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# EVALUATING GREEN HOTELS IN TAIWAN FROM THE CONSUMER'S PERSPECTIVE

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Although there is a wealth of studies on consumer perceptions of environmental practices in green hotels, few studies have examined attitudes towards specific green hotel initiatives. This study conducted an empirical investigation into consumers' perspectives with regard to green hotel initiatives in Taiwan. It also explored the relationships between revisit intention and three important groups of factors: purchase decision factors, attitudes towards green certification, and satisfaction. A path technique was adopted to analyze the proposed theoretical model. The empirical results show that satisfaction has a mediating effect on the relationship between purchase decision factors and revisit intention. Among green hotel initiatives, results suggest that recycling is the most influential. Results of this study provide valuable reference for the management of green hotels.

**Keywords:** Green Hotel, Purchase Decision Factors, Green Certification, Green Hotel Initiatives, Satisfaction

## INTRODUCTION

As environmental awareness grows, numerous corporations have begun to introduce eco-friendly products or services (McDaniel and Rylander, 1993; Mohd *et al.*, 2012; Ng, 2011; Hengky, 2011; Mas'od and Chin, 2014) and the hotel industry is no exception. Many of the world's leading hotel chains (e.g., Starwood, Marriott, and Hyatt) have proactively implemented environmental initiatives (e.g., water and energy saving, proper disposal of solid waste, conservation, and recycling and reusing durable service items such as bins or towels) to provide hotel guests an opportunity to lessen their impact on the environment (APAT,

2002; Manaktola and Jauhari, 2007; GHA, 2008; Han *et al.*, 2010; Millar and Baloglu, 2011; Gao and Mattlia, 2014). Eco-friendly practices also bring various operational benefits, such as reducing energy consumption and operational costs, gaining a competitive edge, and enhancing the hotel's reputation (Enz and Siguaw, 1999; Penny, 2007). Hence, green initiatives are growing forces in the highly competitive hotel industry (Manaktola and Jauhari, 2007; Han *et al.*, 2010).

Yet many hotel operators harbor reservations about green initiatives because they are not convinced that customers are willing to pay for eco-friendly products and services (Kang *et al.*,

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2012; Chong and Verma, 2013). Robinot and Giannelloni (2010) found that hotel guests do not always trust that hotel management effectively implements the initiatives they advertise. However, hotels tend to have heavy ecological footprints, and as awareness of this grows, there is evidence that consumers are seeking out hotels with an eco-friendly approach (e.g., those using solar panels, implementing waste reduction, and maintaining recycling bins) (Han *et al.*, 2010; Chan, 2013; Laroche *et al.*, 2001; Masau and Prideaux, 2003; Han *et al.*, 2010; Kang *et al.*, 2012). The challenge for green hoteliers is ensuring that these green initiatives meet consumers' expectations (Lita *et al.*, 2014; Chong and Verma, 2013). It has also been found that although consumers might hold positive attitudes toward eco-friendly products and service, they will not always be willing to pay extra for them because they view green practice as an existing social responsibility of the hotels (Lita *et al.*, 2014). This study contributes to an understanding of this complex topic by measuring the attitudes of consumers towards specific aspects of green hotels in Taiwan, and their evaluations thereof. Results of this study are expected to provide practical implications for hotel operators in the development of green hotel initiatives and marketing strategies.

## **THEORETICAL BACKGROUND AND HYPOTHESES**

### **Purchase Decision Factors**

Various factors, both personal (e.g., price/value, security, and room comfort) and non-personal (e.g., organizational image, reputation, and marketing), affect the consumption preferences and shopping orientations of consumers (Endsley, 1995; Orasanu and Martin, 1998; Lysonski *et al.*,

1996; Coward and Goldsmith, 2007; Siu *et al.*, 2001; Michalski and Bearman; 2014; Ongena *et al.*, 2011; Tanforda *et al.*, 2012). Previous studies have conducted extensive investigations into the various aspects of the relationship between hotels and the customers they serve (Michalski and Bearman, 2014; Chen and Peng, 2014). Lita *et al.* (2014), for example, found a positive relationship between attitude, image, revisit intention and willingness to pay for green services. However, few studies have explored what decision criteria are involved in the selection of a green hotel. In order to fill this gap, the current author modified the indicators suggested by Sproles and Kendall (1986), Ongena *et al.* (2011), and Lita *et al.* (2014) to investigate the purchase decision behavior of green hotel consumers.

