

Full Length Research Paper

Applying the extended theory of planned behavior to predict the intention of visiting a green hotel

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The study herein describes the use of the extended theory of planned behavior (TPB), together with the additional variable of past behavior, to investigate the intentions of individuals to visit green hotels in Taiwan. The aims of the present study were threefold: i) to use the extended TPB to identify the factors that affect customers' intentions to visit a green hotel; ii) to investigate the effect of past behavior on customers' visiting intentions; and iii) to examine the mediating role of the variables of the TPB on the relationship between past behavior and the intention to visit a green hotel. Data collected from 250 face-to-face surveys confirmed the hypotheses of the present study and the findings of the current literature on this wider topic. The findings reveal that attitude, subjective norms, perceived behavioral control, and frequency of past behavior, all positively affect the intention of a customer to visit a green hotel. In addition, the influence of the frequency of past behavior on the intention to visit a green hotel, was partially mediated by the variables of the TPB. The findings show that the modified TPB may be used to understand behavioral intention in the context of visiting a green hotel. Some wider implications were also derived, both from a theoretical point of view and from a practical one, for managers in the hospitality industry.

Key words: Green hotels, theory of planned behavior, attitude, subjective norms, behavioral intention, past behavior.

INTRODUCTION

Tourism is generally recognized to be a 'non-chimney' industry (that is, one that has a low environmental impact), which is known to provide much in the way of significant opportunities for employment and foreign income for the host country. The longer that a tourist spends in a given country or region, the greater the financial benefits to the local economy, in terms of increased levels of trade for local restaurants and shops. However, although tourism provides business opportunities for local companies, it nevertheless has an impact on the natural environment. This can take the form of a greater consumption of water, energy, and raw materials, as well as the increased emis-

sion of greenhouse gases (for example, carbon dioxide), and the generation of waste.

Indeed, although many of the products or services used in the hospitality and tourist industry can damage the environment during their production, operation, and disposal, the provision of such services often relies on the natural vibrancy of the surrounding area. In view of this fact, the study contends that the hospitality industry can no longer ignore its environmental responsibilities. As a result, the development of so-called 'green' hotels has become one of the more important recent innovations in the tourist sector. Green hotels may be distinguished from ordinary hotels in that they aim to use products and services that mini-mize the consumption of water and energy, and reduce the output of solid waste, in order to protect the environment from the further depletion of its

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natural resources (GHA, 2010). Green hotels have gained increasing prominence over the past 15 years, with more mature markets such as those of the United States and Canada having published ratings systems that are specifically aimed at this emerging sector of the tourist industry. For instance, the US implemented its 'Green Seal Hotel Plan' in 1995, and Canada introduced its 'Green Leaf Eco-Rating Program' in 1998. Despite these moves, green hotels in Taiwan are only at a comparatively early stage of development.

Previous studies on this topic have focused on the description of; (i) the management of environmental practices in green hotels (Shen and Wan, 2001; Hung and Lai, 2006), (ii) the reasons visitors choose to stay in a green hotel (Yeh et al., 2003; Manaktola and Jauhari, 2007), and (iii) the green practices that visitors seek when choosing between green hotels (Kung and Tseng, 2004; Chan and Ho, 2006; Park, 2009). However, previous authors have paid little attention to the decision-making of potential customers who may consider a stay in a green hotel. In the context of a growing number of consumers who seek 'green' alternatives, Manaktola and Jauhari (2007) found that the environmentally friendly practices of green hotels could provide them with a competitive advantage. Han et al. (2010) were the first authors to explain how customers frame their intentions to visit a green hotel using the theory of planned behavior (TPB). These authors found that attitude, subjective norms, and perceived behavioral control all positively affected their intention to stay at a green hotel. Han and Kim (2010) subsequently extended the TPB to explain customers' intentions to pay a repeat to a green hotel.

In contrast, Ajzen (1988) suggested that the effect of past behavior on behavioral intention was mediated by the variables included in the TPB, namely attitude, subjective norms, and perceived behavioral control. This principle had also been demonstrated in the tourist industry. Lam and Hsu (2006) found that when choosing a destination, past behavior affects behavioral intention, while Lee and Choi (2009) showed that past experience was an accurate predictor of behavioral intention in their research in the hospitality and tourism sectors. Kim et al. (2010) further showed the positive impact of past behavior on a person's intention to visit a spa.

However, despite the findings in a number of studies of the factors that influence the formation of intentions in the context of green hotels, no researchers have yet examined the effect of past behavior on the predictive utility of the TPB to explain customers' intentions to visit a green hotel. In addition, no research has yet investigated the mediating role of the variables of the TPB (that is, attitude, subjective norms, and perceived behavioral control) on the relationship between past behavior and the intentions of customers to visit a green hotel.

