organizations are encouraged to have customer oriented web sites by improving service quality and web site design. These enhance web sites usage. Additionally, the element of hedonic pleasure on the web site motivates users to participate, create excitement and concentration as well as increase enjoyment among users while patronizing the web site.

Davis et al. (1992) suggested that there are two main determinants of information technology acceptance. These are perceived ease of use and perceived usefulness. Perceived ease of use is defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989, p. 302). Park et al. (2007) discovered that ease of use is the most important dimension in determining willingness to use, followed by content information, responsiveness, fulfilment and security/privacy. No significant relationship was found for visual appeal. In Taiwan, Lin (2010) found that the information content, information quality and functionality service are strong determinants of perceived ease of use.

Teo (2001) added another dimension which is perceived enjoyment. This refers to hedonistic values of an overall assessment of experiential benefits such as entertainment and escapism. Perceived enjoyment is positively related to the intention of messaging, browsing, and downloading activities but negatively related to purchasing activities (Teo, 2001). Many researchers have proven that perceived usefulness and playfulness are the significant predictors of consumers' attitude towards using the Internet for online reservation (Teo, 2001; Teo et al., 1999; Vathianathan and Roy, 2009).

Perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her task performance (Davis, 1989, p. 302). Teo et al. (1999) explained that perceived usefulness is the utilitarian use value and more important than perceived ease of use and perceived enjoyment. Not only has it correlated with messaging, downloading and browsing, but also purchasing activities (Teo et al., 1999). They added that continued usage of a web site without any specific purpose may decline over time when its novelty wears off. More utilitarian functions such as reservation and booking services must be incorporated. The relevant empirical studies such as Adams et al. (1992) and Szajna (1996) have supported the hypothesis that perceived usefulness is directly linked to information technology or system usage.

Werthner and Ricci (2004) stated that travellers also use the Internet for utilitarian needs such as booking and ordering. For potential travellers some value added services on the web site such as detailed information about hotels, restaurants, attractions, transportation and car rentals are important to be featured (Bonn et al., 1998). At this time security as a feature is pertinent. However, this feature alone cannot attract consumers and promote Internet-marketing activities (Liu and Arnett, 2000). Moon and Kim (2001) and Jeong et al. (2003) found that travel web site effectiveness has direct and indirect effect on users' behavior intention to use web sites. Thus it could be hypothesized that:

H_1: Travel web site effectiveness characteristics have influence on future intention to use travel web sites

Social factors and travel information source

Social factor (subjective norm) is defined as the perceived social pressure to perform or not to perform behaviour (Ajzen, 1991). The influence of social factors on behaviour is well established (Vogt and Fesenmaier, 1998; Gitelson and Crompton, 1983). Studies by Ajzen and Fishbein (1980), Moutinho (1987) and Schiffman and

Kanuk (2000) indicated that social factors (subjective norms) affect behavioural intention of consumers. Social factors are also considered as one of the critical constructs in determining how users make decisions in adopting or using new technologies (Venkatesh and Morris, 2000). Despite its importance, minimal focus has been given to these factors in the context of technology acceptance research (Gefen and Straub, 1997; Bhattacherjee, 2000).

Fishbein and Ajzen (1975) stated that individual performance in specific behaviour is influenced by his/her behavioural intention, and this is jointly determined by individual attitudes and subjective norms. Users may be compelled to participate in an activity because they want to belong to a community (Hsu and Lu, 2004). Peter and Olsen (1994) divided the components of the subjective norms into two: interpersonal and external influences. The former relates to influences from friends, family, colleagues, and experienced users. On the other hand, the latter includes influences from mass media, expert opinions and other non-personal information. Recommendations and information from friends and family members are considered the most important of travel information sources for travelling/vacation purposes (Vogt and Fesenmaier, 1998; Gitelson and Crompton, 1983). Thus it could be hypothesised that:

H_2: Social factors have influence on the future Intention to use travel web sites.

Internet self-efficacy

Self-efficacy is defined as an individual's self-confidence in their ability to perform behaviour (Taylor and Todd, 1995). Bandura (1982) stated that self-efficacy within social cognitive theory is a form of self-motivation that influences decisions to organize and execute the course of behaviour, to undertake the amount of effort and persistence put forth when there are obstacles and finally, the mastery of the behaviour. In relation to computers, self-efficacy is defined as an individual's judgment of his/her capability to use a computer (Compeau and Higgins, 1995). In the Internet context, Eastin and LaRose (2000) defined it as the belief that one can successfully perform certain behaviour beyond basic personal computer skills. Prior knowledge and experience have been regarded as factors that distinguish individual differences in technology acceptance studies (Igbaria et al., 1989).

