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### Investigating the willingness to pay for green hotels: the effects of destination image and environmental beliefs

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#### Abstract

This study proposes and evaluates a framework in examining the effects of destination image and environmental beliefs on the willingness to pay (WTP) for green hotels. Additionally, the study finds that the role of customer attitude to green hotels has an important role in the proposed framework. Data were collected using a structured questionnaire with 317 valid responses. CFA and SEM were employed to analyze data through SPSS AMOS 20.0 software. The findings show that destination image has the largest direct impact on attitude to green hotels while environmental beliefs have the largest direct effect on WTP premium for green hotels. Moreover, attitude to green hotels plays a mediating role between destination image and the WTP and between environmental beliefs and the WTP.

**Keywords:** Destination image, Environmental beliefs, Willingness to pay, Green hotels

#### 1. Introduction

Nowadays, consumers have realized the impact of their behavior on the purchase of services which is closely related to environmental issues (Laroche *et al.*, 2001). More and more customers pay attention to various environmental issues and they tend to look for and buy eco-friendly products, even though, sometimes, they have to pay more (Laroche *et al.*, 2001). Many consumers are aware of the environmental damage, for example, emissions to air, water, and land, and the waste or damage of environmental resources caused by hotel services such as consuming too much unsustainable goods, energy, and water. Consumers tend to look for environmentally friendly hotels (Manaktola and Jauhari, 2007).

A green hotel is an eco-friendly accommodation that organizes and follows eco-healthy programs, which save water and energy, reduce solid, and save cost, eventually protect the planet. With an increasing number of customers looking for green services, becoming a green hotel can be a good marketing strategy with which a hotel's eco-friendly operations can create a

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difference. Therefore, the green hotel business is considered to be a growing trend in the current competitive accommodation industry (Manaktola and Jauhari, 2007).

The previous literature has mentioned the effect of images on individual behavior (Kubickova *et al.*, 2014). However, there is little understanding of the effect of destination image on green hotels. Many studies show that the value of the environment and customers' attitude can identify the decision to join in eco-friendly hotel consumer behavior, demonstrated by staying in a green hotel or willing to pay more for sustainable products (Han *et al.*, 2010; Kang *et al.*, 2012). Many consumers can enjoy the comfortable feeling by staying in green hotels (Barber and Deale, 2014). There is an inadequate understanding of the variables influencing individual behavior and emphasize the need for more research in this area (Baker *et al.*, 2014; Miller, Merilees & Coghlan, 2015).

Along with the sustainable development of tourism around the world, the business model of green hotels has appeared to be popular. As the development of green hotels brings benefits in energy saving and environmental protection, it needs to be popularized and replicated in developing countries like Vietnam. During the past few years, many tourists traveling to Vietnam were interested in the green hotel standard. Therefore, research on how to develop green hotels is important to contribute to sustainable tourism development.

In light of the above mention, this study investigates the impact of environmental beliefs and destination image on hotel visitors' WTP for using green hotels in Vietnam. This study further contributes to the existing body of knowledge by examining the mediating role of customers' attitude to green hotels on the relationship between their environmental beliefs, the destination image, and their WTP for green hotels. The remainder of this paper is structured as follows. The relevant literature review and hypotheses are presented in section 2. The research methodology and empirical results are illustrated in sections 3 and 4, respectively. Finally, discussion, implications, research limitations, and future recommendations are drawn in section 5.

## **2. Literature review**

### ***2.1 Willingness to pay, attitude, destination image, and environmental beliefs***

#### *2.1.1 Theory of planned behavior*

Ajzen (1985) proposes the Theory of Planned Behavior (TPB) to analyze and examine individual behaviors. In this theory, people's behavior is estimated by three constructs: the people's attitudes, subjective norms, and perceived behavioral control. Therefore, behavioral intention is affected by cognitive behavioral control, attitudes, and subjective norms (Lu *et al.*, 2010; Tran and Duong, 2019).