In order to address this gap in the understanding of this topic, the study herein proposes the extension of the TPB in two ways: (i) by including the variable of past behavior into the main framework of the TPB and (ii) by examining the mediating role of the variables of the TPB on the relationship between the past behavior and the intentions of customers.

In view of the foregoing, the aims of the present study were threefold: (i) to use the TPB to identify the factors that affect customers' intentions to visit a green hotel; (ii) to investigate the effect of past behavior on the visiting intentions of customers; and (iii) to examine the mediating role of the variables of the TPB on the relationship between past behavior and intention to visit a green hotel.

LITERATURE REVIEW

The relationship between subjective norms and attitude

Yu et al. (2005) showed that 'attitude' has a mediating effect on the variables 'perceived behavioral control' and 'subjective norms'. Ryu and Jang (2006) found that subjective norms are positively associated with a person's attitude to certain types of behavior. Wu and Lin (2007) showed that attitudes are directly influenced by subjective norms, which implies that when the subjective norms of respondents are more positive, their attitudes are positive. Han et al. (2010) demonstrated that a visitor's attitude towards a green hotel is positively associated with his or her subjective norms. Similarly, Tsai (2010) determined that there exists a significant relationship between the subjective norms and the participatory attitudes of tourists. In view of the foregoing, we formulate the following hypothesis:

H₁: There exists a significant relationship between the subjective norms and the attitudes of visitors who choose to visit a green hotel.

The relationship between perceived behavioral control and attitude

Previous studies have tested the strength of the link between perceived behavioral control and attitude (Yu et al., 2005; Tsai, 2010). After studying the behavioral tendencies of Taiwanese tourists in Kinmen, Yu et al. (2005) concluded that attitude has a mediating effect on the perceived behavioral control and subjective norms of an individual. This implies that when the perceived behavioral control of respondents is more positive, so are their attitudes. Tsai (2010) also showed a significant relation-

ship between a people's perceived behavioral control and his/her attitude. In view of the foregoing, the study formulates the second hypothesis as follows:

H₂: There exists a significant relationship between the perceived behavioral control and the attitudes of visitors who choose to visit a green hotel.

The effects of attitude, subjective norms, and perceived behavioral control on behavioral intention

The TPB has been widely applied by researchers whose aim was to use the behavior of individuals to predict their intentions (Ajzen, 1991, 2002), and has often been used to explain the specific behavior of an individual in a certain environment (Hung et al., 2003; Teo and Pok, 2003; Hsu and Chiu, 2004), such as in a restaurant (Cheng et al., 2005), or when faced with decisions on purchasing items such as genetically modified foods (O'Fallon et al., 2007).

The results of these and other studies have demonstrated the strong predictive power of the TPB. One of the aims of the present study was to use the TPB to explain the formation of customers' intentions to visit a green hotel. The study therefore hypothesized:

H₃: Attitude has a positive influence on customers' intentions to visit a green hotel.

H₄: Subjective norms have a positive influence on customers' intentions to visit a green hotel.

H₅: Perceived behavioral control has a positive influence on customers' intentions to visit a green hotel.

The relationship between past behavior and behavioral intention

Lam and Hsu (2006) determined that the frequency of certain types of past behavior had a direct influence on behavioral intention when choosing a destination, while Lee and Choi (2009) showed that past experience was an accurate predictor of behavioral intention in the hospitality and tourist sectors. It is therefore reasonable to assume that frequency of types of past behavior influences behavioral intention under the following hypothesis:

H₆: Past behavior has a significant and positive influence on customers' intentions to choose to visit a green hotel.

Mediating effect of the TPB variables on past behavior and behavioral intention

Ajzen (1988) demonstrated that the frequent repetition of

a type of behavior can lead to the formation of a habit, and that, in turn, a habit can increase a person's perceived control of a particular type of behavior. Ajzen also suggested that the effect of past behavior on behavioral intention was mediated by attitude, subjective norms, and perceived behavioral control. Although a number of researchers have shown that the frequency with which a type of behavior has occurred in the past can explain various types of social behavior and behavioral intentions, few authors have discussed the mediating role of these three TPB variables on past behavior and behavioral intention (Cheng et al., 2005; Ajzen, 2001). Cheng et al. (2005) examined the mediating role of these variables of the TPB on the relationship between past behavior and future intentions. They demonstrated that the influence of past behavior on future behavioral intentions was mediated by the variables of the TPB. In view of this claim, the study formulates the following hypotheses:

H₇: Attitude mediates the effect of past behavior on the intention to choose to visit a green hotel.