Several researchers have proven the positive influence of Internet self-efficacy with Internet usage (Eastin and LaRose, 2000; Hsu and Chiu, 2004; Tan and Teo, 2000). Hsu and Chiu (2004) stated that Internet self-efficacy is a meaningful construct in the context of electronic services on the web sites. Consumers with higher Internet self-efficacy are more likely to use the electronic service and the increasing consumer's Internet self-efficacy is considered crucial to the success of any electronic service. This statement is supported by Tan and Teo (2000) in relation to the Internet banking adaptation. The only researcher who examined the role of Internet self-efficacy as a moderating variable is Dabholkar and Bagozzi (2002). They found that Internet self-efficacy moderates the relationship between perceived ease of use, perceived fun and attitude towards using technology based self-service. They stressed that the moderating effect is much more significant empirically and meaningful in terms of implications for researchers and practitioners compared to the direct effect model, especially for research on services. Thus, in line with the above literature the following hypothesis is formulated:

H_3: Internet self-efficacy moderates the influence of travel web site effectiveness characteristics and social factors on future intention to use travel web sites

Studies on Internet users in kuala lumpur

In Malaysia, there are three recent studies that have been carried out in the context of Internet users (Ahmad and Juhdi, 2008; Sulaiman et al., 2008; Zailani et al., 2008). Ahmad and Juhdi (2008) identified factors which influence the Internet users' intention to adopt online services for travelling in Klang Valley. They discovered that beliefs, social factors, self-efficacy and travel web site effectiveness have significant relationship with consumer intention to adopt e-services. They also recommended that travel planners and web marketers should simplify the e-service process and provide more detailed information. The limitation of this study lies in two aspects. The sample was extremely small (92) and chosen only among e-group subscribers. This inhibits the generalization of the findings as representing the Internet population of Kuala Lumpur.

Sulaiman et al. (2008) studied the usage trends of e-ticketing in Kuala Lumpur. Using convenience sampling, a self-administered questionnaire was distributed to 500 people in selected areas of the city. More than half of the respondents purchased tickets online within the last two years. Convenience and ease of use were the main factors that motivated consumers to purchase tickets online. The barriers for e-ticketing identified were security and privacy. The main weakness of this study is the use of convenience sampling which renders the result as not representative of Kuala Lumpur Internet users.

Zailani et al. (2008) investigated the consumer perceptions toward online ticketing service quality. The sample however was limited to only Malaysian university

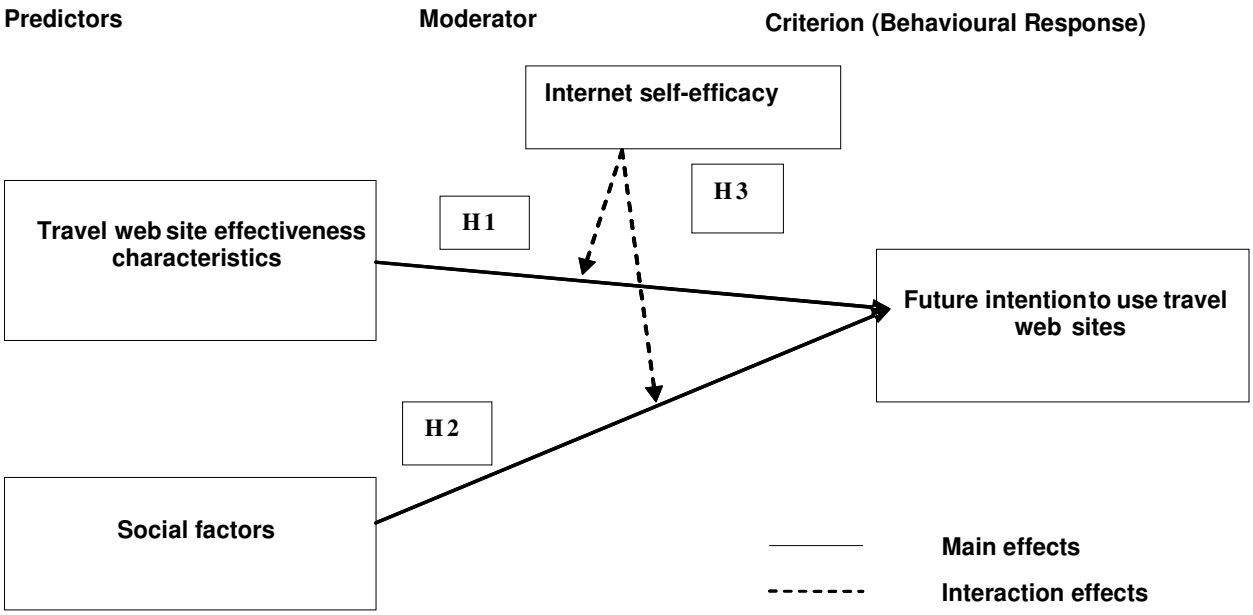

Figure 1. Proposed model. The "travel web site adoption model" adapted from the technology acceptance model from Davis et al. (1992) and theory reasoned action model from Ajzen and Fishbein (1980).

staff. The results indicated that privacy, security, convenience and experience significantly influenced consumer perceptions on online ticketing. Experience was found to be the most important factor and therefore the authors emphasized the importance of providing quality online service in order to ensure the consumer have positive experience.

All the studies discussed above have common weaknesses, which are the lack of theoretical underpinnings as well as the use of sampling methods which do not allow the generalization of the findings. The present study will avoid these weaknesses along with emphasizing on the investigation of the intention to use travel web site for travelling purposes.

