

Customer Responses to Environmentally-Certified Hotels: The Moderating Effect of Environmental Consciousness on the Formation of Behavioral Intentions

Journal:	<i>Journal of Sustainable Tourism</i>
Manuscript ID:	JOST-3602.R1
Manuscript Type:	Special Issue Paper
Keywords:	certified hotels, hotel green practices, environmental CSR image, behavioral intentions, environmental consciousness
Abstract:	<p>Environmental certifications are considered an extremely useful tool to promote sustainable tourism; however, little is known about customer perceptions of these schemes and how these certifications might relate to customer behavior when there are customer segments with different levels of environmental consciousness. This study develops a model that investigates the relationship between green practices, green image, environmental consciousness and the behavioral intentions of customers in a certified hotel context. The study examines the direct and moderating role of environmental consciousness in the formation of behavioral intentions based on green initiatives. To test the proposed model empirically, 502 personal surveys of hotel customers were conducted in Spain using a structured questionnaire. The findings show that customer perceptions of green practices have a directly positive effect on a hotel's green image. At the same time, this green image has directly positive effects on customer behavioral intentions toward certified hotels. The authors also found that the higher the environmental consciousness of consumers, the greater their intention to stay, to spread positive word-of-mouth and pay a premium for environmentally-certified hotels. Finally, consumer environmental consciousness also exerts a moderating effect on the causal relationship between green image and behavioral intentions.</p>

Customer Responses to Environmentally-Certified Hotels: The Moderating Effect of Environmental Consciousness on the Formation of Behavioral Intentions

Environmental certifications are considered an extremely useful tool to promote sustainable tourism; however, little is known about customer perceptions of these schemes and how these certifications might relate to customer behavior when there are customer segments with different levels of environmental consciousness. This study develops a model that investigates the relationship between green practices, green image, environmental consciousness and the behavioral intentions of customers in a certified hotel context. The study examines the direct and moderating role of environmental consciousness in the formation of behavioral intentions based on green initiatives. To test the proposed model empirically, 502 personal surveys of hotel customers were conducted in Spain using a structured questionnaire. The findings show that customer perceptions of green practices have a directly positive effect on a hotel's green image. At the same time, this green image has directly positive effects on customer behavioral intentions toward certified hotels. The authors also found that the higher the environmental consciousness of consumers, the greater their intention to stay, to spread positive word-of-mouth and pay a premium for environmentally-certified hotels. Finally, consumer environmental consciousness also exerts a moderating effect on the causal relationship between green image and behavioral intentions.

Keywords: certified hotels, hotel green practices, green image, behavioral intentions, environmental consciousness

1. Introduction

Environmental sustainability is fundamental for tourism competitiveness, especially from a long-term perspective (Hu & Wall, 2005). Growing environmental awareness has made customers change their attitudes and increasingly demand that industries provide products and services that are environmentally friendly and ethically correct. The tourism industry in general, and the hospitality sector in particular, are no exception. Actually, the hospitality industry faces increasing pressure to operate in a more eco-friendly manner given its negative effect on the natural environment. This pressure comes only not from externally imposed government regulations, but also from stakeholder demands, which are becoming an important stimulator. The industry's impact on the natural environment includes habitat destruction, water and energy over-consumption and soil, water and air contamination (Bohdanowicz, 2005). For these reasons, a number of stakeholders, including consumers, non-governmental organizations and activist groups, have called for the hospitality industry to actively engage in addressing environmental issues.

Hospitality managers need to admit their environmental responsibility and find effective ways to respond to these demands since perceived deficiencies in environmental management can be damaging to corporate image and profitability (Holden, 2000). Since environmental responsibility is considered to be one of the most important aspects of a tourism company's responsible behavior, hospitality companies cannot afford the

1
2
3 financial and reputational risk associated with the lack of environmental commitment
4 (Mensah & Blackson, 2014). In order to promote environmental management and
5 engage environmentally conscious consumers, more and more hotels are implementing
6 environmental certification programs. Environmental certifications act as a means to
7 promote the voluntary implementation of sustainability practices in hotels while
8 distinguishing real eco-friendly companies from “green-washed” products and services
9 (Karlsson & Dolnicar, 2016). The benefits of environmental certifications for the
10 tourism and hospitality industry can be numerous, from eliminating environmentally
11 harmful practices, attracting eco-friendly customers to certified hotels and providing
12 hotel guests with accurate information about environmental performance, to increasing
13 cost savings and developing a better knowledge of job and production systems (Geerts,
14 2014).

15
16
17
18
19 Environmental certifications have been the subject of many studies. Claims about the
20 positive effect of certifications on financial performance, differentiation advantage
21 achievement in green niche markets and the improvement of green image and reputation
22 are well documented (Heikkurinen, 2010). Other academics have also explored the
23 motivations for putting these programs into practice (González-Benito & González-
24 Benito, 2005) or even the cost of implementation (Darnall & Edwards, 2006). For
25 instance, one reason to implement these certifications is to improve relationships with
26 the local community and have wider public relations benefits (Rowe & Higham, 2007).
27 Studies have also explored manager and operator perceptions of these systems (Bonilla-
28 Priego, Najera, & Font, 2011; Chan, 2013; Geerts, 2014).

29
30
31
32
33 Despite all this research, there is insufficient evidence about customer perceptions
34 regarding these schemes and how these certifications might relate to customer behavior
35 when there are consumer segments with different levels of environmental
36 consciousness. For example, although many studies report an increased understanding
37 of environmental issues, which has been confirmed by an increase in consumer
38 engagement in pro-environmental purchasing decisions (Chan, 2013; Di Pietro, Cao, &
39 Partlow, 2013; Han, Hsu, Lee, & Sheu, 2011; Kang, Stein, Heo, & Lee, 2012; Millar,
40 Mayer, & Baloglu, 2012), others maintain that the demand for environmentally-certified
41 hotels is limited, and emphasize that little progress has been made in modifying
42 consumer behavior (Baker, Davis, & Weaver, 2014; Levi & Park, 2011; Line & Hanks,
43 2016). Such inconsistencies indicate only a partial understanding of the factors affecting
44 green consumer behavior and emphasize the need for further research in this area. The
45 authors suggest that these mixed findings may be partially ascribable to the mediating
46 and moderating factors that significantly affect customer decision-making processes
47 regarding green products and services.

48
49
50
51
52 Following the conceptual framework provided by Gao, Mattila and Lee (2016) the
53 authors of this study suggest a comprehensive model including two broad categories
54 leading to pro-environmental behavior: internalized perceptions (e.g. environmental
55 consciousness) and the external perceptions of the firm (e.g. perceptions of green
56 practices and green image). As such, the present paper attempts to explore the
57
58
59
60

conditions under which customer perceptions about green practices lead to favorable behavioral intentions toward certified hotels by considering the mediating effect of green image and the direct and moderating effects of environmental consciousness. Existing studies in environmental psychology and consumer behavior have shown that green image and environmental consciousness are fundamental concepts in explaining green consumer behavior (Huang, Lin, Lai, & Lin, 2014; Jeong, Jang, Day, & Ha, 2014; Kim, 2015; Lee, Hsu, Han, & Kim, 2010; Martínez, 2015; Namkung & Jang, 2013); however, previous research has had an inclination to investigate these variables separately. It is therefore clear that hospitality theory and practice must include these essential factors as central constructs in order to explain the behavioral intentions of customers regarding green accommodation products and services to promote sustainable tourism and develop effective green marketing strategies in a hotel context.

The next section provides an overview of the effect of green practices, green image, environmental consciousness and customer behavioral intentions. The authors will then describe the methodology, including measures of variables, data collection procedures and sample characteristics. The results are then presented, followed by a discussion of theoretical and managerial implications. Finally, research limitations and future lines of research are outlined.