H₈: Subjective norms mediate the effect of past behavior on the intention to choose to visit a green hotel.

H₉: Perceived behavioral control mediates the effect of past behavior on the intention to choose to visit a green hotel.

Based on the foregoing discussion, the proposed behavioral model is outlined in Figure 1. This conceptualization demonstrates how the study described herein has extended the traditional scope of the TPB by adding the frequency of past behavior as a fourth variable. Figure 1 also shows that our study considers the effects of subjective norms and perceived behavioral control on attitude, and examines the mediating role of attitude, subjective norms, and perceived behavioral control on the effect of the frequency of past behavior on customers' intentions.

METHODOLOGY

Sample design and data collection

The quantitative data used in the present research were collected by means of face-to-face surveys via convenience sampling. The main criterion for the inclusion of potential respondents was the ability to make their own purchasing decisions. Face-to-face surveys were conducted by trained interviewers in a variety of locations, including train stations, supermarkets, department stores, shopping malls, and adult education classes, in order to obtain data from a representative demographic profile. A total of 400 questionnaires were distributed and 300 were returned. A further 50 of the returned questionnaires were incomplete, and thus, 250 usable responses were received from participants, which represented a response rate of 62.5%. Almost two thirds of the respondents in

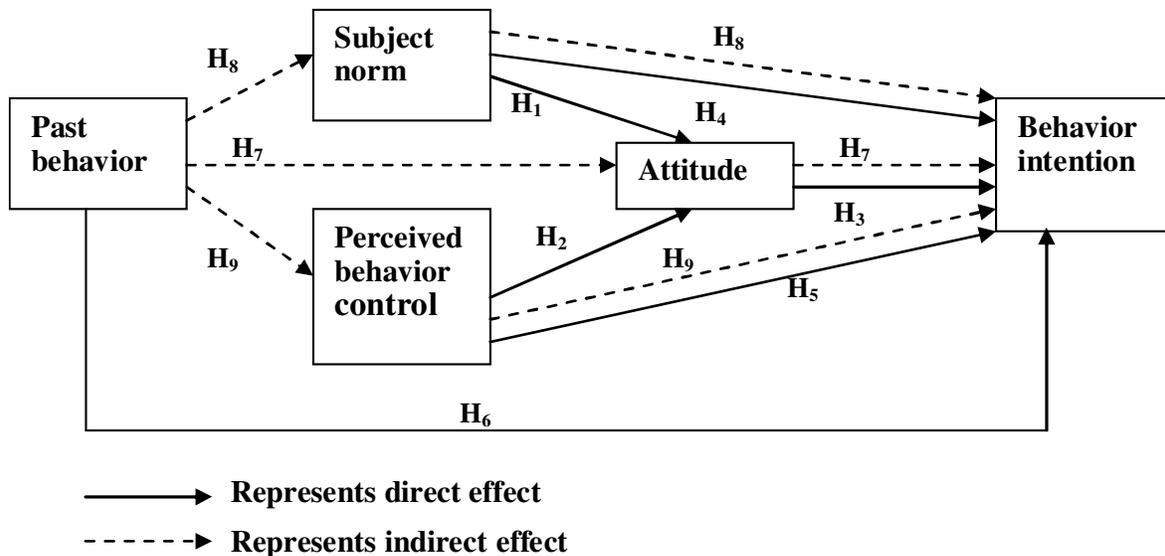


Figure 1. Research framework.

in the final sample were female ($n = 158$, 63.7%). In terms of the distribution of ages, 74 subjects were aged 30 to 39 years (29.6%) and 66 subjects were aged 40 to 49 years (26.4%). In terms of educational background, 160 subjects (64.8%) were university graduates, and 58 (23.5%) had completed their formal education as far as senior high school level. Over half of the respondents ($n=152$, 60.8%) indicated that their individual incomes were less than TWD 50,000 per month.

Measurement instruments

The present study used previously established instruments to measure each of the five constructs (that is, past behavior, attitude, subjective norms, perceived behavioral control and behavioral intention). The questionnaire included six sections. The first four sections assessed attitude, subjective norms, perceived behavioral control, and behavioral intention, respectively. The fifth section assessed past behavior, and the sixth recorded the basic demographic information of the respondents. The scales used for attitude, subjective norms, and perceived behavioral control were adopted from previous empirical studies that used the TPB (Ajzen and Driver, 1992). All the instruments were modified to reflect the context of green hotels.