#### *2.1.2 Willingness to pay for green hotels*

Ajzen (1985) proposes to apply the TPB in research and evaluating consumers' WTP for different types of products and services. A few studies are drawn from the TPB theory to examine the consumers' WTP in the hotel industry (Hultman *et al.*, 2015). WTP is considered the maximum amount an individual is willing to spend on a product or service. Researching the WTP is important for hotel managers in estimating demands and establishing price strategies

(Wertenbroch and Skiera, 2002). Various studies addressing the WTP a premium price in the hotel industry employ a demand-and-supply approach. For example, Wong and Kim (2012) and Heo and Hyun (2015) apply direct methods to estimate WTP a premium.

### *2.1.3 Attitude to green hotels*

The TPB theory and an extension of Rational Action Theory (Fishbein and Ajzen, 1975) assume that behavioral intention is a function of attitudes toward behaviors. According to the TPB principles, attitude is seen as a direct premise for behavioral intentions (Han and Kim, 2010) while beliefs are seen as the direct premise of attitude (Ajzen, 1991; Fishbein and Ajzen, 1975). In hospitality literature, the TPB theory has been widely employed in models of different types of consumer behavior. Also, this theory has been widely used to analyze and examine consumer intentions for green behavior, such as purchasing sustainably produced food and beverage products or opting for green hotels. For example, Han and Kim (2010), as well as Han *et al.* (2010), have successfully utilized the TPB theory to examine tourists' intentions to choose green hotels.

### *2.1.4 Destination image*

Destination image is seen as “a set of qualities, attributes, and benefits that visitors hold about the destination; it represents the sum of beliefs and impressions that a person has of a destination” (Chiu *et al.*, 2013). Accordingly, the destination images can be viewed as a structure perceived by the consumer (Tasci *et al.*, 2007). This perception is affected by the physical characteristics of the destination (Obenour *et al.*, 2006), and purposeful marketing (Baloglu and McCleary, 1999; Meng and Uysal, 2008). From this respect, the destination images of green hotels might be seen as a full set of attributes which hotels may provide to customers.

### *2.1.5 Environmental beliefs*

Assessing the influence of environmental beliefs on the production of products and services is increasingly important in investigating eco-friendly attitudes and behaviors. As consumers become more aware of their responsibility in ecological issues, the beliefs of their influence on the environment through consumer decisions have greater impacts on their attitudes and behaviors (Young *et al.*, 2010). Since customers realize that the decisions of buying green products or services are more beneficial overall, they are certain to make it (Han *et al.*, 2010; Huang *et al.*, 2014; Laroche *et al.*, 2001). There is a significant linkage between an individual's beliefs and his or her intention to choose an hotel (Lee and Oh, 2014; Mieno and Wei, 2013).

## **2.2 Hypothesis**

The destination image provides consumers with the perceptions of the destination, which include the cognitive and emotional components (San Martin and del Bosque, 2008). Previous studies have examined the effects of the destination image on visitors' perceived values (Kim *et al.*, 2013), on visitors' satisfaction (Prayag and Ryan, 2012), and visitors' behavioral intentions (Chen and Tsai, 2007). Line and Hanks (2016) investigate the relationship between beliefs and attitudes toward green hotel services and conclude that this linkage is strengthened by the images of the hotels. While ecotourism takes place in “relatively undeveloped or

undisturbed natural areas” (Lee, 2009), urban touristic places “are often much better developed than other types of destinations” and “are easily accessible through airports and scheduled services” (Edwards *et al.*, 2008). In the case of green hotels, the authors propose that the natural attributes associated with these destinations will have an impact on customers’ attitude and their WTP a price premium for services being provided. Thus, this study proposes the following hypotheses:

*H1a: Destination image is positively related to customer attitude towards green hotels.*

*H1b: Destination image is positively related to customer WTP a price premium for service of green hotels.*

Hotel consumer behaviors can also be impacted by their environmental beliefs and the damage caused by human activities such as tourism. Consumers who believe that the environment has been damaged by the human activities and that it can be reversed by the people’s changes in action are certain to purchase environmental-friendly hotel products or services (Han *et al.*, 2010; Kang *et al.*, 2012). Therefore, in this paper, environmental behavior is seen as “actions that reflect an individual’s or group’s concerns with the natural environment” (Cheng, 2013). Environmental beliefs refers to the degree to which individuals concern that choosing green hotels will affect the environment (Line and Hanks, 2016). Thus, within the context of the attitude-based framework discussed above, the this paper suggests that when a consumer believes that his or her actions can have a positive impact on the environment, he or she is more likely to have a positive attitude toward green hotels, more inclined to choose hotels that demonstrate a similar concern for the planet, and more willing to pay a premium price to stay at such hotels. Thus, the following hypotheses are presented:

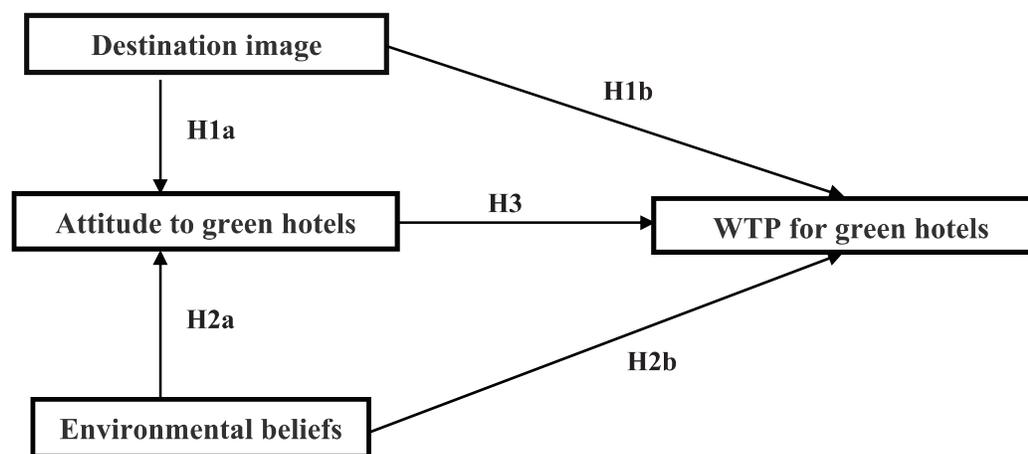
*H2a: An individual’s environmental beliefs are positively related to customer attitude toward green hotels.*

*H2b: An individual’s environmental beliefs are positively related to customer willingness to pay a price premium to stay at green hotels.*

In the literature of sustainability, while a substantial amount of research has demonstrated the effects of attitudes on consumers’ intentions on people’s green consumption, the degree to which consumers are willing to pay extra for green products and services is less clear (Line and Hanks, 2016). Given the mixed results of research concerning the relationship between consumers’ attitudes toward green initiatives and their WTP a price premium for such products and services, many hoteliers are understandably reluctant to engage in sustainability initiatives. From their perspectives, these green schemes increase the costs that consumers are not willing to bear (Kang *et al.*, 2012; Manaktola and Jauhari, 2007). Some current studies on these issues have emphasized a significant relationship between consumer attitudes and their behavior in the consumption of green hotel services (Carrigan and Attalla, 2001; Manaktola and Jauhari, 2007) find that while customers may feel positive about sustainable services, they are often hesitant to pay for the premium pricing of such products or services (Choi and Parsa, 2007).

Prior studies have examined the reasons for these differences and numerous factors have been shown to influence the relationship between attitudes and the WTP for green services (Sen and Bhattacharya, 2001; Carrigan and Attalla, 2001; Folkes and Kamins, 1999). Moreover, current studies have revealed that consumers are willing to pay more for green hotel services (Dodds *et al.*, 2010). Han *et al.* (2009) argue that customer attitudes are a significant determinant of the WTP. Moreover, Kang *et al.* (2012) investigate visitors' environmental attitudes and find a similar link regarding consumers' WTP for a price premium to stay in green hotels. Likewise, in the restaurant sector, Jang *et al.* (2011) show that positive attitudes of people in eco-friendly hotels are willing to pay more for such services. Therefore, the hypothesis is proposed as follows:

*H3: The attitude toward green hotels is positively related to the WTP for green hotels.*



**Figure 1.** The proposed model

**Source:** Author proposes

### 3. Methodology

#### 3.1 Measurement

Five test items for measuring environmental beliefs are obtained from Han *et al.* (2010). 4 items regarding destination image are obtained and then modified from Chen and Tsai (2007), Line and Hanks (2016). Attitude to green hotels is measured using seven items adopted from the scales developed by Han and Kim (2010) in their attempt to measure consumer attitudes. Lastly, the six test items used to evaluate the consumers' WTP for premium pricing are adapted from the existing studies of Hultman *et al.* (2015) and Dwivedi *et al.* (2018).