2. Conceptual framework

2.1. Green practices and green image in certified hotels

Companies show their environmental responsibility by making a green commitment in order to voluntarily adopt ecological initiatives (Castro, Amores-Salvado, & Navas-López, 2016). One of the main expressions of this green commitment is environmental certification programs. Within the context of accommodation, the implementation of environmental certifications by hotel companies is considered an essential prerequisite to attract and retain an increasing market segment of pro-environmental customers who have a preference for, and are willing to purchase, sustainable and green accommodation products (Chen & Tung, 2010). Compared to a non-certified hotel, an environmentally-certified hotel makes efforts in the areas of reducing, reusing and recycling (the three Rs), and in the key aspects of efficiency and energy (the two Es) (Gilg, Barr, & Ford, 2005).

Environmental certifications are considered to improve environmental performance by helping firms to focus on environmental management and also enhance internal supervision of environmental performance (Darnall & Sides, 2008). A number of certified hotels are devoting efforts to identifying and putting into practice the best initiatives to show their commitment to environmental preservation (Bruns-Smith, Choi, Chong, & Verma, 2015), such as installing solar panels, using polyester layers to coat windows, updating the heating systems in swimming pools, replacing electricity with gas as a source of energy for the laundry and catering services, replacing current appliances with water-efficient ones, installing greywater recycling systems that reuse

1
2
3 wash water, or composting organic waste to produce fertilizers (Chan, Mak, Chen,
4 Wang, Xie, Hou, & Li, 2008).
5

6 Environmental certifications also benefit consumers by providing a guarantee of quality
7 and reliability (Esparon, Gyuris, & Stoeckl, 2014). When adopting an official third-
8 party environmental certification, hotel companies obtain access to the knowledge of the
9 certification institution that provides them with personalized information about the
10 implementation of environmental practices. Hoteliers reduce claims of “green-washing”
11 in this way. Companies attempting to “green-wash” their corporate image selectively
12 disclose favorable information about their environmental performance while neglecting
13 to make negative facts public (Lyon & Maxwell, 2011). Certification bodies establish
14 pre-defined rules and goals and assess whether the audited hotels comply with them
15 (Font, 2002). Third-party environmental certifications therefore give credibility to
16 claims about corporate environmental performance and sustainable practices adopted by
17 hotel companies.
18
19
20
21

22 Before explaining the notion of companies’ green image and its connection with
23 environmental initiatives in a certified hotel context, it is necessary to briefly explain the
24 concept of overall image. To date, a precise definition of this concept has been elusive,
25 and scholars have defined it in several ways. For instance, Bloemer and Ruyter (1998)
26 conceptualized it as consumers’ total perceptions of the salient attributes of a firm.
27 These authors consider overall image to be an evaluative concept about the functions of
28 attributes of a specific object (e.g. product/service, company, etc.). Assael (1984)
29 provides one of the most concrete definitions of overall image, presenting it as a
30 consumer’s total perceptions of a product (or a firm) shaped by processing information
31 from diverse sources. Previous research argues that customers can benefit from the
32 overall image of companies as it provides them with functional, experiential and
33 symbolic benefits (Park, Jaworski, & MacInnis, 1986). According to these authors,
34 functional and experiential benefits correspond to product-related attributes while
35 symbolic benefits are related to underlying psychological needs of customers, such as
36 personal expression, and correspond to attributes that are not related to the product or
37 service. The early works on image theory suggest that an individual’s behavior is based
38 on a psychological or distorted representation of objective reality that exists in an
39 individual’s mind (Martineau, 1958). Therefore, consumers’ behaviors are more likely
40 to be determined by an image than by objective reality. In service markets, such as the
41 hospitality industry, overall image is expected to play an important role, especially as it
42 is difficult to differentiate products or services based on tangible quality features (Han,
43 Hsu, & Lee, 2009).
44
45
46
47
48
49
50

51 By focusing our analysis on the environmental or green image of companies, this
52 concept has become increasingly relevant since the 1980s, when consumers become
53 aware of environmental issues (e.g. increased drought, habitat destruction, rising sea
54 levels, etc.) and their consequences for the planet. Accordingly, tourism companies are
55 developing new corporate approaches, such as green marketing strategies, to satisfy
56 environmental requirements for customers (Polonsky, 1994). The concept of green
57
58
59
60

marketing comprises “all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occur, with minimal detrimental impact on the natural environment” (Polonsky, 1994, p. 2). Accordingly, the green marketing literature examines environmental concerns within the discipline of marketing. Prior literature suggests that companies should undertake green marketing strategies to find out customers’ green needs, to launch green products, to divide the market into different segments, to formulate green positioning strategies and to implement a green marketing mix program (Chen & Chang, 2013). Similarly, green image is more important for companies in the current environment of rising of environmental consciousness and international regulations of environmental protection, such as those operating in the tourism industry (Bohdanowicz, 2006).

Consistent with previous research, the term of green (overall) image is defined in this study as a set of perceptions of a firm in a consumer’s mind that is connected to environmental commitment and concerns (Martínez, 2015). A company’s green image thus involves the environmental or green-related attributes of the firm that its stakeholders come to perceive (Castro et al., 2016). Specifically, a hotel’s green image can be described as consumers’ mental perceptions of a particular hotel company that are linked to environmental concerns and can be expressed as a function of the most important green attributes of a particular hotel company (Jeong et al., 2014). Similarly, customers’ perceptions of the green image of a hotel can be measured by the function of green practices that are important for the evaluation of the greenness of the hotel.

A good green image acts as a clear signal of a firm’s environmental commitment toward its key stakeholders and represents an effective means to improve not only environmental differentiation but also profitability (Heikkurinen, 2010). Hospitality companies promote their green image to show their actual commitment toward sustainable issues, demonstrating to stakeholders their achievements in natural environmental protection (Wong, Lai, Shang, & Lu, 2013).

Research indicates that not only green practices but also environmental certifications can be components with which to develop the green image of a company (Boiral, 2011; Heikkurinen, 2010; Jeong et al., 2014; Namkung & Jang, 2013; Ritchie & Crouch, 2003; Wong et al., 2013). These studies propose that the green practices of environmentally-certified hotels offer various opportunities, such as improved stakeholder relationships and better corporate image and reputation. In this regard, environmental initiatives make a company’s products and services unique, enhancing the firm’s green image and thus increasing demand among environmentally conscious consumers. For instance, Ritchie and Crouch (2003) demonstrate how a positive green image can be created through the adoption and implementation of environmental systems. These authors suggest that the creation and development of this image is a relevant factor in the formulation of successful marketing strategies and in company competitiveness. Similarly, Boiral (2011) reports that the adoption of environmental certification helps firms with their environmentally friendly image-building efforts. It

therefore seems obvious that these ideas should be extrapolated, and to think that green attributes in the hotel industry (e.g. recycling, energy and water conservation, environmental friendly packaging, etc.) can affect a customer's green image of a particular certified hotel. It is thus reasonable to propose the following hypothesis:

H₁: Customer perceptions of green practices positively affect the green image of environmentally-certified hotels.

2.2. Green image and customer behavioral intentions

Many scholars and practitioners in the tourism industry have shown great interest in the concept of a company's image due to its effects on customer behavioral decisions (Durna, Dedeoglu, & Balikcioglu, 2015; Han et al., 2009; Jeong et al., 2014; Lee, Hsu, Han, & Kim, 2010; Lin, Morais, & Kerstetter, 2007; Martínez, 2015; Ryu, Lee, & Kim, 2012). Building positive intentions in customers is an important goal for hospitality businesses, since these intentions will ultimately increase customer retention rates and profits (Han et al., 2009). Consumer behavioral intentions represent the likelihood of consumer engagement in a specific behavior (Ajzen & Fishbein, 1980). According to Fishbein and Ajzen (1975), behavioral intentions are the closest antecedents of actual behavior when examining individual decision-making processes. This implies that scholars are able to predict specific behaviors with considerable accuracy from intentions to engage in the behavior under consideration. Behavioral intentions have been studied by examining three key dimensions: willingness to repurchase products or services from a company, to pay a premium price for these products and to recommend the company or to make positive comments about the company's services (Gao et al., 2016; Zeithaml, Berry, & Parasuraman, 1996). Consistent with these previous studies, in this study in the green hospitality context, such intentions reflect consumer intentions to stay, spread word-of-mouth or be willing to pay a premium price to stay at an environmentally-certified hotel.