Attitudes towards green hotels were measured using the seven-point semantic differential scale previously employed by Han et al. (2010). Subjective norms were measured using three items, each of which used the same seven-point rating scale from Han et al. (2010). An example of a question in this section was 'Most people who are important to me disapprove/approve when I visit green hotels'. Perceived behavioral control was measured by means of three items, each of which again used the same seven-point rating scale. An example was 'I have the resources, time, and opportunities to visit a green hotel when traveling'. The frequency of past behavior was measured using two items. An example was, 'In the past 12 months, how many times have you stayed at a green hotel when traveling?' These responses were coded from 0 to 6 (0 =

'none' to 6 = 'six times or more'). Behavioral intention was measured by means of three items, each of which used the seven-point rating scale. One example here was 'I am willing to visit a green hotel when traveling'.

RESULTS AND ANALYSIS

Confirmatory factor analysis (CFA) was used to obtain the factor loadings of the five constructs (past behavior, attitude, subjective norms, perceived behavioral control, and behavioral intention) and to assess the goodness-of-fit of the model. The adequacy of the model was determined by using the indices of goodness-of-fit suggested by Hair et al. (2006). The convergent validity of the results of the CFA must be supported by (i) the reliability of each measure, (ii) the composite reliability (CR) of each construct, and (iii) the average variance extracted (AVE; Fornell and Larcker, 1981; Hair et al., 2006). Table 1 shows that the Cronbach's α of each item lay between 0.722 and 0.961, which was above the threshold level of 0.70 recommended by Nunnally and Bernstein (1994). The CR of each construct lay between 0.76 and 0.96, which was above the threshold level of 0.60 recommended by Bagozzi and Yi (1988) and Fornell and Larcker (1981), confirming that the research variables were acceptable in terms of their reliability. In addition, the factor loading t-value lay between 8.335 and 31.452, and each of the measurable items reached significance ($p < 0.01$; Gerbing and Anderson, 1988). The AVE of the constructs ranged between 0.62 and 0.85, and were all therefore higher than the suggested threshold level of

Table 1. Analysis of the reliability and validity of each measurable variable.

Construct	Item	Standardized factor loading	t-value	CR	AVE	Cronbach's α
Attitude	AT1	0.908	---	0.96	0.81	0.961
	AT2	0.927	25.207**			
	AT3	0.914	24.054**			
	AT4	0.876	21.477**			
	AT5	0.905	23.428**			
	AT6	0.873	21.324**			
Subjective norms	SN1	0.950	---	0.94	0.85	0.942
	SN2	0.956	31.452**			
	SN3	0.859	22.317**			
Perceived behavioral control	PBC1	0.925	---	0.83	0.63	0.817
	PBC2	0.818	13.120**			
	PBC3	0.599	9.678**			
Behavioral intention	BI1	0.812	---	0.84	0.63	0.828
	BI2	0.750	12.852**			
	BI3	0.819	14.432**			
Past behavior	PB1	0.752	---	0.76	0.62	0.722
	PB2	0.819	8.335**			

**p<0.01.

Table 2. Discriminant validity for the measurement model.

Construct	PB	PBC	SN	AT	BI
PB	(0.787)				
PBC	0.313**	(0.794)			
SN	0.434**	0.363**	(0.922)		
AT	0.460**	0.317**	0.712**	(0.9)	
BI	0.507**	0.445**	0.707**	0.751**	(0.794)

**p<0.01; AT = attitude; SN = subjective norms; PBC = perceived behavioral control; BI = behavioral intention; PB = past behavior; values on the diagonal in parentheses: square roots of AVEs obtained from observed variables (items); off the diagonal: correlations between constructs.

0.5 recommended by Fornell and Larcker (1981), thereby confirming that the measurement model had good convergent validity. The measurement model used in the present study was thus shown to be reliable and meaningful for testing the structural relationships among the five constructs used in this study.

The validity of the discriminants was tested by comparing the square roots of the AVEs obtained for a given construct with the correlations between that construct and each of the other constructs (Table 2). If the square roots of the AVEs exceed the correlations between a given

construct and the others in the same model, there is then evidence to suggest that that construct is more strongly correlated with its indicators than it is with the other constructs (Fornell et al., 1982). As shown in Table 2, the validity of the discriminants is satisfactory for all the constructs.

After testing the reliability and validity of the measurement model, we next determined the goodness-of-fit of the structural model using the program AMOS 7.0 (Arbuckle, 2006) to test the hypotheses H_1 to H_9 . According to Gefen et al. (2000), between 100 and 150

Table 3. The recommended and actual values of fit indices.