RESEARCH MODEL AND HYPOTHESES

Figure 1 presents the proposed framework of travel web site adoption (TWA) which is adapted from technology acceptance model (TAM) and theory of reasoned action (TRA). TWA seeks to examine the influences of travel web site effectiveness characteristics and social factors on future intention to use travel web sites. It also measures the moderating effect of Internet self-efficacy in the relationship between the two previously stated predictors on future intention to use travel web sites.

As indicated in Figure 1, there are three main hypotheses of this study.

H_1: Travel web site effectiveness characteristics have influence on future intention to use travel web sites

H_2: Social factors have influence on future intention to use travel web sites

H_3: Internet self-efficacy moderates the influence of travel web site effectiveness characteristics and social factors on future intention to use travel web sites

METHODOLOGY

The population of this study is defined as individual consumers or potential travellers (adult members) in Klang valley. The valley is the most populated urban sprawl in Malaysia which comprises the areas of Shah Alam, Subang Jaya, Petaling Jaya, Kuala Lumpur and Kajang. Within the areas, three million people live. Employees from organizations located in the areas were selected. The sample was chosen through the multistage cluster sampling. The sampling involves a probability sampling of the primary units. From each of these primary units, a probability sampling is carried out and from each of these, secondary units are drawn. A probability sampling is carried out on each of these secondary units until it reaches the final stage of breakdown for the sample units and every member in those units is sampled (Cavana et al., 2000).

Respondents included were 18 years old and above, had a permanent job and those who indicated that they had used the Internet as well as travelled or planned to travel for vacation. The minimum age of 18 was chosen because it is generally the earliest working age after the completion of secondary school and those with permanent jobs are considered to have adequate purchasing power to purchase tourism related products/services. They are also more likely to have access to the Internet.

The data for this study was collected using a self-administered questionnaire. The questionnaires were distributed to individual office workers from the organizations in the identified central business districts of five primary areas of the Klang Valley. To collect the data this study followed the dropping off method introduced by Fowler (1993). From a total of 800 questionnaires distributed, 679 useable questionnaires were returned and

analysed giving a favourable response rate of 84.9%. The high response rate achieved was the result of choosing and training the person in charge in the selected organization, as well as the frequent follow up calls.

In developing the questionnaire, this study followed Churchill's (1979) suggestion by using existing scales but the scales were adopted, modified and extended. The instrument used to gather the data for this study was a structured questionnaire which employed various forms of response such as a six point Likert type scale and dichotomous questions.

The questionnaire consists of 5 sections: travel web site effectiveness characteristics (26 items), social factors (10 items), behavioral intention to use travel web sites (10 items) and Internet self-efficacy (12 items) and demographic profile. The statements items for travel web site effectiveness characteristics were adopted from the following researchers (Aladwina and Palvia 2002; Lee et al., 2005; Yang et al., 2003; Wong and Law 2005; Doolin et al. 2002; Chu 2001; Tierney 2000). Hsu and Chiu (2004) and Bhattacherjee (2002) have contributed to social factor items. The items for future intention to use travel web site items were from Hsu and Chiu (2004), Moon and Kim (2001), Chen et al. (2002), Teo (2001) and Tierney (2000). Internet self-efficacy statements were tailored from Hsu and Chiu (2004) study. Relevant questions on demographic profiles and information sources were also included.

Prior to administering the survey, a pilot test was conducted to test the validity of the instrument, involving 50 respondents. The sampling choice for the pilot test ensured the inclusion of people such as employees from various organizations with Internet literacy. The main purpose of the test was to gain feedback about the questionnaire instrument and to determine whether the instruments were capturing the phenomena desired in this study. Several items were reworded after the pilot test to improve the readability and clarity of the instrument. The instrument was evaluated for validity using various techniques including factor and reliability analyses.

RESULTS

Demographic profile

Table 1 illustrates the demographic profile of the respondents. Out of 679 who responded to the questionnaire, 46.8% were male and 53.2% female. All respondents were above the age of 18 with an average age of 31.5 years old. The majority of the respondents were Malays (57.0%) followed by Chinese (31.1%), Indian (9.4%) and 2.5% from other races. By ethnicity, the breakdown of the study sample was representative of the Malaysian population.

As expected, based on target sampling method, the respondents were well educated. A total of 51.3% of the respondents comprised of university graduates. This followed by 24.0% of those with Diploma and 10.6% with master degree. The results indicated that the Internet users were young and well-educated.

With respect to household income, the majority (26.8%) of the respondents earned between RM1, 500 to RM3, 000. Those who earned between RM3, 001 to RM4, 500 made up 22.4% of the respondents and 8.0% earned more than RM10, 000. For the majority of respondents, most of the travel information was obtained from friends and relatives (32.8%), while 28.6% came from the Internet and 15.9% from magazines or newspapers.

Future intention to use travel web site

All the 10 items of future intention to use travel web sites were factor analyzed. Two factors were extracted and this is presented in Table 2 together with items that load significantly to it. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.89 and the Bartlett's test of sphericity is significant, which indicated that the items were appropriate for factor analysis. The two factors explained 68.9% of the total variance and they were labelled as hedonic based future intention to use and utilitarian based future intention to use. For both factors, the Cronbach Alpha values were 0.89 and 0.82 respectively, which signified strong contributions of all the items within each factor.