Previous studies support the effect of the green image of companies on customer behavior. In the hospitality setting, Lee et al. (2010) support the relationship between a green cognitive and affective image and customer behavioral intentions (in terms of intention to revisit, intention to offer positive recommendations and willingness to pay a premium). Liu, Wong, Shi, Chu, and Brock (2014) found that perceived green image can enhance perceived brand quality and brand preference. In the same vein, Martínez (2015) shows that green image has a positive direct effect on customer trust, satisfaction and loyalty. Kim (2015) demonstrated that environmental programs recognized (perceived) by restaurant consumers generate favorable attitudes and intention to purchase from these companies. This study therefore proposes the following research hypotheses:

H₂: Customer perceptions of a hotel's green image positively affect their behavioral intentions:

H_{2a}: Customer perceptions of a hotel's green image positively affect their intentions to stay at environmentally-certified hotels.

H_{2b}: Customer perceptions of a hotel's green image positively affect their intentions to spread positive word-of-mouth about environmentally-certified hotels.

H_{2c}: Customer perceptions of a hotel's green image positively affect their intentions to pay a premium price for staying at environmentally- certified hotels.

2.3. The effect of environmental consciousness on the relationship between green image and customer behavioral intentions

The concept of environmental consciousness involves specific psychological factors related to an individual's propensity to engage in pro-environmental behaviors (Zelezny & Schultz, 2000). Environmental concern is an evaluation of, or an attitude toward, facts, one's own behavior or other's behavior with consequences for the environment (Schlegelmilch, Bohlen, & Diamantopoulos, 1996). In the context of this study, environmental consciousness refers to the degree to which hotel guests are concerned about environmental problems and are willing to make an effort to solve them (e.g. stay in an environmentally-certified hotel) (Dunlap & Jones, 2002).

The means-end theory (Gutman, 1982) and the Schwartz's values theory (Schwartz, 1977) provide a theoretical foundation on which to explore the direct effect of environmental consciousness on consumer behavior and the effect of this variable on the relationship between a hotel's green image and customer behavioral intentions toward environmentally-certified hotels. According to the means-end theory, in a green context, customers choose to stay in a hotel that supports environmental initiatives (i.e. means) to achieve their desired values (i.e. the end) (Huber, Hermann & Morgan, 2001). In this sense, customer values such as feelings of self-esteem are essential for explaining pro-environmental behaviors (Karp, 1996). Past research has suggested that values play a role in specific situations when they are activated by a set of altruistic concerns (e.g. environmental degradation, global warming, resources depletion, etc.). Allen and Ferrand (1999) hypothesized that in order to act pro-environmentally, individuals must focus beyond themselves and be concerned about the community at large. They suggested that this state of "actively caring" can only occur if the need for self-esteem (together with the need for belonging, personal control, self-efficacy and optimism) has been satisfied. In addition, Schwartz (1977) argued that altruistic behavior would occur when individuals hold personal norms with regard to a specific behavior (e.g. pro-environmental behavior). This author further argued that these norms are the results of both the awareness of the consequences of engaging (or not engaging) in the behavior and the ascription of personal responsibility for carrying out the altruistic behavior. In recent years, due to serious environmental problems, more consumers have developed environmental consciousness. As staying in an environmentally-certified hotel may be considered as a way of showing deeper pro-environmental values, the more consumers

perceive themselves as environmentally conscious the more positive their behavioral intentions will be toward certified hotels.

Previous studies in the hospitality context support the direct effect of environmental consciousness on consumer behavioral intentions. For instance, Kang, Stein, Heo, and Lee (2012) found that guests with higher degrees of environmental concerns develop a greater willingness to pay more to stay in green hotels. On the other hand, Huang, Lin, Lai, and Lin (2014) suggest that customers with a high degree of environmental consciousness use products and services that are environmentally beneficial or protect the environment to a greater extent. Based on this discussion, this study proposes the following hypotheses:

H₃: Customer environmental consciousness positively affects their behavioral intentions:

H_{3a}: Customer environmental consciousness positively affects their intentions to stay at environmentally-certified hotels.

H_{3b}: Customer environmental consciousness positively affects their intentions to spread positive word-of-mouth about environmentally-certified hotels.

H_{3c}: Customer environmental consciousness positively affects their willingness to pay a premium price for staying at environmentally-certified hotels.

Research also supports the moderating effect of environmental consciousness on the perception of a hotel's green image and consumer behavior. Green practices allow certified hotels to differentiate themselves from competitors (Manaktola & Jauhari, 2007). In addition, as previously mentioned, image is expressed as a function of the salient attributes of a particular firm that are evaluated and compared to one another (Bloemer & Ruyter, 1998) and customer environmental concerns are associated with their personal values (Schwartz, 1977). Therefore, customers who are more concerned about ecological problems may be more likely to consider environmental issues (e.g. environmental certifications) when they make a lodging decision than those who do not perceive themselves as environmentally conscious. As staying at an environmentally-certified hotel could be considered as reflecting deep environment-related self-perceptions, the more consumers perceive themselves as environmentally conscious, the more green attributes will influence customers' (perceived) green image of a particular hotel. In turn, consumers will be more likely to develop positive behavioral intentions (e.g. visit intention, intention to spread word-of-mouth and willingness to pay) toward environmentally-certified hotels in order to satisfy their personal values and thereby increasing their levels of self-esteem. In this sense, the authors believe that it is not enough for hotel guests to perceive a company as green or environmentally friendly (e.g. green image), as this may not sufficiently motivate them to develop a favorable behavioral response toward the company. In this study the authors therefore propose and test not only the direct effect of customer environmental consciousness on their behavior but also its moderating effect, so that if customers are more sensitive to

environmental problems (e.g. higher levels of environmental consciousness) the effect of a green image will be stronger on consumer behavioral intentions.

Prior studies confirm the relevant role of environmental consciousness as a moderator in the relationship between a company's green image and consumer behavior. In their study of restaurants, Namkung and Jang (2013) indicated that consumer self-perception of environmental consciousness moderated their evaluation of green practices, a firm's green brand image and customer willingness to revisit the restaurant. These authors propose that consumers have different degrees of environmental consciousness so that their green behavior will be different. They also confirm that consumers with stronger environmental consciousness have higher opinions of a restaurant's green image and show more positive future behavioral intentions given the stronger effect of green image on consumer intentions to revisit. Thus, this study proposes the following hypotheses:

H₄: For those customers with a high degree of environmental consciousness the relationship between the perception of a hotel's green image and their behavioral intentions will be stronger than for those customers with a low degree of environmental consciousness.

H_{4a}: For those customers with a high degree of environmental consciousness the relationship between the perception of a hotel's green image and their intentions to visit an environmentally-certified hotel will be stronger than for those customers with a low degree of environmental consciousness.

H_{4b}: For those customers with a high degree of environmental consciousness the relationship between the perception of a hotel's green image and their intentions to spread positive word-of-mouth about an environmentally-certified hotel will be stronger than for those customers with a low degree of environmental consciousness.

H_{4c}: For those customers with a high degree of environmental consciousness the relationship among the perception of a hotel's green image and their willingness to pay more to stay at an environmentally-certified hotel will be stronger than for those customers with a low degree of environmental consciousness.

3. Method

3.1. Measures

Since environmental certifications are highly product-specific, they are able to provide certifications for different types of tourism businesses (e.g. accommodation, restoration, transportation, etc.). As such, to fulfill our research objectives a questionnaire was developed and aimed at guests staying at Spanish hotels. The authors decided to study hotel guests to guarantee that the individuals who were interviewed had sufficient knowledge of hospitality services and were used to making decisions about hotel booking, so they could take into consideration the fact that a hotel is environmentally certified. For each item, respondents were asked to rate their level of agreement (or

disagreement) using a 7-point Likert scale. Participants were given general information about environmental certifications and their goals in order to ensure that respondents were able to manifest their judgments about these schemes. The survey solicited information regarding demographics and traveling characteristics of respondents, including gender, age, level of education, occupation, purpose of travel and previous experience with a certified hotel.

We adopted the measurement scales from previous studies for all the constructs of our model. These items are presented in the appendix.