Fit index	χ^2 / df	GFI	AGFI	CFI	NFI	NNFI	RMSEA
Recommended value	<3	>0.90	>0.80	>0.90	>0.90	>0.90	<0.08
Actual value	2.745	0.873	0.824	0.950	0.924	0.938	0.084

χ^2 / df is the ratio between chi-squared and the number of degrees of freedom, GFI is the goodness of fit index, AGFI is the adjusted goodness of fit index, CFI is the comparative fit index, NFI is the normed fit index, NNFI is the non-normed fit index, and RMSEA is the root mean square error of approximation.

responses are needed to carry out structural equation modeling. The 250 responses of the present study implied that the size of the sample was sufficiently large. Table 3 shows that five of the seven goodness-of-fit indices yielded values that were above the recommended values. Except that the GFI and RMSEA were lower than the recommended value, the others were all above. Consequently, the goodness-of-fit between the proposed model and the observed data in this study was deemed acceptable (Gefen et al., 2000; Hau et al., 2004).

HYPOTHESIS TESTING

The hypotheses of the present study were then tested by analyzing the t-values and path coefficients of the proposed research model (Table 4). All hypotheses except H₂ were shown to be supported by the experimental data. Furthermore, the hypotheses that related to the variables of the TPB (H₃ to H₅) were found to be significant ($p < 0.001$). Behavioral intention to choose a green hotel was found to be predicted by attitude, subjective norms, perceived behavioral control, and past behavior, and the R^2 thus obtained was 0.661. This finding implied that attitude, subjective norms, perceived behavioral control, and past behavior explained 66.1% of the variance in behavioral intention (Figure 2).

Mediating effect

According to Baron and Kenny (1986), Williams et al. (2003), and Lai et al. (2010), a mediating effect exists if the following four conditions are met. Firstly, the independent variable (that is, past behavior in the present study) must have a significant influence on the hypothesized mediators (that is, attitude, subjective norms, and perceived behavioral control). Secondly, the independent variable must also have a significant influence on the dependent variable (which is behavioral intention in the present study). Thirdly, the relationship between the mediating variables and the dependent variable must be

significant. Fourthly, there must be significant relationships among the independent variable, the mediating variables, and the dependent variable, and the effect of the independent variable on the respective dependent variables should either be reduced to a non-significant level (for perfect mediation) or decrease in size (for partial mediation).

The results of the statistical analyses indicated that these four conditions had been met (Figure 3). For the fourth condition, it was found that the relationships among attitude, subjective norms, perceived behavioral control and behavioral intention was significant ($p < 0.01$), as was the effect of past behavior on behavioral intention (reducing the value from 0.507 to 0.132; $p < 0.01$). The results also showed that attitude, subjective norms, and perceived behavioral control all served as partially mediating variables in the relationship between past behavior and behavioral intention.

CONCLUSIONS AND LIMITATIONS

By applying the theoretical framework of the TPB, we have herein examined the intention of respondents to visit a green hotel by assessing the effects of four dimensions of behavior, namely past behavior, attitude, subjective norms, and perceived behavioral control. The study has demonstrated that the proposed model fits the data quite well, and the findings have enabled it to draw the following conclusions.

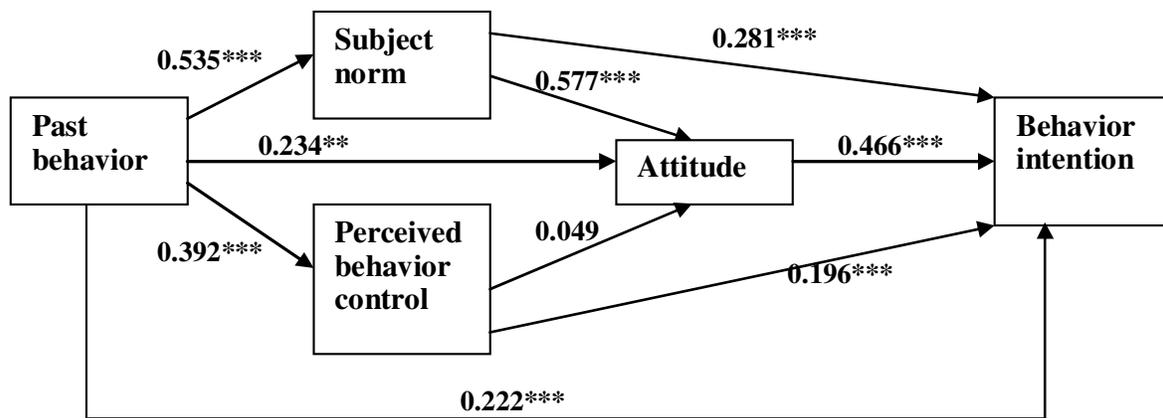
Firstly, as hypothesized, subjective norms significantly influenced the attitude of respondents to green hotels. This result is consistent with the findings of Ryu and Jang (2006), Han and Kim (2010), and Han et al. (2010). The favorable or unfavorable attitudes of respondents to visiting green hotels mainly depended on the positive or negative views of family, friends, and colleagues/co-workers on the matter. Therefore, managers of green hotels, and those who market them, should actively seek ways to improve the perceptions of green hotels of certain target groups.