In the above reference studies, the following were considered purchase decision factors: availability of discounts (Discount), the ease with which the hotel can be reached (Location), corporate responsibility including sustainability (Responsibility), tourist sites in the vicinity (Vicinity), reasonability of prices (Price), quality of the surroundings/view (Environment), reputation of the hotel (Reputation), and the availability of holiday packages associated with the hotel (Package) (Ongena *et al.*, 2011; Tanforda *et al.*, 2012). These factors are rated from 1 to 5, from least to most important. The following hypotheses were formulated:

*H1: High scores on these purchase decision factors will have a positive influence on consumer perception of green initiatives.*

*H2: High scores on these purchase decision factors will have a positive influence on consumer satisfaction.*

*H3: High scores on these purchase decision*

factors will have a positive influence on consumer behavioral intention.

## GREEN CERTIFICATION

Although green practices are not central to the function of a hotel, the last few years have seen the hotel industry make significant investments in an attempt to address the increasing environmental concerns of guests (Kang *et al.*, 2012; Christy *et al.*, 1996; Sen and Bhattacharya, 2001; Henion, 1972). This is particularly true of the world's leading hotel chains. Despite growing attention to green practices in the hotel industry, there's scant empirical evidence that demonstrates how the green hotel certification are associated with customer intentions to revisit or recommend a hotel to others. Thus, the current study aims to examine the importance of green certification as perceived by hotel consumers.

Green certification offer hotels an opportunity to showcase their environmental efforts, bringing benefits such as an increase in revenue, reduction in costs, image enhancement, and competitive advantage (Black and Crabtree, 2007; Geerts, 2014; Bernardo *et al.*, 2009; Chan, 2009; Font and Buckley, 2001; McKeiver and Ganenne, 2005; Segarra-Oña *et al.*, 2012; Geerts, 2014). Green certification is a voluntary procedure that matches a hotel's sustainability practices with criteria proposed by environmentally conscious organizations such as Green Key, Green Globe, Green Leaf, and Green Seal (Black and Crabtree, 2007; Geerts, 2014). Each program has its own standards of eco-consciousness. Each possesses various levels of applicability to different contexts. For example, the rating system used by the US Green Business Council's Leadership in Energy and Environmental Design (LEED) is generally a better fit for newly

constructed hotels than for existing facilities (Ecogreen Hotel, 2010). Table 1 summarizes the major players in green hotel certification.

While an increasing number of hotels follow eco-friendly practices for the sake of gaining a competitive edge, it has nevertheless led to positive effects for both the environment and consumers (APAT, 2002; Manaktola and Jauhari, 2007; Han *et al.*, 2010; Chen, 2014; Gao and Mattila, 2014). Yet, research regarding consumers' evaluations of these initiatives, and how they in turn affect revisit intention has returned conflicting results (Gao and Mattila, 2014). Berezan *et al.* (2013) found that green practices significantly affect revisit intention, and Gao and Mattila (2014) as well as Chong and Verma (2013) found that green initiatives positively affect satisfaction. Furthermore, Han *et al.* (2011) found a positive relationship between green hotels and willingness to pay. However, Robinot and Giannelloni (2010) and CarbonTrust (2011) argued that where green hotel initiatives negatively affect service quality, comfort, and efficiency, revisit intention also suffers.

This study investigated attitudes towards the bronze mark certification originally proposed by the Environmental Protection Administration (EPA) of the Executive Yuan, ROC (Taiwan) in 2008, which was later revised in 2012 (EPA, 2012). To earn bronze certification, a hotel must satisfy all of the prerequisites set by the EPA, including energy conservation, water conservation, waste management, and pollution control. The current author formulated the following hypotheses:

*H4: Green certification positively affects perceptions of satisfaction.*

*H5: Green certification positively affects behavioral intention.*

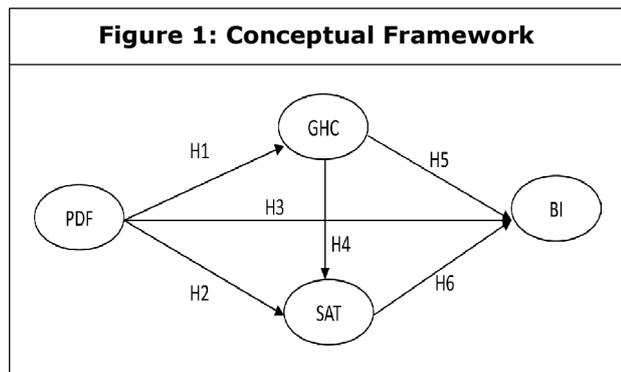
**Satisfaction**

Satisfaction is frequently viewed as a critical factor of consumer behavioral intention (Chen and Tsai, 2007; Cronin *et al.*, 2000; Chen and Cheng, 2012). Previous studies have established the mediating relationship between satisfaction and intention, yet little research has been conducted in the context of green hotels. Hence, the final hypothesis was formulated as follows:

*H6: Satisfaction positively affects behavioral intention.*

Here, satisfaction is regarded as the overall response to the perceived difference between the expectations of the consumer and perceived performance after staying at a green hotel (Oliver, 2010; Chen and Cheng, 2012). Behavioral intention in this study comprises two aspects: revisit intention and willingness to recommend (Chen and Tsai, 2007; Cronin *et al.*, 2000; Chen and Cheng, 2012).

The conceptual model implemented in this study is presented in Figure 1.



**METHODOLOGY**

**Measures**

A self-administered questionnaire survey was distributed through convenience sampling from January 2014 to June 2014, in Central Taiwan, including Miao-Li county, TaiChung, Nantou

county, Chung-Hua county, and Yun-lin county. The questionnaire items were based on a review of relevant literature and adapted to suit the context of green hotels in Taiwan. To ensure content validity, the survey instrument was revised and finalized according to feedback from two leisure management professors and a pre-test sample of 33 undergraduate students in Central Taiwan.

The questionnaire consisted of five parts focusing on different aspects of the study: (1) purchase decision factors (8 items), (2) attitudes towards green hotel certification (15 items), (3) satisfaction (8 items), (4) behavioral intention (8 items), (5) demographic information: age, marital status, occupation, education, and monthly income (5 items). The final part used a categorical scale; all items in the first four parts were measured using a 5-point Likert-type scale ranging from 'strongly disagree (1)' to 'strongly agree (5)'.

**DATA ANALYSIS**

This study followed Anderson and Gerbing's (1988) two-step approach: a measurement model was first examined using Confirmatory Factor Analysis (CFA) to assess its adequacy, and then Structural Equation Modelling (SEM) with AMOS 18.0 was utilized to examine model fitness and to test causal relationships. According to Jöreskog and Sörbom (1993), SEM provides a maximum-likelihood estimation of the entire system in a hypothesized model. The fit of the conceptual model to the empirical data was assessed with the Chi-square ( $\chi^2$ ) statistic, the Goodness-of-Fit Index (GFI), the Comparative Fit Index (CFI), and the Root Mean Square of Approximation (RMSEA). For each of these statistics, values of 0.90 or higher indicate an

acceptable fit, except for the RMSEA, for which values up to 0.08 indicate an acceptable fit to the data (Hair *et al.*, 1998). The recommended reference values for these indices are shown in Table 5.

## EMPIRICAL RESULTS

### Descriptive Statistics

The questionnaire survey was distributed at four green hotels in Central Taiwan: (1) Harbor Hotel in Tai-Chung, (2) Oh-Ya motel in Tai-Chung, (3) Sun Moon Lake Hotel in Nantou County, and (4) Oh-Ya motel in Chung-Hua. Due to financial and human resource limitations, convenience sampling was used. Upon departure, hotel guests were asked if they were willing to take part in the questionnaire survey. After permission was obtained, they were then asked to complete the questionnaire. A total of 500 questionnaires were distributed and 336 usable responses were obtained after removing incomplete samples, yielding a response rate of 67.2%.

Among the samples collected, the majority of the respondents were female (62.8%). In terms of educational background, most respondents (78.9%) had a university degree or higher qualification. In terms of occupation, most respondents were white collar workers, accounting for 35.4% of the sample, and 74.7% of the sample earned a monthly income of less than NT\$30,000 (US\$1,000).