Travel web site effectiveness characteristics

Factor analysis extracted three factors for travel web site effectiveness characteristics, with cumulatively explained 55.0% of the variance (Table 3). Both Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (0.95) and the Bartlett's test of sphericity indicated that the items were appropriate for factor analysis. The three factors extracted were labelled as technical adequacy and customization, system and content quality and web appearance. All Cronbach Alpha values of the factors were above 0.89 which signified very strong contributions of all the items within each factor.

Social factor

As anticipated, factor analysis performed on the 10 items of social factor constructs produced a clean factor structure with two factors emerged following three iterations (Table 4). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (0.89) and the significant Bartlett's test of sphericity indicated that the items are appropriate for factor analysis. The two factors explained 73.7% of the total variance. The two factors were labelled as human interaction and media exposure. All Cronbach Alpha values of the factors were 0.89 and above which signified very strong contribution of all the items in each factor.

Internet self-efficacy

Factor analysis performed on the 11 items of Internet self-efficacy construct produced a clean factor structure with only one factor emerged. Both the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (0.94) and the Bartlett's test of sphericity indicated that the items for Internet self-efficacy factor were appropriate for factor analysis. The factor explained 62.8% of the total variance

Table 1. Profile of the respondents and travel information sources

Characteristics	Frequency	Percentage
Gender		
Male	318	46.8
Female	361	53.2
Ethnicity		
Malay	387	57.0
Chinese	211	31.1
Indian	64	9.4
Others	17	2.5
Age	Mean = 31.5	SD=6.30
Highest level of education		
High school certificate	60	8.8
Diploma	163	24.0
Bachelor degree	348	51.3
Master degree	72	10.6
Professional	27	4.0
PhD	9	1.3
Monthly household income		
Below RM1,500	47	6.9
RM1,500-RM3,000	182	26.8
RM3,001-RM4,500	152	22.4
RM4,501-RM6,000	121	17.8
RM6,001-RM7,500	59	8.7
RM7,501-RM9,000	39	5.7
RM9,001-RM10,500	25	3.7
RM10,5001 and above	54	8.0
The main source of travel information		
Friends/relatives	223	32.8
Internet	194	28.6
Magazines/newspapers	108	15.9
Others	66	9.0
Brochures/other printed promotional materials	58	8.5
Broadcasting media	54	8.0
Travel agents	36	5.3
Travel fair/exhibition	4	0.6
Travel guide book	1	0.15
Salesman	1	0.15

(Table 5).

The means and standard deviations for variables in this study are presented in Table 6. Internet self-efficacy scored the highest mean compared with other variables (mean = 3.85). This is followed by technical adequacy and customization (mean = 3.69) and system quality and specific content (mean = 3.51). Social factor of human interaction (mean = 3.08) was found to be more important than media exposure (mean = 2.66). Similarly the variable of hedonic based future intention to use (mean = 3.12) recorded higher mean score than utilitarian based-future intention to use (mean = 2.77).

Correlation analysis

Correlation analysis among variables was performed in order to ensure the absence of strong multicolliniarity before proceeding further on the statistical analysis. The highest correlation was found between 'technical adequacy and customization' and 'system quality and specific content' (r = 0.79). The relationship between 'technical adequacy and customization' and 'system quality and specific content' produced a correlation coefficient value below 0.80. However, they are still

Table 2. Factor analysis on future intention to use travel web sites.

Measures/Scale Items	Factor 1 (Primary)	Factor 2 (Secondary)
Factor 1: Hedonic based future intention to use		
I will use travel web sites to seek information	0.86	
I will browse/view travel web sites for travelling/vacation purposes	0.82	
I will frequently use travel web sites for future travel arrangements	0.80	
I will strongly recommend others to use travel web sites in planning/arranging their travelling/vacation	0.76	
I will use travel web sites for making reservations	0.61	
Factor 2: Utilitarian based future intention to use		
I will forward information from travel web sites to friends/relatives		0.81
I will send email to travel web sites asking for additional information		0.81
I will use travel web sites for purchasing travel related products/services		0.79
I will use travel web sites' links to go to other sites		0.56
KMO – 0.89		
Eigenvalue	5.15	1.06
Percentage of Variance	37.3	31.6
Cronbach's Alpha	0.89	0.82

Table 3. Factor analysis on travel web site effectiveness characteristics.

Measures/Scale Items	Factor 1	Factor 2	Factor 3
F1: Technical adequacy and customization			
Provide personalized/customized service	0.74		
Provide many interactive features (i.e. currency converters, maps)	0.73		
Provide fast downloading response time	0.70		
Provide adequate search facilities (i.e. searchable database/search functions – attractions, activities)	0.63		
Provide sites that are easy to access	0.61		
Provide comprehensive content	0.58		
Provide hyperlinks to related sites	0.58		
Provide price comparison	0.57		
Provide information related to customer policies/privacy	0.50		
F2: System quality and specific content			
Provide online booking facilities		0.75	
Provide secure transactions online		0.70	
Provide contact information (i.e. email contact details)		0.68	
Provide online payment by credit card		0.68	
Provide accurate information		0.65	
Provide product/services details (i.e. itinerary, schedule)		0.56	
Provide clear instructions for navigating the web site		0.52	
F3: Web appearance			
Proper use of colours/background			0.86
Proper use of fonts/icons/headings			0.81
Provide multimedia features			0.80
Provide attractive visual/images			0.68
Provide general information (that is corporate information)			0.65
Provide well-standardized structure/format			0.52

Table 3. Contd.

