

The Application of Technology Acceptance Model (TAM) on health tourism e-purchase intention predictors in Thailand

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Abstract- In spite of Thailand's international acclaim for its health care services, it is shown that only 28 percent of the health businesses depends on internet technology for purchase intention. The main objective of the study is to examine the three factors (perceived ease of use, perceived usefulness and image) that predict electronic purchase (e-purchase) intention of health tourism based on TAM theory. All variables were measured using past developed scales anchored on a seven-point Likert scale. From the 320 questionnaires distributed to international patients, 236 completed returns were received (74% response rate). The data were analyzed using structural equation modeling (SEM) method. The result of the study shows that all hypotheses were supported indicating the robustness of TAM model for explaining international patients e-purchase intention for health tourism using the internet.

Keywords: e-purchase intention, health tourism, perceived ease of use, perceived usefulness and image.

I. INTRODUCTION

Thailand is considered as having an excellent potential for becoming a hub of health tourism as compared with other Asian countries (Tourism Authority of Thailand, 2009). It is recognized for its modern medical services and a complete package for rehabilitation and rejuvenation for international patients (www.healthtourismasia.com). In line with this new development, the health tourism industry in Thailand attains second place after Singapore (Tourism Authority of Thailand, 2009). The tourism industry in Thailand is actively promoting inbound foreign travel which has increased to approximately over 14 million foreign tourists in 2009. Out of this, the tourists who visited Thailand for healthcare equal 1.3 million tourists (Department of Export Promotion, 2009). This means that on average, health tourism contributes over 9% to the total number of tourists into Thailand. Thailand's health care tourism business is worth USD1325 million in 2009 and is expected to generate more than USD 4 billion in the year 2012 (Tourism Authority of Thailand 2009).

Despite the lucrative income from health tourism, it is found that only 28 percent of the business depends on internet technology for purchase (The National Electronics and Computer Technology Center, 2008). Ideally, electronic marketing (e-marketing) represents a

major technology channel for customers and it is expected to grow by approximately 49 percent of online purchase in the future (Internet World Statistics, 2009). In the meanwhile, e-marketing in Thailand is still at a low level because only 2.1 percent of internet penetration rate in Thailand (BusinessNewsOnline, 2009). Thus, the objective of study is to investigate the factors that predict e-purchase intention of health tourism using the TAM underpinning theory (Davis *et al*, 1989).

II. LITERATURE REVIEW

Table 1 summarizes past literature reviews on all the possible linkages in this study.

TABLE 1: LITERATURE REVIEW

Theory and Variables	Author
TAM model	Davis et al, 1989
Perceived Ease of use and e-purchase intention	Wu et al., 2008; Chen & Corkindale, 2008; Chismar & Patton, 2002; Salisbury et al., 2001; Teo, 2001; Park, 2009
Perceived usefulness and e-purchase intention	Chismar & Patton, 2002; Bhattacharjee & Hikmet, 2008; Malhotra & Galletta, 1999
Image and e-purchase intention	Yun & Good, 2007; Cubillo et al., 2005
Image and perceived usefulness	Venkatesh & Davis, 2000; Chismar & Patton, 2002
Image and perceived ease of use	Lee et al., 2006

III. METHODOLOGY

This study develops a research framework based on the extended Technology Acceptance Model (TAM) for health service purchase intention (Figure 1).

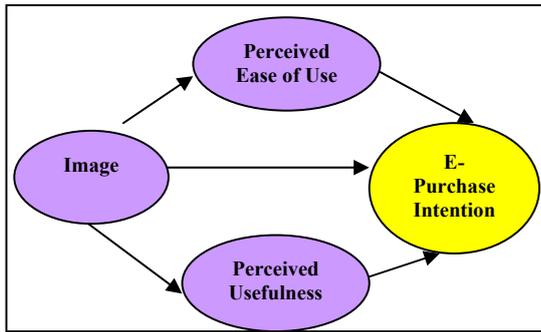


Figure 1: Theoretical Framework of this study

Consequently, five hypotheses are developed from the theoretical model for this study (Table 2).

TABLE 2: HYPOTHESES OF STUDY

H1: Image is positively related to perceived ease of use.
H2: Image is positively related to perceived usefulness
H3: Perceived ease of use is positively related to e-purchase intention.
H4: Perceived usefulness is positively related to e-purchase intention
H5: Image is positively related to e-purchase intention.

A. Instrument

Each variable is measured using instruments developed in past studies. E-purchase intention measure was adopted from Yen and Lu (2008) which comprises of five items; perceived usefulness comprises of five items (Hu *et al.*, (2002); perceived ease of use consists of six items (Lee *et al.*, 2006) and image is measured by eight items, four items were adopted from Yun and Good (2007) and the other four items were from Hu and Jasper (2006). All items are measured using a seven-point Likert scale with anchors ranging from strongly disagree (1) to strongly agree (7).

B. Sampling

The respondents in this study are foreign patients aged from 15 years and above who are undergoing health treatment services at eight private hospitals in Thailand. About 320 questionnaires were distributed and 236 were duly completed, representing about 74 percent response rate.