Secondly, attitude, subjective norms, and perceived

Table 4. Results from hypothesis testing.

Hypothesis	Path	Path coefficient	t-value	Result
H ₁	SN→AT	0.577	9.189***	Supported
H ₂	PBC→AT	0.049	0.897	Not supported
H ₃	AT→BI	0.466	6.824***	Supported
H ₄	SN→BI	0.281	4.394***	Supported
H ₅	PBC→BI	0.196	4.002***	Supported
H ₆	PB→BI	0.201	2.850**	Supported

** p<0.01; ***p<0.001.



p<0.01; *p<0.001

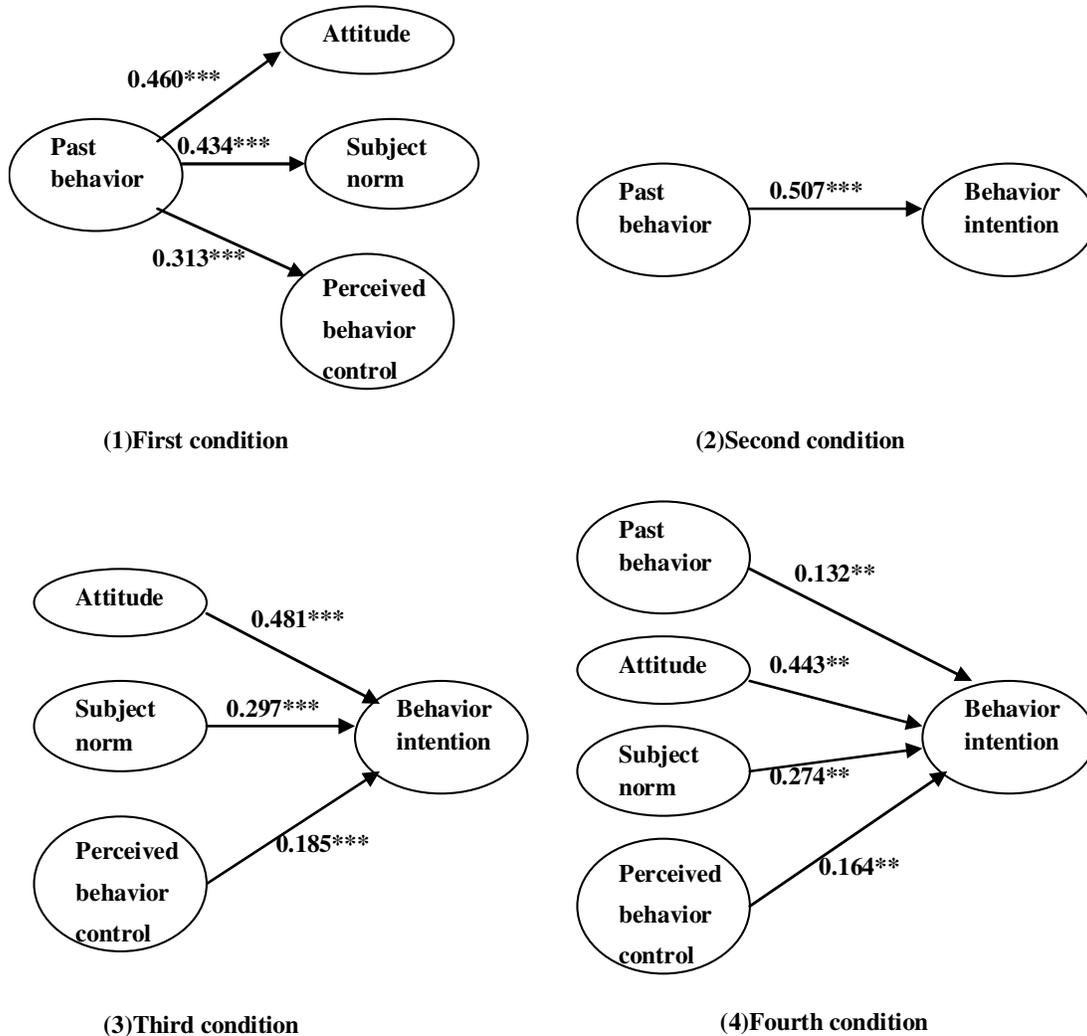
Figure 2. The structural model of past behavior, attitude, subjective norms, perceived control, and behavioral intention.