KMO – 0.95			
Eigenvalue	11.8	2.07	1.04
Percentage of Variance	19.0	18.7	17.3
Cronbach's Alpha	0.91	0.89	0.89

Table 4. Factor analysis on social factors.

Measures/Scale Items	Factor 1	Factor 2
Factor 1: Human interaction		
My colleagues recommend I should use travel web sites in arranging my travel plans/vacation	0.89	0.22
My friends recommend I should use travel web sites in arranging my travel plans/vacation	0.88	0.21
People I know recommend I should use travel web sites in arranging travel plans/vacation	0.82	0.28
I refer to travel web sites because my colleagues have used them	0.74	0.35
My family recommends I should use travel web sites in arranging travel plans/vacation	0.7	0.34
I use travel web sites in arranging my travel plans/vacation because my family have used them	0.58	0.49
Factor 2: Media exposure		
Advertisements in a printed source (i.e. magazine, newspaper) highlighted the benefits of using travel web sites in arranging travel plans/vacation	0.23	0.87
Advertisements in a an electronic mass media (that is radio and TV) highlighted the benefits of using travel web sites in arranging travel plans/vacation	0.26	0.85
Mass media reports convinced me to use travel web sites in arranging travel plans/vacation	0.28	0.83
I read/saw news reports that using travel web sites is a good way of arranging travel plans/vacation	0.41	0.76
KMO – 0.89		
Eigenvalue	6.06	1.32
Percentage of Variance	39.7	34.0
Cronbach's Alpha	0.91	0.9

Table 5. Factor analysis on Internet self-efficacy.

Factor/Items	Loading
Factor: Internet self –efficacy	
I feel confident saving/attaching files to e-mail	0.85
I feel confident receiving/sending email messages	0.83
I feel confident looking for information by querying the web database	0.81
I feel confident going backwards/forwards to previously visited web pages without being lost in cyberspace	0.81
I feel confident downloading/uploading files	0.80
I feel confident exchanging/posting messages with other users	0. 80
I feel confident finding information in a web directory/ portal /search engine	0.79
I feel confident filling out/submitting web forms	0.79
I feel confident chatting on the Internet	0.75
I feel confident visiting a web site by entering its address (URL) in the browser	0.75
I feel confident navigating the Internet by following hyperlinks	0.75
Eigenvalue	7
Total variance explained	62.80%
KMO	0.94

Table 6. Mean and standard deviation for variables in the study.

Variables	Mean	Standard Deviation
Technical adequacy and customization	3.69	0.19
System quality and specific content	3.51	0.18
Web appearance	3.26	0.19
Human interaction	3.08	0.32
Media exposure	2.66	0.36
Internet self-efficacy	3.85	0.22
Hedonic based future intention to use	3.12	0.21
Utilitarian based future intention to use	2.77	0.26