3.2. Data collection and sample profile

A sample of hotels customers in Spain was surveyed using a structured questionnaire to validate the research hypotheses. Given that Spain has a substantial population of certified hotels, this country can serve as an interesting context in which to test our research model. Personal surveys were carried out in respondents' homes to ensure their comfort and to make sure that they took time to answer the questions calmly and thoughtfully. The length of each interview averaged 10-15 minutes to avoid fatigue in the respondents. University students collaborated in collecting and gathering data. A convenience sample was used (non-probabilistic sampling procedure). With the aim of ensuring greater representativeness of the data, the authors employed multistage sampling, using quotas based on guests' gender and age to replicate the profile of the Spanish population. Table 1 displays the profile of respondents.

Table 1. Sample characteristics

Characteristic	n	%
<i>Gender</i>		
Male	233	46.41
Female	263	53.59
<i>Age</i>		
18-24	98	19.52
25-34	62	12.35
35-44	77	15.33
45-54	102	20.31
55-64	43	8.56
Over 65	120	23.90
<i>Education</i>		
No education	22	4.38
Basic (Primary and Secondary school)	68	13.54
High school	156	31.07
University	191	38.04
Post-graduate degree	65	12.94
<i>Occupation</i>		
Student	117	23.30
Self-employed	79	15.73
Worker	152	30.28

Retired/pensioner	122	24.31
Unemployed	32	6.37
<i>Travel purpose</i>		
Leisure	359	71.51
Business	81	16.13
Other	62	12.35
<i>Previous experience with a certified hotel</i>		
Yes	227	45.22
No	275	54.78

Following an orthodox approach in quantitative research, the authors conducted a thorough inspection of the database, checking for missing values and outliers. The invalid questionnaires were eliminated so that they did not affect the results in further analyses; however this fact did not significantly affect the distribution of the sample with regard to the quotas established in the sampling procedure. After eliminating invalid questionnaires we obtained 502 surveys.

To explore the issue of non-response bias the authors tested for differences between early and late respondents (Armstrong & Overton, 1977). Early responses were defined as the first 75% of returned questionnaires. The last 25% were considered late respondents and representative of individuals who did not respond to the survey. Early and late respondents were compared for gender, age, education and occupation using a t-test and no significant differences were found, suggesting that non-response bias was not an issue.

Bias anonymity and confidentiality were verbally emphasized in order to control for social desirability (Chung & Monroe, 2003). The authors emphasized anonymity and confidentiality, and that there were no right or wrong answers, so as to further decrease social desirability bias. Finally, this study collected data through a single instrument, common method variance (CMV) may exist, which may result in invalid conclusions being made about the relationships between the proposed variables. Harman's one factor approach was used to overcome this limitation (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). An exploratory factor analysis (EFA) (fixed on one factor extraction without any rotations) was conducted for the 25 items that were manifested in six factors, in order to determine the total variance of the single extracted factor and estimate whether the total variance of the single factor was below the cut-off value of 50%. Our results revealed that the single general factor accounted for 43.48% of the total variance explained for the 25 items, suggesting no indication of CMV.

4. Results

In order to test the research hypotheses proposed, the authors followed a PLS-SEM approach which is especially suited for the estimation of moderating effects. This study

followed a two-step approach in order to analyze and interpret PLS results (Chin, 2010): (1) assessment of the outer (measurement) model, and (2) testing the inner (structural) model. Moderating effects were tested following the “product indicator approach” (Chin, Marcolin, & Newsted, 2003), which is provided by default in SmartPLS and is applicable when the moderator and the independent constructs are reflective, as is the case in our study.

4.1. Evaluation of the measurement model

The results obtained in the estimation of the measurement model confirm the appropriate psychometric properties of the measurement scales (e.g. reliability and validity). The reliability of measurement scales is confirmed (Table 2), as the Cronbach’s Alpha and compound reliability coefficients (Bagozzi & Yi, 1988) are, in every case, clearly above the required minimum values of 0.7 (Hair, Anderson, Tatham, & Black, 2010). The convergent validity of the measurement instruments is supported (Table 2) as the values of the AVE coefficient are, in all cases, greater than 0.50 at the construct level and all item loadings are above or very close to 0.7 and are significant at the 0.01 level. Only in the case of item ENC1 (for environmental consciousness) did the item loading take a value of 0.64, but following the recommendations by Hair, Ringle, and Sarstedt (2013) we decided to keep the item in the scale as the reliability of the instrument is over the recommended limits.

Third, this study follows three approaches to measure the discriminant validity of the measurement scales (Tables 3 and 4). The cross loadings of an item’s outer loading on the associated construct are greater than all of its loadings on other constructs (e.g. cross loadings). All the factors fulfill the criterion proposed by Fornell and Larcker (1981), as the square root of each AVE coefficient is greater than the correlations between the constructs. Finally, in all cases, the heterotrait-monotrait (HT-MT) values are below the threshold of 0.85 of 0.90 (Henseler, Ringle, & Sarstedt, 2015) (Table 4). These results confirm the discriminant validity of the measurement scales used in the empirical research.

Table 2. Measurement Model

Construct	Items	Weights	Cronbach’s alpha	Composite Reliability	AVE
Green practices (GRE)	GRE1	0.84	0.90	0.93	0.77
	GRE2	0.89			
	GRE3	0.90			
	GRE4	0.88			
Green image (GIM)	GIM1	0.88	0.88	0.92	0.74
	GIM2	0.90			
	GIM3	0.87			

	GIM4	0.79			
	ENC1	0.64			
	ENC2	0.83			
	ENC3	0.70			
Environmental consciousness (ENC)	ENC4	0.81	0.89	0.91	0.57
	ENC5	0.70			
	ENC6	0.79			
	ENC7	0.70			
	ENC8	0.84			
	STA1	0.91			
Stay intention (STA)	STA2	0.92	0.89	0.93	0.82
	STA3	0.89			
	WOM1	0.92			
Intention to spread word-of- mouth (WOM)	WOM2	0.93	0.92	0.95	0.81
	WOM3	0.85			
	WOM4	0.90			
Willingness to pay a premium (PAY)	PAY1	0.95	0.89	0.95	0.90
	PAY2	0.95			

Table 3. Results for Fornell and Larker's criterion for discriminant validity

	Green practices	Green Image	Environmental Consciousness	Intention Stay	Intention WOM	Intention Pay
Green practices	0.880 ^a					
Green Image	0.739	0.859 ^a				
Environmental Consciousness	0.368	0.433	0.752 ^a			
Intention Stay	0.292	0.345	0.655	0.905 ^a		
Intention WOM	0.223	0.297	0.708	0.803	0.902 ^a	
Intention Pay	0.266	0.356	0.628	0.724	0.718	0.947 ^a

^a= square root of the variance shared between the constructs. Off diagonal elements are the correlations among constructs.

Table 4. Results of heterotrait-monotrait ratio (HT-MT) analysis

	Green practices	Green Image	Environmental Consciousness	Intention Stay	Intention WOM	Intention Pay
Green Image	0.826					
Environmental Consciousness	0.431	0.502				
Intention Stay	0.326	0.389	0.717			
Intention WOM	0.247	0.331	0.757	0.887		
Intention Pay	0.300	0.405	0.684	0.816	0.794	

4.2. Evaluation of the structural model

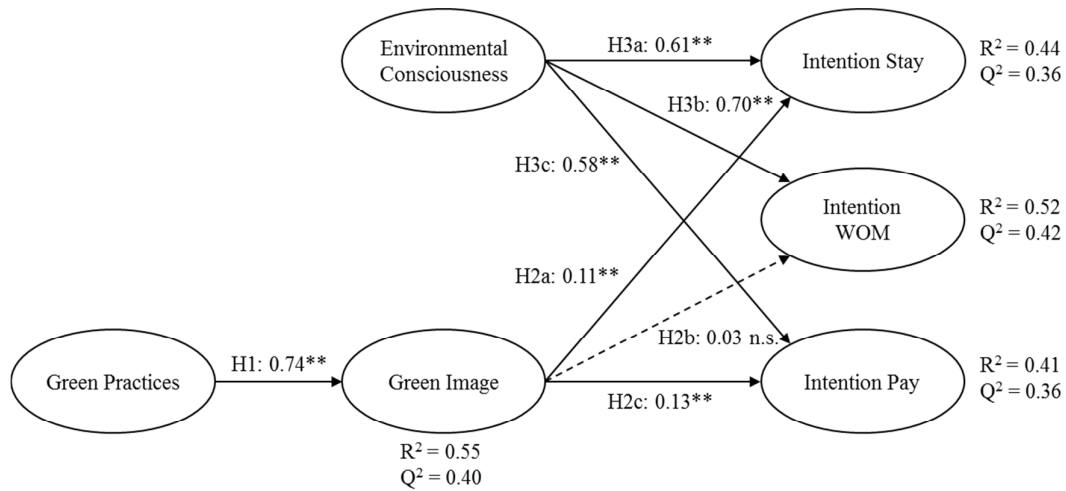
This research follows the three-step approach proposed by Aldás (2016) to analyze the structural model: (1) coefficient of determination (R^2 value) for the latent variables, (2) predictive relevance Q^2 (blindfolding), and (3) significance of the structural model path coefficients and effect size (bootstrapping).

