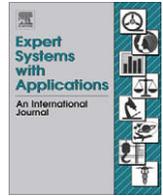




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## The combined model of influencing on-line consumer behavior

Wen-Bao Lin<sup>a,\*</sup>, Ming-Kuen Wang<sup>b</sup>, Kevin P. Hwang<sup>b</sup>

<sup>a</sup> National Kaohsiung Normal University, Graduate Institute of Technology Management 802, No. 116, Heping 1st Rd., Lingya District, Kaohsiung City, Taiwan, ROC

<sup>b</sup> Department of Transportation and Communication Management Science, National Cheng Kung University, Tainan, Taiwan, ROC

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### ABSTRACT

Combining the views from the Decomposed Theory of Planned Behavior and Technology Acceptance Model, this study proposes an integrated opinion to construct on-line consuming behavior patterns for travel. The nonlinear fuzzy network model were adopted to test and verify the sample data. The method of convenience sampling was employed and the questionnaires were distributed through e-mail sending, or were brought back by selected consumers, or were filled in on-line by access to the designated website. A total of 550 questionnaires were returned, giving a response rate of 35.6%. It concluded from the factor loading that among the three independent variables in this study, product marketing attracts customers most in respect to the "Marketing Mix". The possibility of misunderstanding information is higher in respect to the "Perceived Risk" of information from customers. The close relationship of the family works more effectively for decision making in respect to the "Subjective Norms". The three latent independent variables of "Marketing Mix", "Perceived Risk" and "Subjective Norms" are the three key factors that directly or indirectly influence the "Attitude" and the "Behavioral Intention" in this study.

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### 1. Introduction

In recent years, people in Taiwan have valued leisure and entertainment and it is more and more popular to go abroad. The use of the Internet is a quick and convenient way to get information concerning travel products. The special feature of Internet media is that it can be combined with words and sound, for better communication. In other words, the development and application of the Internet, on one hand, is not only a Marketing Mix but also the best way to close customers for travel agents, and, on the other hand, is also a way to help customers obtain information and give feedback. This is a concrete practice of Relationship Marketing.

The features of small scale, unsound financial structure and lack of belief in sustainable development exist in the tourism industry in Taiwan. Especially when a travel agent sells short-term products, unqualified products are often offered to customers through a low-price strategy. However, since consumer consciousness has been rising in recent years, consumers pay more attention to choices and service quality provided by travel agents, which forces travel agents to strengthen these choices. In respect to Relationship Quality, how link customer's expectation and the reality of travel products or service is not only an issue for travel agents but also the present trend. Therefore, constructing an on-line travel website

and enriching the content of the website have become one of the important methods to contact consumers and to increase consumption. Nevertheless, the content on the website is not the only factor that influences on-line consumption. Since travel products are intangible products, consumers often face a high perceived risk resulted from asymmetric information. Although the application of the Internet provides consumers with a convenient purchase channel, are there other essential factors that influence consumer behavior? This is one of the issues of this study.

According to the previous studies concerning the influence of consumption intention on Internet or behavior, most of them were conducted by the following respects: (1) to probe the tendency or attitude which influences consumer behavior by different theories. For example, the Technology Acceptance Model was employed to discuss the influence of the construction of travel website system on consumption intention (Moon & Kim, 2001). The other study adopted the Theory of Planned Behavior (TPB) and the Decomposed Theory of Planned Behavior to probe the Internet purchase intention and explained the understanding of use of information technology more completely (Ajzen, 1991; Taylor & Todd, 1995a); (2) to target various industries, most of which are service industries, they employed theories to explain purchase intention and behavior models (Ajzen & Driver, 1992; Henderson, Rickwood, & Roberts, 1998; Liao, Shao, Wang, & Chen, 1999); (3) to discuss the content planning on the website, the construction of the system, or the influence of e-Commerce on travel agents. For example, Lai and Yang (1998) proposed the Customized Marketing System based on the Intelligent Agent, which tried to solve problems that

\* Corresponding author. Tel.: +886 7 7172930x2003; fax: +886 7 7171980.

E-mail addresses: [e2667@ms23.hinet.net](mailto:e2667@ms23.hinet.net), [t3285@nknucc.nknu.edu.tw](mailto:t3285@nknucc.nknu.edu.tw) (W.-B. Lin), [wmk2582@cht.com.tw](mailto:wmk2582@cht.com.tw) (M.-K. Wang), [hwangis@mail.ncku.edu.tw](mailto:hwangis@mail.ncku.edu.tw) (K.P. Hwang).

customers faced when browsing through global information websites. Bloch and Segev (1997) explained the influence of e-Commerce on travel agents from a point of view of the supply chain; and (4) to discuss the key factors that influence consumer's decision making for purchase. For example, the EKB Mode and the Howard–Sheth Mode (Engel, Blackwell, & Miniard, 1995; Evans & Berman, 1994) were to explain and predict the reasons and the results of consumer behavior. In other words, those previous studies focused on three issues: (1) To explain and predict consumer behavior by different behavior theories; (2) To emphasize the influences of different industries on consumer behavior and offer explanations of difference; and (3) The construction of hardware and software, such as the establishment of a website and the positioning of characteristics, was the core of the studies.