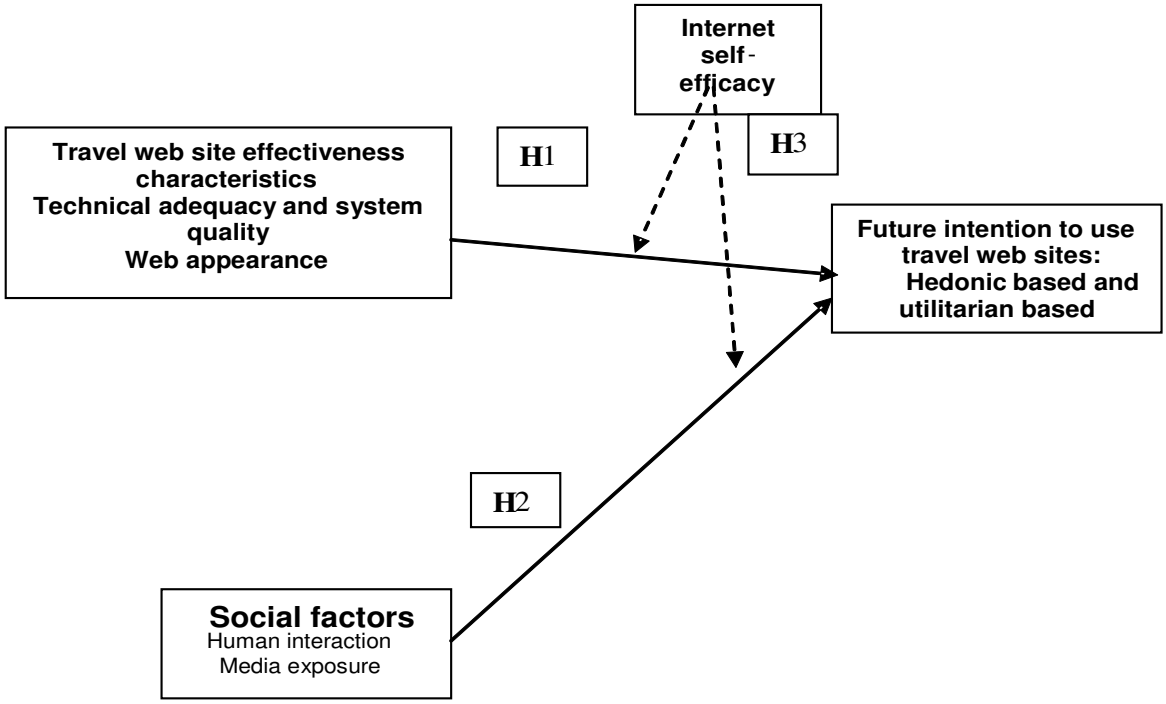

Figure 2. The influence of predictors on future Intention to use travel web sites.

considered highly correlated with each other with r = 0.79. The authors re-run the stepwise regression method and the results indicated that both 'technical adequacy and customization' and 'system quality and specific content' were significant in the first run of regression. With the result, a new composite variable was created by taking the mean values of both variables. The variable was labelled as technical adequacy and system quality.

Figure 2 highlighted the final variables which constituted the research framework. Travel web site effectiveness characteristics were represented by two factors: technical adequacy and system quality and web appearance. The social factor predictors comprised of human interaction and media exposure. These variables posited to influence two factors which form future intention to use travel web sites: hedonic based future intention to use and utilitarian based future intention to use. Internet self-efficacy moderated the influence of the two predictors on future intention to use travel web sites.

TEST OF HYPOTHESES

Based on the results of factor analysis, some factors were excluded from the study. As such, amendments had to be made to the statements of hypotheses. Referring, to Table 7 three sets of hypotheses were tested.

Regression analysis was performed to test the hypotheses as well as to examine the contribution of independent variables in influencing the dependent variable (Tables 8 and 9). The first regression analysis

Table 7. Re-statement of hypotheses

H1	Travel web site effectiveness characteristics have influences on future intention to use travel web sites.
H1ai)	Technical adequacy and system quality have an influence on hedonic based future intention to use travel web sites.
H1aii)	Technical adequacy and system quality have an influence on utilitarian based future intention to use travel web sites.
H1bi)	Web appearance has an influence on hedonic based future intention to use travel web sites.
H1bii)	Web appearance has an influence on utilitarian based future Intention to use web sites**.**
H2	Social factors have influences on future intention to use travel web sites
H2ai)	Human interaction has an influence on hedonic based future intention to use travel web sites
H2aii)	Human interaction has an influence on utilitarian based future Intention to use travel web sites.
H2bi)	Media exposure has an influence on hedonic based future intention to use travel web sites.
H2bii)	Media exposure has an influence on utilitarian based future intention to use travel web sites.
H3	Internet self-efficacy moderates the Influence of predictors and future intention to use travel web sites
H3ai)	Internet self-efficacy moderates the influence of technical adequacy and system quality on hedonic based future intention to use travel web sites.
H3aii)	Internet self-efficacy moderates the influence of technical adequacy and system quality on utilitarian based future intention to use travel web sites.
H3bi)	Internet self-efficacy moderates the influence of web appearance on hedonic based future intention to use travel web sites.
H3bii)	Internet self-efficacy moderates the influence of web appearance on utilitarian based future intention to use travel web sites.
H3ci)	Internet self-efficacy moderates the influence of human interaction on hedonic based future intention to use travel web sites.
H3cii)	Internet self-efficacy moderates the influence of human interaction on utilitarian based future intention to use travel web sites.
H3di)	Internet self-efficacy moderates the influence of media exposure on hedonic based future intention to use travel web sites.
H3dii)	Internet self-efficacy moderates the influence of media exposure on utilitarian based future intention to use travel web sites.

Table 8. The influence of predictors on hedonic based future intention to use travel web sites.

Independent Variables	**Unstd. B**	**Std. Beta**	**t**	**Sig. (p.value)**	**VIF**
Constant	-0.338				
Technical adequacy and system quality	0.337	0.328	9.196	0	1.181
Human interaction	0.182	0.253	5.995	0	1.647
Media exposure	0.109	0.171	4.172	0	1.553
R = 0.629 R Square = 0.396 Adjusted R Square = 0.391					

Table 9. The influence of predictors on utilitarian based future intention to use travel web sites.

Independent Variables	**Unstd. B**	**Std. Beta**	**T**	**Sig. (p.value)**	**VIF**
Constant	-0.213				
Human interaction	0.337	0.374	9.048	0	1.617
Technical adequacy & system quality	0.276	0.214	6.008	0	1.202
Media exposure	0.115	0.144	3.578	0	1.529
R = 0.639 R square = 0.408 Adjusted R Square = 0.403					

Table 10. The moderating effect of Internet self-efficacy (ISE) integration on the relationship between predictors and hedonic based future intention to use travel web sites.