#### 3.2 Sample

According to Tabachnick (2013), the desirable minimum sample size is calculated by the following formula when conducting multivariate regression analysis:

$$n = 50 + 8 * m$$

in which m is the number of independent variables.

In this study, there are four variables. Therefore, the minimum required sample size is 82 observations. However, the sample size in this study is targeted at 200 observations. The convenience sampling method is employed. The survey is conducted during the course of four months in Hanoi, Quang Ninh, and Hai Phong cities. Data were collected by directly interviewing at hotels located in natural resorts, beaches, and national parks. Regarding the number of observations, after directly surveying 400 people, the author obtains 327 responses. However, there are 10 invalid answers. The total number of valid responses is 317. Therefore, the valid response rate is 79.25%.

**Table 1.** Demographic characteristics of customers

Criteria	Detail	Percentage (%)
Age	≤ 24 years old	12
	25 - 44 years old	49
	45 - 64 years old	31
	> 64 years old	7
Gender	Male	52
	Female	48
Purpose of the trip	Tour	75
	Business	14
	Others	11

**Source:** Author's calculation

### 3.3 Data analysis method

To test the reliability of measuring constructs, Cronbach's Alpha and Confirmation Factor Analysis CFA tests are employed. Following Hair *et al.* (2006), the multivariate analysis method is used. Specifically, the (CFA) and Structure Equation Modelling (SEM) techniques are applied. The SEM is applied to test hypotheses because it is a powerful technique for examining relationships among latent variables. The AMOS/SPSS 20 is used for the data analysis.

## 4. Results

Using the Cronbach's Alpha coefficient to measure the reliability of the customer acceptance and intention to use hotel services with four constructs and 20 observed variables, the Cronbach's Alpha values of EN, IM, AT and WTP are 0.715, 0.752, 0.835, and 0.814, respectively. All of them are greater than 0.7. The corrected items, which are the Total Correlation Coefficient, of 22 measures are higher than 0.3. It can be concluded that there are 20 good reliability variables from four constructs because only variables with a corrected item of greater than 0.3 and the Alpha coefficients of greater than 0.6 will be accepted for analysis in the next steps (Nunnally and Bernstein, 1994). By conducting an EFA with the principal axis factoring of a component method, the model has reached convergence value. The KMO is high at 0.923 and the significance level is 0.000. In the extraction sums of squared loadings, the percentage of cumulative is 59.936% and the total of initial eigenvalues is 1.131.

**Table 2.** KMO and Barlett test

<b>KMO and Bartlett's Test</b>	
KMO Measure of Sampling Adequacy	0.923
Approx. Chi-Square	3211.815
Bartlett's Test of Sphericity df	105
Sig.	0.000

**Source:** Author's analysis

**Table 3.** Pattern Matrix

<b>Observed variables</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Am personally satisfying	EN1	0.624			
Might enhance the health of nature	EN2	0.739			
May improve my health	EN3	0.827			
May benefit other hotel guests	EN4	0.718			
Help me feel better as I do not damage the environment	EN5	0.801			
An arousing destination	IM1		0.624		
An exciting destination	IM2		0.739		
A pleasant destination	IM3		0.827		
Natural and cultural attractions	IM4		0.718		
Bad - good	AT1			0.520	
Undesirable - desirable	AT2			0.649	
Unpleasant - pleasant	AT3			0.709	
Foolish - wise	AT4			0.681	
Unfavorable-favorable	AT5			0.747	
Unenjoyable - enjoyable	AT6			0.755	
Negative - positive	AT7			0.695	
I would pay more for green hotel at this destination	WTP1				0.735
I am happy to pay more for green hotels than other hotels	WTP2				0.813
The price of green service would have to go up before I would switch to another hotel	WTP3				0.845
I want to pay for green hotels over other hotels	WTP4				0.549
When visiting this destination, I may spend more on a hotel	WTP5				0.900
I would be spent more to stay in a green hotel at this destination	WTP6				0.747