This study uses a resampling bootstrap method with 5000, along with each bootstrap sample containing the same number of observations as the original sample (e.g. 502 bootstrap cases), to generate standard errors and t-values (Chin, 1998; Hair et al., 2013). The study assesses estimated path relationships between the latent variables in the model through the sign and magnitude of path coefficients. The results of the estimation of the structural model are summarized in Figure 1.

R^2 statistics take values above 0.40 in all cases, which shows that the theoretical model proposed provides a moderate explanation of the variance of the dependent variables, according to the reference levels proposed by Chin (1998). Additionally, using the blindfolding procedure, all Q^2 values are considerably above zero, thus supporting the predicting relevance of the model regarding the dependent variables.

Finally, the significance of the structural model path coefficients and effect size was tested using the bootstrapping procedure (two-tails test). Table 5 summarizes the results obtained for the direct and moderating effects, including the path coefficients, effect size (f^2), t-values and level of significance. The empirical evidence obtained in this study therefore supports all the research hypotheses proposed in our theoretical model, except the direct effect of green image on intention to spread positive word-of-mouth about environmentally-certified hotels (Hypothesis H2b). In addition, the Cohen's f^2 for the significant paths in the inner model were all above 0.02, with the only exception being the moderating effect of environmental consciousness on the relationship between green image and intention to pay. These results suggest satisfactory effects for the endogenous latent constructs (Henseler, Ringle, & Sinkovics, 2009).

Figure 1. Results of the structural model



**p < 0.01; *p < 0.05

Table 5. Significance testing results of the structural model path coefficients

Structural path	Path coefficient	Effect size (f2)	T value
H1: Green practices → Green Image	0.74**	1.20	30.551
H2a: Green Image → Intention Stay	0.11**	0.02	2.679
H2b: Green Image → Intention WOM	0.03	0.00	0.879
H2c: Green Image → Intention Pay	0.13**	0.02	2.932
H3a: Environmental Consciousness → Intention Stay	0.61**	0.53	18.237
H3b: Environmental Consciousness → Intention WOM	0.70**	0.79	26.464
H3c: Environmental Consciousness → Intention Pay	0.58**	0.44	17.433
H4a: Moderating Effect 1 → Intention Host	0.09**	0.02	2.973
H4b: Moderating Effect 2 → Intention WOM	0.12**	0.03	4.891
H4c: Moderating Effect 3 → Intention Pay	0.06*	0.01	2.090

**p < 0.01; *p < 0.05

The empirical evidence obtained in this study confirms the direct and positive effect of consumer perceptions of a hotel's green practices on their green image (hypothesis H1). Our results also support the hypothesis that perceived green image of hotels positively affects consumer intention to stay at environmentally-certified hotels (Hypothesis H2a) and to pay a premium price for it (Hypothesis H2c), however, no significant effect of green image on intention to spread positive word-of-mouth about environmentally-certified hotels was found (Hypothesis H2b). According to this evidence, having a positive green image is a clear incentive for consumers to choose a hotel and pay a higher price, but it does not necessarily lead to positive word-of-mouth. These results also show that perceptions about a hotel's green practices have an indirect and positive effect on consumer intentions to stay at environmentally-certified hotels and to pay a premium price (through its effect on green image). Moreover, the non-significance of the influence of green image on intention to spread positive word-of-mouth about environmentally-certified hotels seems to imply that perceived green image determines consumers' purchase decisions in terms of intention to stay and to pay more for environmental certified hotels, but it is not a sufficient motivation to communicate the value of environmentally-certified hotels to other consumers. In other words, green image seems to speak to consumers' responsibility with regard to their own decisions, but it is not considered a relevant attribute to spread word-of-mouth that may influence other individuals.

This study also supports the strong effect of consumer environmental consciousness on behavioral intentions with regard to environmentally-certified hotels. The higher the environmental consciousness of consumers, the higher their intention to stay at environmentally-certified hotels (Hypothesis H3a), to spread positive word-of-mouth about them (Hypothesis H3b) and to pay a premium price for them (Hypothesis H3c). Finally, consumer environmental consciousness also exerts a moderating effect on the causal relationship of green image on behavioral intentions. In particular, the higher the environmental consciousness, the stronger the effect of the green image on consumer intentions to stay at environmentally-certified hotels (Hypothesis H4a), to spread positive word-of-mouth (Hypothesis H4b) and to pay a premium price (Hypothesis H4c).

5. Discussion

Theoretical implications

This research contributes to our understanding of the disconnect between environmental perceptions and behavioral intentions when it comes to the consumption of green hotel services, by examining the alignment of customer perceptions and the perceived behavior of environmentally-certified hotels across several levels of customer environmental consciousness.

This research makes theoretical contributions to the sustainable tourism literature in general and the hospitality literature in particular, through the convergence of different research streams, specifically environmental psychology and consumer behavior. This

study integrates internalized perceptions and perceptions of the firm (Gao et al., 2016) into a model to explain pro-environmental responses toward certified hotels that follow a holistic approach. By considering the degree of a customer's environmental consciousness and their perceptions of green initiatives alongside the idea that a hotel's green image is an important construct for understanding green consumer behavior, this study suggests a research framework for examining customer behavioral intentions toward environmentally-certified hotels. The results presented here agree with past studies that have used both categorizations to explore consumer responses toward environmentally friendly products and services (Han et al., 2009; Jeong et al., 2014). Nevertheless, this study expands the previous research, and other studies such as those by Baker et al. (2011), Chen and Tung (2009), Di Pietro et al. (2013) or Kang et al. (2012) by including different constructs, such as mediating and moderating factors.

This study presents additional theoretical contributions to the academic literature. No prior research has investigated the relationship among green practices, customer degree of environmental consciousness and their behavioral intentions in relation to a company's green image in the hotel sector. In this sense, previous studies in the hospitality literature have had an inclination to explore separate relationships between environmental consciousness, green image and green consumer behavior (Han et al., 2009; Huang et al., 2014; Jeong et al., 2014; Lee et al., 2010; Namkung & Jang, 2013). Our research distinguishes itself from previous empirical studies in considering the interactive effect of green image and environmental consciousness in promoting customer behavioral intentions in light of environmental psychology and consumer behavior issues.

This study demonstrates that customer perceptions of green practices positively affect the green images of companies, which also positively affects customer behavioral intentions in terms of staying and paying a premium for staying at an environmentally-certified hotel. The effect of green image on consumer willingness to spread positive word-of-mouth is not confirmed. By implementing green practices, environmentally-certified hotels can motivate customers to shape a mental image of a particular hotel's level of commitment toward environmental issues and the way in which the company presents itself with respect to its socially responsible activities, which is consistent with previous research (Durna et al., 2015). In this sense, this study demonstrates that customer perceptions of green practices act as a major driver when choosing a certified hotel. It is proved that green practices are a meaningful element, as are other key hotel service factors, such as quality service, infrastructure or the professionalism of employees in influencing customer accommodation decisions (as previous studies have demonstrated, such as the research by Alexander (2002), Briggs, Sutherland, and Drummond (2007) or Bruns-Smith et al. (2015), among others), which means that customers recognize the direct benefits of an environmentally-certified hotel's attributes.