behavioral control are all significant predictors of the intention to visit to green hotels, and these three behavioral dimensions had a direct positive influence on the intention to visit a green hotel. The findings showed that the most significant predictor of the intention visit to a green hotel was attitude, followed by subjective norms. Managers of green hotels should therefore strive to develop and maintain the positive attitudes of visitors. Indeed, all the stakeholders of a green hotel should take whatever steps are necessary to ensure visitor satisfaction. If visitors are satisfied, they are more likely to visit the hotel again, and are more likely to make positive comments to friends and family members. Hotel managers might also consider the use of advertising to convey the favorable attitudes of their visitors.

Thirdly, past behavior significantly influences behavioral intention. This result is consistent with the findings of Han and Kim (2010). The study also showed that the influence of past behavior on behavioral intention was partially mediated by the three variables of the TPB.

Visitors who enjoy positive experiences of green hotels are more likely to encourage potential visitors through their endorsement of them. Accordingly, those who market green hotels must develop effective strategies to improve the experiences of their customers whenever they stay in the hotels. One method of increasing the number or frequency of repeat visits is the provision of incentives. For example, the owner could offer a special promotional rate to attract repeat visitors.

The methodology used in the present study has some limitations. Firstly, we have only focused on the intention to visit, and not on actual visits, and it is fair to say that intention may not translate into actual behavior in this case, even though a large body of evidence suggests that intention represents the most powerful single predictor of behavior (Conner and Abraham, 2001). Secondly, the study have relied on self-reported data to measure past behavior and behavioral intention, which implies that respondents were required to recall an event that occurred within the previous 12 months. The inability



*** $p < 0.01$

Figure 3. The competitive model of past behavior, attitude, subjective norms, perceived behavioral control, and behavioral intention.

of individuals properly to recall the details of a past event may thus have influenced the validity of the results. The length of time allowed for the recollection of experiences could be shortened (for example, to within the previous three months), in order to decrease the effects of bias and of the inability of respondents to recall the details of past events.

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REFERENCES

- Ajzen I (1988). Attitudes, Personality, and Behavior. Chicago: Dorsey.
- Ajzen I (1991). The Theory of Planned Behavior. Organ. Behav. Hum. Decis., 50(2): 179-211.
- Ajzen I (2001). Nature and Operation of Attitudes. Annu. Rev. Psychol., 52(1): 27-58.
- Ajzen I (2002). Perceived Behavioral Control, Self-efficacy, Locus of Control, and the Theory of Planned Behavior. J. Appl. Soc. Psychol., 32: 665-683.