**Source:** Author's calculation

In running the CFA, the author obtained the good fit with Chi-square/df of 2.543; the CFI is equal to 0.901; the TLI equals 0.918; The GFI is 0.910, and the RMSEA is 0.065. The model is consistent with actual data when the Chi-square/df is less than 3; the CFI, TLI, IFI are all greater than 0.9, and the RMSEA is less than 0.08 (Hair *et al.*, 2010; Kline, 2011). The factor loadings

of each item are larger than 0.5 indicating that the constructs reach convergent validity (Hair *et al.*, 2010). Therefore, the measuring constructs reached reliability and validity (Table 4).

**Table 4.** Standardized confirmatory factor analysis coefficients and construct reliability

Constructs and indicators	Factor loadings	Standard Error	Standardized factor loading	t-value	CR	VE
<i>Destination image (IM)</i>					1.165	0.541
IM1	1.000		0.699			
IM2	0.873	-0.053	0.619	-16.613***		
IM3	1.043	0.061	0.637	17.054***		
IM4	0.929	0.063	0.632	17.145***		
<i>Environmental beliefs (EN)</i>					1.204	0.542
EN1	1.000		0.618			
EN2	0.895	-0.055	0.666	16.613***		
EN3	0.981	0.065	0.624	17.054***		
EN4	1.129	0.073	0.621	17.145***		
EN5	1.113	0.072	0.683	15.861***		
<i>Attitude to green hotels (AT)</i>					1.242	0.563
AT1	1.000		0.720			
AT2	.954	-0.067	0.701	-14.221***		
AT3	1.111	0.069	0.654	16.087***		
AT4	1.106	0.066	0.722	16.769***		
AT5	1.055	0.074	0.640	14.458***		
AT6	1.235	0.078	0.724	14.027***		
AT7	1.104	0.076	0.719	14.874***		
<i>WTP for green hotels</i>					1.248	0.502
WTP1	1.000		0.643			
WTP2	0.903	-0.055	0.612	-16.337***		
WTP3	0.941	0.058	0.760	16.295***		
WTP4	0.932	0.053	0.742	17.540***		
WTP5	0.824	0.048	0.735	17.287***		
WTP6	0.766	0.046	0.648	16.547***		

**Notes:** All factor loadings are significant at  $p < 0.001$ . CR is the composite reliabilities. VE stands for variance extracted estimate.

**Source:** Author's calculation

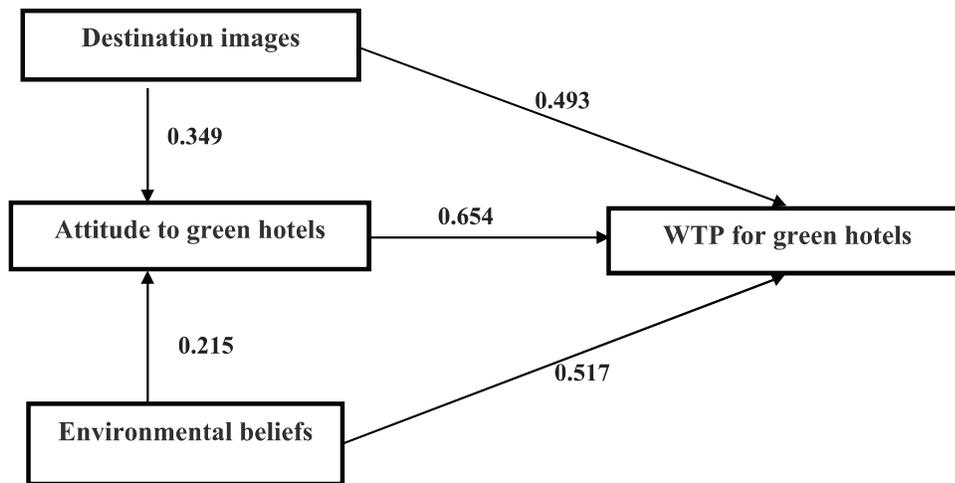
The structural equation model (SEM) is used to examine the significance of hypotheses. From the literature review, this paper supposed four constructs for all these direct factors, and then the SEM was conducted. The saturated model finding revealed that the structural model obtained the good with  $\text{Chi}^2/\text{df} = 2.598$ ; CFI = 0.908; TLI = 0.907; GFI = 0.915 and RMSEA = 0.065.