The third theoretical contribution is the extension of environmental psychology literature through the introduction of customer environmental consciousness in our

model, in order to explore its role as a direct and moderating mechanism on the effect of green image on customer behavioral intentions. This study provides empirical evidence that customer environmental consciousness is a direct predictor of behavioral intentions with regard to environmentally-certified hotels, suggesting that becoming environmentally concerned results in the adoption of automatic environmental purchase preferences. In this sense, this study proves that the higher environmental consciousness of consumers, the higher their intention is to stay at environmentally-certified hotels, to spread positive word-of-mouth about them and to pay a premium price for them. Therefore, this research proves that when consumers have different degrees of environmental consciousness, their green behavior will also be different, which is consistent with the views of past scholars (Huang et al., 2014; Kang et al., 2012). We have also demonstrated the moderating effect of this variable in the connection between a hotel's green image and customer behavior. The higher the environmental consciousness, the stronger the effect of green image on consumer intention to stay at an environmentally-certified hotel, to spread positive word-of-mouth and to pay a premium price. These significant relationships can be explained by the fact that those customers with high levels of environmental consciousness are more likely to have adequate information about a hotel's green initiatives and environmental certifications, which in turn has a significant impact on certified hotels (Chen & Peng, 2012). These results therefore provide a valuable reminder of the importance of integrating environmental consciousness into models explaining the green consumption of hotel services.

Managerial implications

These findings have important managerial implications for tourism and hospitality companies. First at all, this study demonstrates that green image is a powerful tool with which to develop favorable customer responses in a certified hotel context. Hospitality managers should design strategies to raise perception of green-related features of environmentally-certified companies and develop effective strategies to promote their green image. In this sense, environmental certification programs can become part of a hotel's green image, together with traditional factors such as service quality, price, infrastructure or location. For instance, hoteliers could obtain ecological certifications. Several international organizations offer third-party environmental certifications, such as the U.S. Green Building Council, which offers an initiative called Leadership in Energy and Environmental Design (LEED), which certifies resource-efficient constructions. Other initiatives such as the ISO 14001 or the ECO-Management and Audit Scheme (EMAS) help hotel companies to evaluate, manage and improve their environmental performance. By building a green image based on these aspects, environmentally-certified hotel companies can enjoy the competitive advantage provided by the set of expectations around offering a certain level of environmental value (Kang & Hur, 2012). Hotels' green image that is based on environmental certifications (certified by independent and renowned agencies) will build strong relationships with environmentally conscious consumers and create differential competitive advantages, thereby introducing a new type of competitive standard

1
2
3 –environmental certifications– assuming that hotels consistently provide this
4 environmental value.
5

6 Secondly, and given the relevance of customer perceptions of environmental
7 certifications, managers should also emphasize the relevance of these schemes by
8 communicating to consumers the benefits of implementing these certifications and the
9 achievements obtained after their implementation, highlighting their impact on society.
10 For instance, Meliá Hotels International has 141 certifications in sustainable tourism
11 with different seals (e.g. Earthcheck, Biosphere, Travelife, LEED, ISO, Green Leaders,
12 etc.). After obtaining these certifications, they have achieved some remarkable
13 environmental improvements in recent years, including the reduction of the company's
14 carbon footprint (-3.81%) along with its water (-7.66%) and energy consumption (-
15 9.40%). In this way Meliá has minimized its environmental impact by 9.5%. This case
16 can show consumers how environmental initiatives can generate a real impact on
17 society and that these practices are not just marketing ploys, thereby demonstrating that
18 environmentally-certified hotels contribute meaningfully to sustainable tourism
19 practices.
20
21
22
23
24

25 Hoteliers may promote these aspects by using multiple information sources such as
26 advertising, public relations campaigns, sponsorships and social networks, since
27 customers perceptions of green image may be influenced by corporate communications
28 (Martínez, 2015). Nevertheless, these communicative techniques need to convince
29 consumers to believe that environmentally-certified hotels make a difference in
30 protecting the environment (Lee et al., 2010) in order to avoid making consumers
31 become skeptical. Through effective communication strategies promoting the
32 achievement of official third-party environmental certifications, hoteliers can show how
33 they make a genuine commitment to the environment and reduce ambiguity.
34 Consequently, hotel guests would not under-perceive the green overall image of
35 certified hotels and therefore would develop positive behavioral intentions.
36
37
38
39

40 To conclude, hospitality companies should promote environmental consciousness since
41 less environmentally conscious customers are often uninformed about the negative
42 impacts that non-environmentally-certified hotel companies have on the environment
43 (Chen & Peng, 2012). In this sense, companies may use green marketing strategies
44 (Polonsky, 1994) and develop specific programs to inform and educate these guests. For
45 instance, hotel firms may organize conferences, seminars, visits to places of interest for
46 their environmental biodiversity or contests and competitions to encourage guests to
47 become involved in the environmental programs of companies. Similarly, hospitality
48 managers may help customers to understand how they can minimize negative impacts,
49 for instance by providing information about ecological topics in public areas of hotels
50 (e.g. rooms, information desks, etc.) or using several communication channels. To
51 enhance their green image and develop positive customer behavioral intentions,
52 environmentally-certified hotels should actively make positioning efforts in the less
53 environmentally conscious market. In order to encourage less conscious customers to
54 stay more frequently at environmentally-certified hotels, it is crucial to emphasize the
55
56
57
58
59
60

1
2
3 importance of individuals' environmental decisions by providing feedback indicating
4 that they have made a positive difference by choosing an environmentally-certified
5 company. It is also important for professionals to inform this group of consumers that
6 environmentally-certified hotels exert a positive influence on the environment. These
7 efforts would motivate their everyday habits, which would eventually enhance their
8 environmental purchasing decision-making.
9
10

11 ***Limitations and future lines of research***

12
13 Finally, there are several limitations to this study. The empirical results were obtained
14 from the hotel industry and therefore cannot be broadly applied to other contexts. It
15 would be interesting to explore other accommodation (e.g. hostels, apartment rental
16 services, etc.) and tourism industries (e.g. transportation, leisure activities, etc.) to
17 generalize the findings presented here. In addition, this study makes use of behavioral
18 intentions as a means of exploring to what extent the perception of green practices and
19 hotels' green image affect consumer behavior. This fact should also be considered as a
20 limitation since behavioral intentions have been widely used as an attitudinal loyalty
21 indicator but they do not correspond to behavioral loyalty. Thus, future studies should
22 focus on actual behavioral measures to thoroughly analyze the influence of green
23 practices in a certified hotel context. This study may also not fully represent the
24 experience across different hotel segments such as the luxury market segment. Future
25 studies could also include internal (e.g. customer motives, values, attitudes, emotions or
26 sense of responsibility) and external (e.g. institutional, economic, social or cultural
27 aspects) factors to increase the explanatory power of the proposed model.
28
29
30
31
32

33 **References**

- 34
35 Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social*
36 *behavior*. Englewood Cliffs, NJ: Prentice-Hall.
37
38
39 Aldás, J. (2016). *Modelización estructural con PLS-SEM: Constructos de segundo*
40 *orden* [Structural modeling with PLS-SEM: Second order constructs]. Madrid: ADD
41 Editorial.
42
43
44 Alexander, S. (2002). *Green hotels: Opportunities and resources for success*. Portland,
45 OR: Zero Waste Alliance.
46
47 Allen, J.B. & Ferrand, J. (1999). Environmental locus of control, sympathy, and pro-
48 environmental behavior: a test of Geller's actively caring hypothesis. *Environment and*
49 *Behavior*, 31(3), 338-353.
50
51
52 Armstrong, J.S., & Overton, T.S. (1977). Estimating non-response bias in mail surveys.
53 *Journal of marketing Research*, 14(3), 396-402.
54
55 Bagozzi, R.P., & Yi, Y. (1988). On the evaluation of structural equation models.
56 *Journal of the Academy of Marketing Science*, 16(1), 74-94.
57
58
59
60