Variables	Step 1	Step 2	Step3
	Std. Beta	Std. Beta	Std. Beta
Technical adequacy and system quality (X1)	0.328**	0.254**	1.756*
Human interaction (X2)	0.253**	0.236**	0.962
Media exposure (X3)	0.171**	0.123**	-0.032
Internet self-efficacy (ISE)		0.253**	-0.040
X1 x ISE			-2.657*
X2 x ISE			-0.978
X3 x ISE			0.200
R	0.629	0.663	0.671
R Square	0.396	0.440	0.450
Adjusted R Square	0.391	0.434	0.439
R Square Change	0.396	0.044	0.010
** significant at 0.01			
* significant at 0.05			

tested the influence of all predictors on hedonic based future intention to use travel web sites. The variables of technical adequacy and system quality, human interaction and media exposure were found to have positive and significant influences on hedonic based future intention to use travel web sites at significant level of $p < 0.01$. Therefore, hypotheses H1ai, H2ai and H2bi were supported and the rest of other hypotheses were rejected.

The web site effectiveness characteristics factor of technical adequacy and system quality scored the largest Beta value of 0.328 which signified it being as the most important predictor of hedonic based future intention to use travel web sites. The second most important predictor was the social factor of human interaction (Beta = 0.253). The R square obtained is 0.396 indicates that 39.6% of the total variance in hedonic based future intention to use travel web sites can be predicted from the independent variables of travel web site effectiveness characteristics (technical adequacy and system quality) and social factors (human interaction and media exposure). The VIF values do not exceed 10, which indicate the non-presence of high multicollinnearity that could reduce the explanatory power of the predictor variables on hedonic based future intention to use travel web sites.

Table 9 summarizes the second regression analysis which was performed between the predictors and utilitarian based future intention to use travel web sites, predictor factors of human interaction, technical adequacy and system quality, and media exposure significantly and positively influenced the utilitarian based future intention to use travel web sites at a significant level of $p < 0.01$. These findings therefore supported hypotheses H1aii, H2aii and H2bii. With the highest Beta coefficient value of 0.374, human interaction was the most influential factor in explaining utilitarian based future intention to use travel web sites. This is followed by technical adequacy and system quality (Beta = 0.214). The R square obtained is 0.408, which means 40.8% of the variance in utilitarian based future intention to use travel web sites is explained by the variations in the social factor (human interaction and media exposure) and travel web effectiveness characteristics (technical adequacy and system quality). As shown in Table 9, the tolerance values for these variables were greater than 0.10 equivalents to VIF values not exceeding 10. This demonstrated that there is no evidence of high multicollinearity among the independent variables that can reduce the predictability of each independent variable on the dependent variable.

Regression analysis was performed to test the moderating effect of Internet self-efficacy on the relationship between predictors and hedonic intention to use travel web sites (Table 10). With the addition of Internet self-efficacy, the interaction terms between the predictors and the criterion have increased the R square from 39.6 percent to 45.1 percent. The standardized betas of interaction among all independent variables (predictors) were found to be insignificant with the exception of technical adequacy and system quality. Internet self-efficacy negatively moderated the relationship between technical adequacy and system quality and hedonic intention to use travel web sites. All the other hypotheses of the moderation effect of Internet self-efficacy on hedonic intention to use travel web sites were rejected.

Regression analysis was carried out to test the moderating effect of Internet self-efficacy on the relationship between predictors and utilitarian based future intention to use travel web sites. The result is presented in Table 11. With the addition of Internet self-

Table 11. The moderating effect of Internet self-efficacy (ise) on the relationship between predictors and utilitarian based future intention to use travel web sites.

Variables	Step 1	Step 2	Step3
	Std. Beta	Std. Beta	Std. Beta
Human interaction (X1)	0.374**	0.362**	0.695
Media exposure (X2)	0.144**	0.102*	0.212
Technical adequacy and system quality (X3)	0.214**	0.151**	1.170
Internet self-efficacy (ISE)		0.219**	-0.360
X1 x ISE			-0.451
X2 x ISE			-0.140
X3 x ISE			-1.810
R	0.639	0.664	0.670
R Square	0.408	0.441	0.448
Adjusted R Square	0.403	0.436	0.439
R Square Change	0.408	0.033	0.007
** significant at 0.01			
* significant at 0.05			

efficacy in the relationship between the predictors and utilitarian based future intention to use travel web sites, the interaction terms had increased the R square value from 40.8 percent to 44.8 percent. However, all the standardized beta of interactions was insignificance. Thus all the hypotheses on the moderation effect of Internet self-efficacy on utilitarian based future intention to use travel web sites were rejected.

DISCUSSION

The study achieved a representative sample of the Malaysian ethnic composition among office workers from the selected organizations in the central business districts of Klang Valley. As expected, respondents were young and well educated. The results re-confirmed the previous studies such as Weber and Roehl (1999), Witthaus (1998) and Mowen and Minor (1998). The slight majority of female respondents (53.2%) discovered in this study is also expected as they are more likely to comply with the request to answer questionnaires. All the previous studies on Internet usage in Malaysia that have been discussed (Sulaiman et al., 2008; Zailani et al., 2008, Ahmad and Juhdi, 2008) recorded a much higher response rate among females. Friends and relatives were the main sources of travel information (32.8%) which coincides with the studies by Crompton (1981) and Gitelson and Kerstetter (1994). The increasing importance of the Internet (28.6%) as an information source is also featured in this study which supports the claim of Gursoy and Chen (2000).