C. Analysis

Validity tests on the constructs were further conducted using reliability (Cronbach alpha) and composite reliability tests. The reliability readings of above 0.7 show adequate support for internal consistency for all constructs (Table 3)

TABLE 3: DESCRIPTIVE STATISTIC AND RELIABILITY OF CONSTRUCT

Variable Name	No of Items	Cronbach Alpha	Compos. Reliability
Perceived Ease of Use(PEU)	6	0.971	0.958
Perceived Usefulness(PU)	5	0.962	0.955
Image(IM)	8	0.970	0.948
e-Purchase Intention(PI)	5	0.879	0.882
Total	24		

Subsequently, construct convergent validity testing using confirmatory factor analysis (CFA) shows factor loadings of above 0.7 for all items, thus convergent validity is supported. Additionally, the discriminant validity was tested on image, perceived ease of use and perceived usefulness using the average variance extracted (AVE) compared to the inter-construct correlation squared (Fornell & Larcker, 1981). All AVE reading exceeded 0.90 which is more than correlation squared. Thus, discriminant validity is supported. Hereafter, the valid data were analyzed using structural equation modeling via AMOS.

IV. RESULTS

4.1 Demographic Profile of the Respondents

The demographic profile demonstrates that most of the foreign tourists that received health care in Thailand are from the Middle-East (32.2%), Asia (24%), Europe (23.6%) and America (8.2%). The country that the respondents usually frequent for health treatment is their own country (27.6%) followed closely by Thailand (27.4%), Singapore (11.2%), India (10.5%), China (5.2%), and USA (5.1%). The main source of information about Thailand's health care is word of mouth from friends and relatives (39%) while the internet came second (34%). Other minor sources are travel agency (16.8%), print media such as magazines, brochures (9%), and electronics media like TV and radio (1.0%). The most preferred health services are medical check-up (42.9%) followed by others such as dental, skin treatment, accident treatment (20.0%), cosmetic surgery (14.7%), and massage (8.5%). The on-line purchase of health services is found to be only 2.5%. The respondents mainly used the internet for e-mail (18.8%); information search (18.4%), purchase products or services (16.8%), reading news (14.1%), internet banking (7.8%), enjoyment and games (7.2%), chatting (6.7%), e-learning (3.7%), face book (2.9%), academic research (2.6%), and blogs (1.0%).

4.2 Goodness of fit of Structural Model

The results of all goodness of fit (GOF) indices for measurement and structural models confirm the adequacy of these models since all GOF readings achieved the designated thresholds as follows: p-value is 0.065, more than 0.05, Goodness of Fit Index (GFI) is 0.928 which is 0.90 or above, Adjusted Goodness of Fit Index (AGFI) is 0.908 more than 0.90, and Root mean square error of approximation (RMSEA) is

0.027 less than 0.08, χ^2/df ratio is 1.172, less than 2; the values of CFI is 0.994 greater than 0.95 (Hair et al., 2010).

4.3 Hypotheses Testing

The relationship between image and perceived ease of use is significantly and positively related ($\beta=0.464$, $p=0.000$), thus H1 is supported; image and perceived usefulness is significant and positively linked ($\beta=0.465$, $p=0.000$); perceived usefulness and e-purchase intention is supported ($\beta=0.453$, $p=0.000$); perceived ease of use and e-purchase intention is positively related ($\beta=0.39$, $p=0.000$) and image and e-purchase intention is also positively related ($\beta=0.274$, $p=0.000$). Thus, all hypotheses H1 to H5 are supported.

V. DISCUSSION

Image is significantly and positively related to perceived ease of use. This finding is supported by Lee et al., (2006). This implies that health providers should portray good image through user-friendly websites. Image-perceived usefulness linkage is supported by two previous studies (Venkatesh & Davis, 2000; Chismar & Patton, 2002). In other words, the higher the image of websites, the higher the perceived usefulness of the health care web page. The image of health tourism could be improved by providing believable and trustworthy websites. Thus, health providers in Thailand should thrive to create detailed and trustworthy health services offers with high quality and affordable prices.

Perceived ease of use is also found to be positively and significantly related to e-purchase intention. This linkage has been supported by various previous studies in healthcare (Wu et al., 2008; Chismar & Patton, 2002) and non-health care studies (Chen & Corkindale, 2008; Salisbury et al., 2001; Teo, 2001 and Park, 2009). Health providers such as private hospitals need to provide attractive, easy to use and friendly websites. The next linkage is between perceived usefulness and e-purchase intention. Our study found significant support for this relationship. Numerous studies in health setting had found similar findings (Chismar & Patton, 2002; Bhattacharjee & Hikmet, 2008; Malhotra & Galletta, 1999; Wu et al., 2008). The tourists had high belief in internet purchase (34%), but were disappointed when there are not enough health websites provided by Thai health providers. This positive relationship should be an important cue for private hospitals in Thailand to provide improved websites for e-marketing. Image and e-purchase intention is significant and positively related. This is supported by past studies (Yun & Good, 2007; Cubillo et al., 2005). The better the image as perceived by the prospective internet users, the higher would be the on-line purchase intention. Health care providers should improve in promoting their image through the internet because this could lead to bigger numbers of purchase intention of the service. In conclusion, three factors tend to predict on-line purchase intentions i.e perceived usefulness, perceived ease of use and image. In addition,

image seems to predict perceived usefulness and perceived ease of use.

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