- 1
2
3 Baker, M.A., Davis, E.A., & Weaver, P.A. (2014). Eco-friendly attitudes, barriers to
4 participation and differences in behavior at green hotels. *Cornell Hospitality Quarterly*,
5 55(1), 89-99.
6
7 Bohdanowicz, P. (2005). European hoteliers' environmental attitudes: Greening the
8 business. *Cornell Hospitality Quarterly*, 46(2), 188-204.
9
10 Bohdanowicz, P. (2006). Environmental awareness and initiatives in the Swedish and
11 Polish hotel industries: Surveys results. *Hospitality Management*, 25(4), 662-682.
12
13 Boiral, O. (2011). Managing with ISO systems: Lessons from practice. *Long Range*
14 *Planning*, 44(3), 197-220.
15
16 Bloemer, J., & de Ruyter, K. (1998). On the relationship between store image, store
17 satisfaction and store loyalty. *European Journal of Marketing*, 32(5/6), 499-513.
18
19 Bonilla-Priego, M.J., Najera, J.J., & Font, X. (2011). Environmental management
20 decision making in certified hotels. *Journal of Sustainable Tourism*, 19(3), 361-381.
21
22 Briggs, S., Sutherland, J., & Drummond, S. (2007). Are hotels delivering quality? An
23 exploratory study of service quality in the Scottish hotel sector. *Tourism Management*,
24 28(4), 1009-1019.
25
26 Bruns-Smith, A., Choy, V., Chong, H., & Verma, R. (2015). Environmental
27 sustainability in the hospitality industry: Best practices, guest participation and
28 customer satisfaction. *Cornell Hospitality Report*, 15(3), 6-16.
29
30 Castro, G.M., Amores-Salvado, J., & Navas-López, J.E. (2016). Environmental
31 management systems and firm performance: Improving firm environmental policy
32 through stakeholder engagement, *Corporate Social Responsibility and Environmental*
33 *Management*, 23(4), 243-256.
34
35 Chan, S.W. (2013). Managing green marketing: Hong Kong hotel managers'
36 perspective. *International Journal of Hospitality Management*, 34(1), 442-461.
37
38 Chan, W.W., Mak, L.M., Chen, Y.H., Wang, H.R., Xie, G.Q., & Li, D. (2008). Energy
39 saving and tourism sustainability: Solar control window film in hotel rooms. *Journal of*
40 *Sustainable Tourism*, 16(5), 563-574.
41
42 Chen, A., & Peng, N. (2012). Green knowledge and tourist's staying behavior. *Annals*
43 *of Tourism Research*, 39(4), 2203-2219.
44
45 Chen, M.F., & Tung, P.J. (2010). The moderating effect of perceived lack of facilities
46 on consumers' recycling intentions. *Environmental Behavior*, 42(6), 824-844.
47
48 Chen, Y.S., & Chang, C.H. (2013). Green wash and green trust: The mediation effects
49 of green consumer confusion and green perceived risk. *Journal of Business Ethics*,
50 114(3), 489-500.
51
52
53
54
55
56
57
58
59
60

- Chin, W.W., Marcolin, B.L., & Newsted, P.R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G.A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295-336). Mahwah, NJ: Lawrence Erlbaum Associates.
- Chin, W. W. (2010). How to write up and report PLS analyses. In V.E. Vinzi, W.W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications* (pp. 655-690). Berlin Heidelberg: SpringerVerlag.
- Chung, J., & Monroe, G.S. (2003). Exploring social desirability bias. *Journal of Business Ethics*, 44(4), 291-302.
- Darnall, N., & Edwards, D. (2006). Predicting the cost of environmental management system adoption: The role of capabilities, resources and ownership structure. *Strategic Management Journal*, 27(4), 301-320.
- Darnall, N., & Sides, S (2008). Assessing the performance of voluntary environmental programs: Does certification matter? *Policy Studies*, 36(1), 95-117.
- Di Pietro, R., Cao, Y., & Partlow, C. (2013). Green practices in upscale foodservice operations: Customer perceptions and purchase intentions. *International Journal of Contemporary Hospitality Management*, 25(5), 779-796.
- Dolnicar, S., Crouch, G.I., & Long, P. (2008). Environment-friendly tourists: What do we really know about them? *Journal of Sustainable Tourism*, 16(2), 197-210.
- Dunlap, R., & Jones, R. (2002). Environmental concern: Conceptual and measurement issues. In R. Dunlap & M. Michelson (Eds.), *Handbook of Environmental Sociology* (pp. 482-542). London: Greenwood Press.
- Durna, U., Dedeoglu, B.B., & Balikcioglu, S. (2015). The role of servicescape and image perceptions of customers on behavioral intentions in the hotel industry. *International Journal of Contemporary Hospitality Management*, 27(7) 1728-1748.
- Esparon, M., Gyuris, E., & Stoeckl, N. (2014). Does ECO certification deliver benefits? An empirical investigation of visitors' perceptions of the importance of ECO certification's attributes and of operators' performance. *Journal of Sustainable Tourism*, 22(1), 148-169.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Font, X. (2002). Environmental certification in tourism and hospitality: Progress, process and prospects. *Tourism Management*, 23(3), 197-205.

- 1
2
3 Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with
4 unobservable variables and measurement error. *Journal of Marketing Research*, 18(1),
5 39-50.
6
7 Gao, Y., Mattila, A., & Lee, S. (2016). A meta analysis of behavioral intentions for
8 environment-friendly initiatives in hospitality research. *International Journal of*
9 *Hospitality Management*, 54, 107-115.
10
11 Geerts, W. (2014). Environmental certification schemes: Hotel managers' views and
12 perceptions. *International Journal of Hospitality Management*, 39, 87-96.
13
14 Gilg, A., Barr, S., & Ford, N. (2005). Green consumption or sustainable lifestyles?
15 Identifying the sustainable consumer. *Futures*, 37(6), 481-504.
16
17 González-Benito, J., & González-Benito, O. (2005). A study of the motivations for the
18 environmental transformation of companies. *Industrial Marketing Management*, 34(5),
19 462-475.
20
21 Gutman, J. (1982). A means-end chain model based on consumer categorization
22 processes. *Journal of Marketing*, 46(2), 60-72.
23
24 Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (2010). *Multivariate Data*
25 *Analysis*. New Jersey, NJ: Prentice Hall.
26
27 Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation
28 modeling: Rigorous applications, better results and higher acceptance. *Long Range*
29 *Planning*, 46(1/2), 1-12.
30
31 Han, H., Hsu, L.T., & Lee, J.S. (2009). Empirical investigation of the roles of attitudes
32 toward green behaviors, overall image, gender and age in customers' eco-friendly
33 decision-making process. *International Journal of Hospitality Management*, 28(4), 519-
34 528.
35
36 Han, Hsu, L.T., Lee, J.S., & Sheu, C. (2011). Are lodging customers ready to go green?
37 An examination of attitudes, demographics and eco-friendly intentions. *International*
38 *Journal of Hospitality Management*, 30(2), 345-355.
39
40 Heikkurinen, P. (2010). Image differentiation with corporate environmental
41 responsibility. *Corporate Social responsibility & Environmental Management*, 17(3),
42 142-152.
43
44 Henseler, J., Ringle, C.M., & Sinkovics, R.R. (2009). The use of partial least squares
45 path modelling in international marketing. *Advances in International Marketing*, 20,
46 277-319.
47
48 Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing
49 discriminant validity in variance-based structural equation modeling. *Journal of the*
50 *Academy of Marketing Science*, 43(1), 115-135.
51
52
53
54
55
56
57
58
59
60