### MEASUREMENT MODEL

The reliability of each factor was obtained by calculating the Cronbach  $\alpha$  coefficient. Cronbach  $\alpha$  coefficients ranged from .720 to .863, as shown in Table 2. Twenty-three factors were above the cut-off criterion of 0.5 recommended by Nunnally (1978). Therefore, all factors were above the

'criterion-in-use' and thus acceptably reliable. CFA was then conducted using AMOS 18 with a covariance matrix to test the convergent validity of the constructs that were used in subsequent analyses. The fit indices suggested by Joreskog and Sorbom (1993) and Hair *et al.* (1998) were used to assess model adequacy. Convergent validity as determined by CFA results includes item reliability, construct reliability, and average variance extracted (Hair *et al.*, 1998). As shown in Table 3, t-values for all standardized factor loadings of the items were highly significant ( $p < 0.01$ ). In addition, construct reliability estimates ranged from .799 to .968, exceeding the critical value of 0.7 recommended by Hair *et al.* (1998). This indicated that item and model reliability were both satisfactory. Finally, the average variances extracted for all constructs fell between .448 and .688, which is greater than the threshold of .36 suggested by Fornell and Larcker (1981). Composite scores for each construct were calculated from the mean scores across all items representing that construct.

Discriminant validity was assessed by comparing the construct correlations with the square root of the average variance extracted (Fornell and Larcker, 1981). The results shown in Table 4 indicate that the square root of the average variance extracted for each construct is greater than the levels of the correlations involving the construct, and thus discriminant validity is confirmed.

Six indices were used to evaluate the goodness-of-fit of the model:  $\chi^2$ , GFI, AGFI, PGFI, CFI, and RMSEA. Although  $\chi^2$  is the most well-known measure of overall model fit, it is easily influenced by sample size. The effect of sample size can be reduced through the inclusion of other indices when assessing goodness-of-fit. For

<b>Table 1: Major Players in Green Hotel Certification</b>	
Major players	Criteria
Green Key	Energy conservation; water conservation; solid waste management; hazardous waste management; indoor air quality; community outreach; building infrastructure; land use
Green Global	Sustainable management; social concerns; cultural heritage; environmental impact
Energy Star	Energy use efficiency, reuse and recycling; water use minimization, reuse, and recycling; management of fresh water resources; waste water management; environmentally sensitive purchasing
Audubon Green Leaf	Saving energy; conserving water and resources; reducing waste; preventing pollution
LEED	Energy conservation; water conservation; CO2 emissions; indoor environmental quality; protection of resources Green seal certified or equivalent cleaning products are used in guestrooms; green seal certified or equivalent paper products (facial and bathroom tissue) are used in guestrooms; bathrooms feature amenity dispensers or small, practical amenity sizes with guests encouraged to take the remainder of their bathroom amenities, donate them to homeless shelters, or provide access to an organization that ships them to less affluent countries
EcoRooms & EcoSuites Green tourism business scheme, GTBS	Compulsory: does the property comply with environmental legislation?Management and marketing: does the property demonstrate appropriate staff training, monitoring and record-keeping?Social involvement and communication: is the facility a "good neighbor" and how well does it communicate its policies to its customers?Energy: are the heating, cooling, lighting, and other energy consuming aspects of the property efficient?Water: does the property work to conserve and safely manage water?Transport: does the facility promote public transportation and support the use of alternative fuels?Natural and cultural heritage: how does the property support biodiversity?Innovation: how does the property increase its sustainability in ways not covered in the previous nine areas?
Resource: adopted from Ecogreen Hotel, 2010	