- Ajzen I, Driver BL (1992). Application of the Theory of Planned Behavior to Leisure Choice. *J. Leisure Res.*, 24 (3):207-224.
- Arbuckle JL (2006). AMOS (Version 7.0) [Computer Program]. Chicago: SPSS.
- Bagozzi RP, Yi Y (1988). On the Evaluation of Structural Equation Models. *J. Acad. Mark. Sci.*, 16:74-94.
- Baron RM, Kenny DA (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic and Statistical Considerations', *J. Person. Soc. Psychol.*, 51(6): 1173-1182.
- Chan WW, Ho K (2006). Hotel's Environmental Management Systems (ISO 14001): Creative Financing Strategy. *Int. J. Contemp. Hosp. Manage.*, 18(4): 302-316.
- Cheng S, Lam T, Hsu HC (2005). Testing the Sufficiency of the Theory of Planned Behavior: a Case of Customer Dissatisfaction Responses in Restaurants. *Hosp. Manage.*, 24: 475-792.
- Conner M, Abraham C (2001). Conscientiousness and the Theory of Planned Behavior: Toward a More Complete Model of the Antecedents of Intentions and Behavior. *Pers. Soc. Psychol. Bus.*, 27 (11): 1547-1561.
- Fornell C, Larcker DF (1981). Evaluating structural equation models with unobservable and measurement error: A comment. *J. Mark. Res.*, 18(3): 39-50.
- Gefen D, Straub DW, Boudreau MC (2000). Structural Equation Modeling and Regression: Guidelines for Research Practice. *Commun. Assoc. Inform. Syst.*, 4(7):1-70.
- Gerbing DW, Anderson JC (1988). An Updated Paradigm for Scale Development Incorporating Unidimensionality and Its Assessment. *J. Mark. Res.*, 25(2): 186-192.
- GHA (2010). What are Green Hotels? Retrieved February 17, from Green Hotel Association (GHA) Web site. <http://greenhotels.com/index.php#a>
- Hair JF, Black WC, Babin BJ, Anderson RE, Tatham RL (2006). *Multivariate Data Analysis*, 6th Edition. NJ: Prentice-Hall International.
- Han H, Kim Y (2010). An Investigation of Green Hotel Customers' Decision Formation: Developing an Extended Model of the Theory of Planned Behavior. *Int. J. Hosp. Manage.*, 29: 659-668.
- Han H, Hsu L, Sheu C (2010). Application of the Theory of Planned Behavior to Green Hotel Choice: Testing the Effect of Environmental Friendly Activities. *Tourism Manage.*, 31:325-334.
- Hau KT, Wen Z, Chen Z (2004). *Structural Equation Model and Its Applications*. Beijing: Educational Science Publishing House (in Chinese).
- Hsu MH, Chiu CM (2004). Internet Self-Efficacy and Electronic Service Acceptance. *Decis. Support Syst.*, 38(3): 369-381.
- Hung SY, Ku CY, Chang CM (2003). Critical Factors of WAP Services Adoption: an Empirical Study. *Electron. Commer. Res. Appl.*, 2(1): 42-60.
- Hung WL, Lai PC (2006). Hotel Manager's Perception of Green Hotels and Ecolabels-A Case Study of Penghu. *J. Tourism Stud.*, 12(4): 325-344.
- Kim SH, Kim S, Huh C, Knutson B (2010). A Predictive Model of Behavioral Intention to Spa visiting: an Extended Theory of Planned Behavior. *Hospitality & Tourism Management International CHRIE Conference-Refereed Track*.
- Kung FC, Tseng YF (2004). The Study on Green Consume Cognitions for Consumers of International Tourist Hotels in Taiwan. *Chung Hua J. Manage.*, 5(2): 37-51.
- Lai CS, Chiu CJ, Yang CF, Pai DC (2010). The Effects of Corporate Social Responsibility on Brand Performance: The Mediating Effect of Industrial Brand Equity and Corporate Reputation. *J. Bus. Ethics*, 95: 457-469.
- Lam T, Hsu CHC (2006). Predicting Behavioral Intention of Choosing a Travel Destination. *Tourism Manage.*, 27: 589-599.
- Lee W, Choi H (2009). Understanding Meeting Planner's Internet Use Behavior: an Extension to the Theory of Planned Behavior. *Int. J. Hosp. Tour. Adm.*, 10(2): 109-128.
- Manaktola K, Jauhari V (2007). Exploring Consumer Attitude and Behavior towards Green Practices in the Lodging Industry in India. *Int. J. Contemp. Hosp. Manage.*, 19(5): 364-377.
- Nunnally JC, Bernstein IH (1994). *Psychometric Theory*, 3rd Edition (McGraw-Hill, New York).
- O'Fallon MJ, Gursoy D, Swanger N (2007). To Buy or not to Buy: Impact of Labeling on Purchasing Intentions of Genetically Modified Foods. *Int. J. Hosp. Manage.*, 26:117-130.
- Ryu K, Jang S (2006). Intention to Experience Local Cuisine in a Travel Destination: the Modified Theory of Reasoned Action. *J. Hosp. Tour. Res.*, 30 (4): 507-516.
- Shen CW, Wan CS (2001). The Concept and Exploration of Green Hotel among Tourist Hotel Managers in Taiwan. *Tour. Manage. Res.*, 1(1):71-86.
- Teo TSH, Pok SH (2003). Adoption of WAP-enabled Mobile Phones among Internet Users. *Int. J. Manage. Sci.*, 31(6): 483-498.
- Tsay CY (2010). Applying the Theory of Planned Behavior to Explore the Independent Travelers' Behavior. *Afr. J. Bus. Manage.*, 4(2): 221-234.
- Williams LJ, Edwards JR, Vandenberg RJ (2003). Recent Advances in Causal Modeling Methods for Organizational and Management Research. *J. Manage.*, 29(6): 903-936.
- Wu S, Lin TC (2007). Exploring Knowledge Sharing Behavior of IS Personnel with Theory of Planned Behavior. *J. Inform. Manage.*, 14(2): 75-110.
- Yeh PH, Tsai CF, Huang TC (2003). Tourists' Environment Protection Behavior and their Decision on Choosing the Green Hotel. *J. Environ. Manage.*, 4(2): 61-82.
- Yu TK, Wu GS, Lee NH (2005). Exemplified by the MP3 Download Behavioral by Students in the Technological and Vocational System. *J. Inform. Manage.*, 12(3): 189-222.