**Table 5.** The result of testing the hypothesizes

Hypotheses			Estimate	S.E.	C.R.	P
Destination image	→	Attitude to green hotels	0.359	0.052	7.864	<0.01
Environmental beliefs	→	Attitude to green hotels	0.215	0.054	4.552	<0.01
Destination image	→	WTP for green hotels	0.493	0.038	6.444	<0.01
Environmental beliefs	→	WTP for green hotels	0.517	0.075	3.112	<0.01
Attitude to green hotel	→	WTP for green hotels	0.654	0.047	7.286	<0.01

**Source:** Author’s calculation

The results show that destination image has the largest direct impact on attitude to green hotels while environmental beliefs have the largest direct effect on the WTP a premium for green hotels. Moreover, attitude to green hotels plays a mediating role between destination image and WTP, environmental beliefs, and WTP.



**Figure 2.** The tested conceptual model

**Source:** Author’s compilation

### 5. Discussion and conclusion

The purpose of this research aims to promote the knowledge of green consumption in the hospitality industry by exploring the moderating effect of attitude towards green hotels. In other words, the results suggest that sustainable consumption behavior is significantly affected by the consumer’s perception of the destination images and their environmental beliefs. These findings are consistent with previous studies (Han *et al.*, 2010; Kang *et al.*, 2012; Barber and Deale, 2014). They suggest that while environmental beliefs and Attitudes may partially determine the decision to engage in pro-environmental hospitality consumption behavior, for example staying at a green hotel or being willing to pay more for sustainable products (Han *et al.*, 2010; Kang *et al.*, 2012). Returning tourists with higher knowledge intend to stay at green hotels when they have positive attitudes towards green hotels. For example, when they believe that green hotels are desirable and good for the environment they will

make an effort to stay at a green hotel when touring. This finding is comparable with that of prior studies (Chen and Peng, 2012; Jirawat *et al.*, 2011), which confirms that hotel customers' pro-environmental attitudes positively affect their intention to stay at green hotels, to talk about their experience and their willingness to pay more for the hotels that are practicing green activities and initiatives.

The study contributes to the current literature about the green-hotel industry, which provides evidence of a significant positive relationship between guests' environmental beliefs and their point of view on destination images. This means that when a guest believes his or her actions can have a positive impact on the environment, he or she is more inclined to have a positive attitude toward green hotels, and are willing to pay a premium to stay at green hotels. This paper proposes the modeling of environmental beliefs and destination images on the assessment of green hotels. While these findings are important, the primary theoretical contribution of this research relates to the moderating effect of the attitude of customers to green hotels within the proposed framework.

Moreover, this study proposes practical implications for owners and operators of green hotels in Vietnam. These empirical results would benefit the hotel management involving green initiatives and activities in formulating effective marketing strategies to review the demand of returning consumers to stay in green hotels and evaluate the acceptance level of the returning consumers towards green behavior. While consumers are willing to sacrifice a degree of luxury to stay in an environmentally friendly hotel, hotel marketers may find it beneficial to devote resources to highlighting the green aspect of the properties, rather than emphasizing the traditional luxurious amenities.

This study consists of certain limitations, suggesting areas for further research. Firstly, this study is limited in justifying the link between destination image and the concept of green hotels. Secondly, the discussion of the TPB theory has a limitation in motivating the work of Han *et al.* (2010). Thirdly, the analyzing procedure is somewhat insufficient, especially in the CFA analysis. Future research should make clear in analyzing the CFA test. Next, the findings are based on a small sample of customers in Vietnam. Finally, the survey limited interaction with respondents so that this paper solely provides results using quantitative research method. Therefore, further studies along these lines are necessary.

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