<b>Table 2: Descriptive Statistics and Cronbach's <math>\alpha</math> (N=336)</b>					
Constructs	Items	M	SD	Construct M	Construct $\alpha$
Purchase Decision Factors (PDFs)	DF2 (Location)	4.14	.838	4.202	.720
	DF4(Vicinity)	4.16	.799		
	DF5(Price)	4.30	.826		
Satisfaction (SAT)	S2(Convenience)	3.99	.838	4.00	.782
	S4(Vicinity)	4.01	.774		
	S5(Price/Value)	3.89	.867		
	S6(Tour Package)	4.12	.826		
Green Hotel Certification (GHC)	GHC 1(Utilizing energy-saving lights)	3.41	.866	3.592	.757
	GI 2(Recycling bins)	3.56	.872		
	GI 3(Utilizing recycled paper)	3.60	.879		
	GI15(Overall environment focused on green practices)	3.81	.916		
Behavioral Intention (BI)	BI4(Willingness to pay more for green initiatives in order to make an effort to protect the environment)	3.34	.968	3.047	.863
	BI5(Willingness to pay more for green hotel initiatives even though the price of the green hotel is higher)	2.90	.942		
	BI6(Intention to recommend to friends or relatives)	2.90	.927		

**Table 3: Convergent Validity**

Construct			Estimated	SE	t-Value	Std. Estimated	SMC	1-SMC	CR	AVE
S2	<—	SAT	1.000			.808	.653	.347	.785	.480
S4	<—		.802	.066	12.144	.700	.490	.510		
S5	<—		.797	.074	10.772	.622	.387	.613		
S6	<—		.762	.070	10.820	.624	.389	.611		
PDF2	<—	PDF	1.000			.723	.523	.477	.720	.462
PDF4	<—		.907	.090	10.102	.688	.473	.527		
PDF5	<—		.852	.090	9.428	.625	.391	.609		
BI4	<—	BI	1.000			.744	.554	.446	.868	.688
BI5	<—		1.173	.076	15.351	.897	.805	.195		
BI6	<—		1.081	.072	14.959	.840	.706	.294		
GHC1	<—	GHC	1.000			.705	.497	.503	.762	.448
GHC 2	<—		.957	.095	10.074	.670	.449	.551		
GHC 3	<—		1.050	.099	10.656	.730	.533	.467		
GHC 15	<—		.836	.097	8.648	.558	.311	.689		

**Table 4: Discriminant Validity**

Constructs	M	S.D.	PDFs	SAT	GHC	BI
PDFs	4.202	.658	.680			
SAT	4.0	.643	.563**	.693		
GHC	3.592	.672	.264**	.325**	.669	
BI	3.047	.838	.023	.207**	.437**	.829

**Note:** Square root of average variance extracted (AVE) is shown on the diagonal of the matrix; \*, p<.05, \*\*, p<.01, \*\*\*, p<.001

example, a RMSEA of .05 or less is commonly considered to represent a close approximate fit. For GRI and AGFI, values greater than .80 indicate a reasonably good model fit, and in NFI and CFI evaluations, values greater than .90 indicate strong support for the model. Table 4 displays model-fit indices for the hypothesized extended TPB model. The results show that the chi-square value was 149.576 with 71 degrees

of freedom. The chi-square equaled 2.107 and achieved Marsh and Hocevar’s (1985) standard (i.e., the ratio of the chi-square value to the degrees of freedom should be between 2 and 5). Other goodness-of-fit indices were as follows: GFI = 0.941, AGFI = .913, PCFI = .666, CFI = .953, and RMSEA = .057. According to Schumacker and Marcoulides (1998), the model achieved an acceptable standard for goodness-

<b>Table 5: Goodness-of-fit Indices</b>			
	Criteria	Indicator	Overall Model Fit
$\chi^2$ -test			
$\chi^2$		149.576	
$\chi^2$ /d.f.	1~3	2.107	Yes
Fit indices			
GFI	>.8	.941	Yes
AGFI	>.8	.913	Yes
PGFI	>.5	.666	Yes
Alternative indices			
CFI	>.9	.953	Yes
RMSEA	<.08	.057	Yes

<b>Table 6: Chi-square, Goodness-of-fit Values, and Model Comparison Tests</b>			
Model	$X^2$	Df	CFI
1. CFA	210.011	109	.946
2. Baseline	316.190	119	.894
3. Method-C	240.019	118	.934
4. Method-U	199.123	105	.949
5. Method-R	235.641	111	.933
Chi-Square Model Comparison Tests			
$\Delta$ Model	$\Delta X$	$\Delta$ df	p
Baseline vs. Method C	76.171	1	.000
Method C vs. Method U	40.896	13	.000
Method U vs. Method R	36.518	6	.000

of-fit. When testing the internal consistency of the indicators for each selected construct, the most commonly used method is to compute the coefficient alpha of a given construct.