- 1
2
3 Hu, W., & Wall, G. (2005). Environmental management, environmental image and the
4 competitive tourism attraction. *Journal of Sustainable Tourism*, 13(6), 617-635.
5
6 Huang, H.C., Lin, T.H., Lai, M.C., & Lin, T.L. (2014). Environmental consciousness
7 and green customer behavior: An examination of motivation crowding effect.
8 *International Journal of Hospitality Management*, 40, 139-149.
9
10
11 Huber, F., Herrmann, A., & Morgan, R.E. (2001). Gaining competitive advantage
12 through customer value oriented management. *Journal of Consumer Marketing*, 18(1),
13 41-53.
14
15
16 Jeong, E., Jang, S., Day, J., & Ha, S. (2014). The impact of eco-friendly practices on
17 green image and customer attitudes: An investigation in a café setting. *International*
18 *Journal of Hospitality Management*, 41, 10-20.
19
20
21 Kang, K.H., Stein, L., Heo, C., & Lee, S. (2012). Consumers' willingness to pay for
22 green initiatives of the hotel industry. *International Journal of Hospitality Management*,
23 31(2), 564-572.
24
25
26 Karp, D.G. (1996). Values and their effect on pro-environmental behavior. *Environment*
27 *and Behaviour*, 28(1), 111-133.
28
29
30 Karlsson, L., & Dolnicar, S. (2016). Does eco certification sell tourism services?
31 Evidence from a quasi-experimental observation study in Iceland. *Journal of*
32 *Sustainable Tourism*, 24(5), 694-714.
33
34
35 Kim, Y. (2015). Consumer responses to the food industry's proactive and passive
36 environmental CSR, factoring in price as CSR tradeoff. *Journal of Business Ethics*,
37 140(2), 307-321.
38
39
40 Lee, J.S., Hsu, L.T., Han, H., & Kim, Y. (2010). Understanding how consumers view
41 green hotels: How a hotel's green image can influence behavioral intentions, *Journal of*
42 *Sustainable Tourism*, 18(7), 901-914.
43
44
45 Levy, S., & Park, S. (2011). An analysis of CSR activities in the lodging industry.
46 *Journal of Hospitality & Tourism Management*, 18(1), 147-154.
47
48
49 Lin, C., Morais, D.B., & Kerstetter, D.L. (2007). Examining the role of cognitive and
50 affective image in predicting choice across natural, developed and thematic park
51 destinations. *Journal of Travel Research*, 46(2), 183-194.
52
53
54 Line, N.D., & Hanks, L. (2016). The effects of environmental and luxury beliefs on
55 intention to patronize green hotels: The moderating effect of destination effect. *Journal*
56 *of Sustainable Tourism*, 24(6), 904-925.
57
58
59 Liu, M., Wong, I., Shi, G., Chu, R., & Brock, J. (2014). The importance of corporate
60 social responsibility (CSR) performance and perceived brand quality on customer-
based brand preference. *Journal of Services Marketing*, 28(3), 181-194.

- 1
2
3 Lyon, T.P., & Waxwell, J.W. (2011). Greenwash: Corporate environmental disclosure
4 under threat of audit. *Journal of Economics and Management Strategy*, 20(1), 3-41.
5
6 Manaktola, K., & Jauhari, V. (2007). Exploring consumer attitudes and behavior
7 towards green practices in the lodging industry in India. *International Journal of*
8 *Contemporary Hospitality Management*, 19(5), 364-377.
9
10 Martínez, P. (2015). Customer loyalty: Exploring its antecedents from a green
11 marketing perspective. *International Journal of Contemporary Hospitality*
12 *Management*, 27(5), 896-917.
13
14 Martineu, P. (1958). The personality of retail store. *Harvard Business Review*, 36(1),
15 47-55.
16
17 Mensah, I., & Blackson, E.J. (2014). Commitment to environmental management in
18 hotels in Accra. *International Journal of Hospitality Tourism Administration*, 15(2),
19 150-171.
20
21 Millar, M., Mayer, J., & Baloglu, S. (2012). Importance of green hotel attributes to
22 business and leisure travelers. *Journal of Hospitality & Marketing Management*, 21(4),
23 395-413.
24
25 Namkung, Y., & Jang, S. (2013). Effects of restaurant green practices on brand equity
26 formation. Do green practices really matter? *International Journal of Hospitality*
27 *Management*, 33(2), 85-95.
28
29 Park, C.W., Jaworski, B.J., & MacInnis, D.J. (1986). Strategic brand concept – image
30 management. *Journal of Marketing*, 50(4), 135-145.
31
32 Polonsky, M.J. (1994). Green marketing regulation in the US and Australia: The
33 Australian checklist. *Greener Management International*, 5(1), 44-53.
34
35 Podsakoff, P. M., MacKenzie, S. B., Lee, J.Y., & Podsakoff, N. P. (2003). Common
36 method biases in behavioral research: A critical review of the literature and
37 recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
38
39 Ritchie, J.R.B., & Crouch, G.I. (2003). *The competitive destination: A sustainable*
40 *tourism perspective*. Wallingford: CABI Publishing.
41
42 Rowe, T., & Higham, J. (2007). Ecotourism certification in New Zealand: Operator and
43 industry perspectives. In R. Black, & A. Crabtree (Eds.), *Quality assurance and*
44 *certification in ecotourism* (pp. 395-414). Wallingford: CABI.
45
46 Ryu, K., Lee, H.R., & Kim, W.G. (2012). The influence of the quality of the physical
47 environment, food, and service on restaurant image, customer perceived value, customer
48 satisfaction and behavioral intentions. *International Journal of Contemporary*
49 *Hospitality Management*, 24(2), 200-223.
50
51
52
53
54
55
56
57
58
59
60

Schwartz, S.H. (1977). Normative influences on altruism. In L. Bertowitz (Ed.), *Advances in experimental social psychology* (pp. 221-279). New York, NY: Academic Press.

Schlegelmilch, B., Bohlen, G., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing*, 30(5), 35-55.

Wong, C., Lai, K. Shang, K., & Lu, C. (2013). Uncovering the value of green advertising for environmental management practices. *Business Strategy and the Environment*, 23(2), 117-130.

Zeithaml, V.A., Berry, L.L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(2), 31-46.

Zelezny, L.C., & Schultz, P.W. (2000). Promoting environmentalism. *Journal of Social Issues*, 56(3), 365-371.

Appendix

Identificator	Item
Perception of green practices	Adapted from Jeong et al. (2014)
GRE1	I believe that environmentally-certified hotels use recyclable disposable containers
GRE2	I believe that environmentally-certified hotels recycle their waste
GRE3	I think that environmentally-certified hotels have equipment to reduce water consumption
GRE4	I think that environmentally-certified hotels have equipment to reduce energy consumption
Perception of green image	Adapted from Jeong et al. (2014)
GIM1	Environmentally-certified hotels behave in a socially responsible way
GIM2	I think that environmentally-certified hotels are responsible regarding environmental issues
GIM3	I believe that environmentally-certified hotels are concerned about environmental conservation
GIM4	I think that environmentally-certified hotels not only care about generating profits but also about the environment and consumers
Stay intention	Adapted from Gao et al. (2016)
STA1	I intend to stay in an environmentally-certified hotel
STA2	I am planning to stay in an environmentally-certified hotel
STA3	I will make an effort to stay in an environmentally-certified hotel
Intention to spread word-of-mouth	Adapted from Gao et al. (2016)
WOM1	I often recommend environmentally-certified hotels
WOM2	I usually mention services provided by environmentally-certified hotels to other people
WOM3	I only have positive comments about environmentally-certified hotels
WOM4	I have described my experience with environmentally-certified hotels to more people compared to that with non-certified hotels
Willingness to pay a premium	Adapted from Gao et al. (2016)
PAY1	It is acceptable to pay more to stay in an environmentally-certified hotel
PAY2	I am willing to pay more to stay in an environmentally-certified hotel

Environmental consciousness	Adapted from Huang et al. (2014)
ENC1	I feel frustrated when I think of hotel companies that carry out their business activities by polluting the environment
ENC2	When two hotel companies are similar, I tend to select the one that harms the environment less, even if it is more expensive
ENC3	If the services provided by a hotel industry seriously damage the environment, I will refuse to purchase them
ENC4	When choosing a hotel company, I always select the one with environmental certification, even if it is more expensive
ENC5	I regularly recycle at home
ENC6	I often purchase products that use less paper or cardboard for packaging
ENC7	I am conscious about the actions I can take to improve the environment
ENC8	I am usually informed about environmental issues