The most important factor of web site effectiveness is technical adequacy and system quality which supports previous findings of Yang et al. (2003), Liu and Arnett (2000), Park et al. (2007), Ahmad and Juhdi (2008) and Lin (2010). Among important features are easy access, detailed information on products and prices, interactivity, hyperlink, privacy and security, on-line booking and credit card payment. As proposed by Liu and Arnett (2000) the main elements of web site success are system use, system design quality, information quality and playfulness. Lin (2010) also reported that the information content, information quality and functionality service of e-travel sites are strong determinant of the perceived ease of use. The importance of technical adequacy and system quality is proven further when the factor has significant impacts on both hedonic and utilitarian based future intention to use travel web sites. In fact it is the most important determinant of hedonic based future intention to use travel web sites. Respondents are more likely to use travel web sites for hedonic rather than utilitarian purposes. The importance of hedonic usage was highlighted by the authors such as Yang *et al.* (2003) and Teo (2001). In this study web appearance appears to be less important which concurs with the finding of Park *et al*. (2007) and Liu and Arnett (2000). Web appearance also does not have any effect on the future intention to use travel web sites.

In terms of social factors, human interaction (friends and relatives) is more important than media exposure. Similar observation had been recorded by earlier researchers (e.g. Crompton, 1981; Gitelson and Crompton, 1983; Gitelson and Kerstetter, 1994; Vogt and Fesenmaier, 1998). Both social factors of human interaction and media exposure display significant influences on future intention to use travel web sites; the finding which is in consistency with Venkatesh and Morris (2000). To them, subjective norm is an important construct in determining how users make decisions in adopting new technologies. Of the two social factors, human interaction has a much stronger influence on the

future intention to use travel web sites. In fact it is the strongest predictor of the utilitarian based future intention to use travel web sites. This finding points to the fact that in the event of Internet users being about to decide on purchasing, the subjective norm which appears more influential is human interaction (their friends and relatives). As stated by Peter and Olson (1999), friends and relatives are the most influential in motivating behaviour of travel decision. In short, despite the continuous advancement in Internet marketing technology, 'word of mouth' remains the most important factor to influence people's decision.

Authors such as Teo (2001), Hsu and Chiu (2004) and Eastin and LaRose (2000) discovered that consumers with higher Internet self-efficacy are more likely to use the electronic service. In this study this result is duplicated. However, the claim by Dabholkar and Bagozzi (2002) whereby Internet self-efficacy moderates the influence of predictors on intention to use travel web sites resulted in a weak support. Internet self-efficacy only negatively moderates the influence of technical adequacy and system quality on hedonic based future intention to use travel web sites. The negative moderation perhaps could be explained by the fact that users with high Internet self-efficacy are less likely to use the web site just for hedonic usage.

This research provides some marketing, managerial and theoretical implications. In designing the web site focus should be given to developing an excellent feature of technical adequacy and system quality rather than web appearance. This is because technical adequacy and system quality has been seen as influencing both hedonic and utilitarian based future intention to use travel web sites. As stated earlier among important elements of technical adequacy and system quality that need to be progressively accommodating are easy access, detailed information on products and prices, interactivity, hyperlink, privacy and security, on-line booking and credit card payment etc. Marketing should focus on both social factors of human interaction (word-of-mouth) and media exposure in alluring tourists to use travel web sites as both of these factors are found to influence future intention to use travel web sites. However, extra emphasis should be given on human interaction as it is the strongest predictor for utilitarian usage of travel web sites. Again human interaction ('word of mouth') with regards to a web site could be stimulated by providing the web site with excellent features of technical adequacy and system quality, which has just been discussed. Theoretically the examination of travel web site usage using travel web site acceptance (TWA) provides and balance and comprehensive framework in the study area. The multistage cluster sampling employed in this study as well as the favourable numbers of respondents provide a representation of Kuala Lumpur Internet users.

Even though the sample of this study is a better representation of Kuala Lumpur Internet users, the results are only applicable to the population of the study area, and not of other areas of the country. With high Internet penetration currently experienced in Malaysia, a comparative study with rural population could provide a greater explanation of the Internet usage behaviour among Malaysian. Perhaps the study could quota sample all the states in Malaysia, including Sabah and Sarawak. As a long term plan, a longitudinal study could be carried out to better predict the changing behaviour among web site users. Future enquiries may also need to examine in greater detail individual service provider web sites such as hotel, airlines and attractions.

In conclusion, TWA provides excellent empirical evidence on the role of predictors in influencing future intention to use travel web sites. Web site design should put unrelenting efforts in providing excellent features of technical adequacy and system quality as it is seen as the most important factor in influencing hedonic usage of travel web sites. With these features, human interaction (positive word of mouth) will then be activated. This social factor asserts the greatest influence on utilitarian usage of travel web sites which includes purchasing decision. TWA has succeeded in providing empirical knowledge on technology acceptance in the travel and tourism industry which could point to better directions in travel web site design and marketing management.

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