### COMMON METHOD BIAS

Common method bias can be a concern in self-administered surveys when it's the case that the

same rater responds to all questionnaire items. This concern is more serious in situations in which both the independent and dependent latent constructs are perceptual measures derived from the same rater (Podsakoff and Organ, 1986). Given that the independent and dependent variables in the survey instrument were perceptual measures and that responses to these

**Table 7: Hypothesis Testing**

Path	Structural coefficients	S.E.	T	Test result
H1: Purchase Decision Factors → Green Hotel Certification ( $\gamma_1$ )	.099	.095	1.042	NotSupport
H2: Purchase Decision Factors → Satisfaction ( $\gamma_2$ )	.686	.132	5.196***	Support
H3: Purchase Decision Factors → Behavioral Intention ( $\gamma_3$ )	-3.84	.235	1.63**	Support
H4: Green Hotel Certification → Satisfaction ( $\beta_1$ )	.146	.127	1.149	NotSupport
H5: Green Hotel Certification → Behavioral Intention ( $\beta_2$ )	.420	.184	2.282***	Support
H6: Satisfaction → Behavioral Intention ( $\beta_3$ )	.267	.151	1.76*	Support

Note: \*:  $p < .05$ , \*\*:  $p < .01$ , \*\*\*:  $p < .001$

**Table 8: Direct, Indirect and Total Effects**

Path	Direct effect	Indirect effect	Total effect
Purchase decision factors → Satisfaction	.681	.015	.696
Purchase decision factors → Behavioral intention	-.384	.227	-.156
Green hotel certification → Behavioral intention	.420	.039	.459
Satisfaction → Behavioral intention	.267	—	.267

measures were derived from the same rater, there is a possibility that common method bias exists in the data. The author adopted two approaches suggested by Podsakoff and Organ (1986) to address concerns of common method bias. First, the current author conducted Harman's single-factor test in which all the questions measuring the constructs were entered into an unrotated exploratory factor analysis. A common method bias is said to be present when (a) a single factor emerges from the factor analysis or (b) one factor accounts for the majority of the covariance among the variables (Podsakoff and Organ, 1986). Since Harman's test returned a multi-factor rather than a single factor solution and the first factor explained only 24.6% of the total variance, this test produced no evidence of common method bias.

Second, the author followed the procedure outlined and implemented in Williams *et al.* (2010). The model fit results of the analyses for each model are shown in Table 6, including the chi-square, degrees of freedom, and CFI values. The CFI values are somewhat short of the .894 or .949 values often suggested, and this may in part reflect the relatively large number of indicators (14) for the substantive variables and the resulting number of constrained parameters in the factor loading matrix. The comparison of the Method-U and Method-R Models provides a statistical test for whether the three correlations were significantly biased by marker variable method effects. The chi-square difference test resulted in a significant difference. Previous tests indicated that marker variable effects are significant and represented significant effects in the Method-U

model, but the result of the Method-U and Method-R Models determined that the effects of the marker variable represented a significant bias. The test provides the evidence that results were likely affected by common method bias. Consequently, the author discussed the results from the substantive model, in which the common method bias is controlled (Lindell and Whitney, 2001).

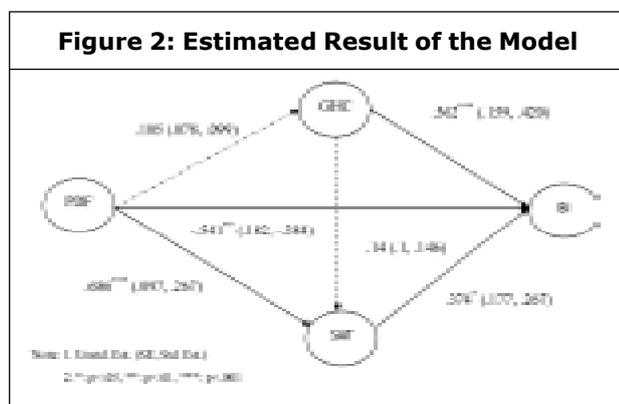
### STRUCTURAL MODEL AND HYPOTHESIS TESTING

Within the overall model, the estimates of structural coefficients provided the basis for testing our proposed hypotheses. This study examined a structural model with one exogenous construct (i.e., purchase decision factors) and three endogenous constructs (i.e., green hotel certification, satisfaction and behavioral intentions). Therefore, the proposed structural model was tested to estimate three Gamma parameters and three Beta parameters.