In the past there were many discussions concerning consumer behavior for travel, however, there are still some chances: (1) among the studies of real consumer behavior for on-line travel products, most of them discussed part of antecedent variables (Ducoffe, 1996; Leblance, 1992) or employed the EKB Mode. For example, Rogers (1983) used innovation-diffusion consumer behavior models for explanation. There were few studies integrating or modifying the test of the model fit derived from various theories; (2) the previous studies particularly focused on the investigation of consumer behavioral intention (Ajzen & Fishbein, 1980; Hou & Lin, 1997), meaning that few studies paid attention to the difference of real purchase or consumer behavior; and (3) in the past, the method mostly employed in relevant issues was the multivariate statistical analysis. Few discussions about the nonlinear neural network model were made.

In regard to the factors that influence real consumer's purchase, some are directly observable factors, such as Marketing Mix factors, product features and population statistics variables. The others are indirectly observable factors, such as psychological factors, social factors, and cultural factors (Engel et al., 1995; Lai, 2000). In the previous studies, the Theory of Planned Behavior, the Decomposed Theory of Planned Behavior and the Technology Acceptance Model gave good explanations on influence on consumer behavior tendency (Ajzen, 1985; Davis, Bagozzi, & Warshaw, 1989; Moon & Kim, 2001). For discussing on-line consumer behavior, this study tried to combine the Decomposed Theory of Planned Behavior and the Technology Acceptance Model to establish a complete study mode, which is to discuss the influences on on-line consumer behavioral intention for travel and the real consumer behavior and to test and verify the explanation degree of this mode on on-line consumer behavioral intention for travel and the real consumer behavior for common consumers.

In conclusion, the purposes of this study are stated as follows:

- (1) To Combine the views from the Decomposed Theory of Planned Behavior and the Technology Acceptance Model and propose a behavior model which influences on-line consumer behavior for travel and real consumer behavior.
- (2) To analyze and test the data by using the multivariate statistical analysis and the neural network model for proving the degree of this model.

## 2. Literature review

### 2.1. Decomposed theory of planned behavior

The theoretical basis of the Theory of Planned Behavior is to modify the Theory of Reasoned Action, which shows that the occurrence of behaviors is based on factors that are controllable by personal willpower but ignores the importance of personally uncontrollable factors (Ajzen, 1985). In other words, in the Theory of Planned Behavior, all of the individual's "attitude" to the behav-

ior tendency and the real behavior, the subjective norms that influence the individual on behavior, and chances, resources and controls that an individual may or may not have for behavior will have effects on behavioral intention and real behavior.

Taylor and Todd (1995a,b) further combined the advantages from the Technology Acceptance Model and the Theory of Planned Behavior, meaning more factors were used to explain consumer behavior. In other words, the considered extent of whether latent consumers will adopt the information system or a consumer behavior or not is the same as the Theory of Planned Behavior, which emphasized the meanings of the "attitude", "perceived behavioral control" and "subjective norms". The main issue discussed in this study is the factors that influence on-line consumer behavior for travel. Numerous research showed that the features of service provided on websites, such as interaction, convenient use, information, reliability and guarantee, are the major factors that attract consumers to use websites (Ducoffe, 1996; Eighmey, 1997). Furthermore, the product feature lures consumption. For instance, Logman (1997) believed that products, price, communication, distribution and service are the key factors to strengthen customization.

Therefore, this study applied the three main parts of the Decomposed Theory of Planned Behavior: (1) attitude: the consumer's preference for the use of on-line travel information system; (2) subjective norms: an individual's dependence on opinions from the other person or group for specific actions. But in this study, opinions on the content of travel websites or previous consumption experience provided by the consumer's family or peers are the main variables; and (3) perceived behavioral control: according to consumer's internal intention and external limitation of resources, the concept of which is extended into two parts. One is the "convenience status" for an individual's specific behavior to be acted, which means the degree of the "perceived ease of use" for on-line travel systems. The other is the assessment of the "self-efficacy" for an individual's behavior to be acted. This study assessed the personal attitude of consumer behavior and the real consumer behavior by reversed concept of the "perceived risk".

The simplified consumer behavior models believed that the prediction of usage intention for latent users to use systems was affected by the attitude of an individual to act with a specific behavior (Engel et al., 1995). In addition, related studies concerning the consumer behavior for travel generally thought that the features of travel products and the advantages on product prices had effects on consumer behavioral intention (Logman, 1997). This study proposes a conceptual framework of the study model (1), which is shown in Fig. 1.

### 2.2. Technology Acceptance Model

The Technology Acceptance Model is widely applied to explain the usage behavior of information technology. There are two main concepts. One is the "Perceived Usefulness" of using an on-line information system and the "Attitude" to information technology, both have effects on the behavioral intention and the real behavior. In other words, there were studies discussing the interaction between perception and psychological factors that affect the behavior of information usage. For example, Engel, Blackwell, and Miniard (1993) believed that peers or family members had a positive correlation to personal behaviors of information technology. Ellen, Wiener, and Cobb-Walgren (1991) also emphasized that the ability of Perceived Behavioral Control positively correlated to the behavior ability. Numerous studies found that the behavior had a positive correlation to the behavior of using the information technology (Davis et al., 1989; Kallgren & Wood, 1986).

Comparing the Technology Acceptance Model with the Decomposed Theory of Planned Behavior, this study is of the opinion that the former one highlights the independence that consumers use

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