Figure 2 provides details related to the parameter estimates for the model, and Table 7 reports the results of the hypothesis tests. All six of the hypotheses are supported. Purchase decision factors had a significantly positive effect on behavioral intention ( $\gamma_2 = -3.84$ , t-value = 1.63,  $p < .01$ ;  $\gamma_3 = -.384$ , t-value = -1.63,  $p < .01$ ), and this result supports H2 and H3. The green hotel

certification, as hypothesized, have significant positive effects on satisfaction, as well as behavioral intention ( $b_2 = -.562$ , t-value = 2.282,  $p < .01$ ), thus supporting H5. Finally, satisfaction has a significantly positive effect on behavioral intention ( $b_3 = .267$ , t-value = 1.76,  $p < .05$ ), supporting H6.

In order to investigate the direct and indirect effects of all variables on consumers' intention to revisit, the author conducted percentile bootstrapping and bias-corrected percentile bootstrapping at a 95% confidence interval with 5,000 bootstrap samples (Taylor *et al.*, 2008), as shown in Table 7. The results are as follows. First, green hotel certification (4.20), purchase decision factors (-.384), and satisfaction (.267) exert direct effects on behavioral intention. Second, although direct effects of green hotel certification, purchase decision factors, and satisfaction on behavioral intentions were identified, the first (green hotel certification) exerts the greatest effect. With respect to indirect effects, the effect of purchase decision factors on behavioral intentions mediated by satisfaction is .15, hence resulting in a total effect of 0.696. Last, the total effect of behavioral intention can be ranked as follows: green hotel certification (.459), satisfaction (.267), and purchase decision factors (-.156). Additional statistical results regarding mediation effects are shown in Figure 2 and Table 8.



### CONCLUSION

This study offers four contributions to literature regarding green hotels. First of all, the author developed and examined a model that integrates purchase decision factors with the green hotel certification. Although a number of past studies have reviewed the relationship between purchase decision factors and behavioral intention (Ongena

*et al.*, 2011; Tarnanidis *et al.*, 2014) and the relationship between green hotel initiatives and behavioral intention (Han *et al.*, 2009; Han *et al.*, 2010; Han and Kim, 2010), to the author's knowledge, this study is the first to investigate the effects (direct or indirect) of the green hotel certification on individual behavioral intention in the context of green hotels. Since many hotels have aggressively advocated environmental concerns (Kang *et al.*, 2012; Christy *et al.*, 1996; Sen and Bhattacharya, 2001), the model developed in this study is particularly relevant to the hotel industry, as it can be used to assess the influences of green hotel certification on the perceptions of consumers frequenting green hotels in Taiwan. In addition, the results of this empirical study support the conclusion that green initiatives exert a significant effect on the willingness of consumers to revisit a green hotel.

Second, results show that purchase decision factors and green hotel certification are both significantly related to revisit intention. However, the latter exerts a greater effect than the former. This result has important implications for the development of marketing strategies for green hotels.

Third, the mediating role of satisfaction was supported. This is consistent with previous research, in which the term of satisfaction plays direct and indirect influences on behavioral intention (Oliver, 2010). However, results did not support the hypothesis that green hotel certification exert a direct influence on behavioral intention through satisfaction. This finding is inconsistent with those of previous research (Gao and Mattila, 2014). Future research could therefore focus on developing a more nuanced scale for measuring the predictability of green

initiatives.

Finally, among green hotel initiatives, results show that the strongest relationship exists between recycling practices and behavioral intention. The study conducted by Nameghi and Shadi (2013) found the relationship between reducing water and electricity consumption and behavioral intention to be the strongest. The 2013 study was conducted in Malaysia and a possible explanation for this difference could be the different emphasis on green policy by government. In Taiwan, recycling has the highest level of recognition among green hotel practices as the government proactively promotes recycling. This implies that programs focusing on recycling in hotels will bring the most recognition from Taiwanese hotel guests.

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