Factors influencing willingness of customers of environmentally friendly hotels to pay a Price Premium

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Abstract

Purpose– The purpose of this paper is to investigate the influence of customers' environmental concerns, customers' perceptions of a hotel's environmental practices, and of the hotels' environmentally friendly images, on customers' willingness to pay a Price Premium to stay at environmentally friendly hotels.

Design/methodology/approach- The theoretical framework comprises both Social Identity Theory and Value-Belief-Norm Theory. The data was collected from a survey conducted on 454 customers staying at eco-friendly hotels in Spain. The research model is tested by using a structural equation modelling approach.

Findings- The findings illustrate that customers' environmental concerns have a greater explanatory value on their willingness to pay a Price Premium than do their perceptions of the hotels' environmental practices. Furthermore, these causal relationships are similar in magnitude when considering the mediating effects of the hotels' environmentally eco-friendly image and the environmental practices.

Practical Implications - The empirical findings provide managers with a better understanding of how customers' environmental concerns and their own sense of identification with

environmentally friendly hotels influence customers' behavioural intentions towards willingness to pay a premium.

Originality/Value- The paper contributes to the literature by highlighting those cognitive processes that influence the customers' willingness to pay a Price Premium to stay at environmentally friendly hotels. Hence, the study provides valuable information to hotel managers.

Keywords: Social Identity Theory, Value-Belief-Norm Theory, Willingness to Pay a Price Premium, Environmental Concern, Environmental Practices.

Introduction

Global climate change, substantial levels of pollution, high consumption of resources, and ozone depletion justify the concern over environmental problems worldwide. Hotels exert a high environmental impact by consuming a large amount of energy and water, and by generating a great amount of waste and CO_2 emissions (UNWTO, 2008). The growing awareness of this environmental damage has led hoteliers to increasingly develop and promote environmentally friendly practices (Kasim, 2006; Kim and Choi, 2013; Mbasera *et al*., 2016; Tang and Lam, 2017; Teng *et al*., 2018) and integrate environmental management into their corporate structures and organizational cultures (Chan, 2011; Rashid *et al.*, 2014; Trang *et al.*, 2019).

Consumers who are aware of the adverse environmental consequences of products, or who are interested in, or concerned about, environmental issues are called green consumers (Laroche *et al*., 2001). Eurobarometer data shows that these consumers make up a market segment of increasing importance (Falk and Hagsten, 2019), for example, green customers show intentions to visit, to pay a Price Premium, to revisit and to recommend eco-friendly hotels (Kim and Han, 2010; Tang and Lam, 2017; Trang *et al.*, 2019; Wu *et al.*, 2016). Academic research shows that

environmentally friendly practices have positive effects on a firm's image and reputation leading to a high level of customer trust and identification with the company, which, in turn, contributes to better customer satisfaction and loyalty (Fu *et al.,* 2014; Kucukusta *et al.,* 2013; Martínez and del Bosque, 2013). The influence of environmentally friendly practices on loyalty, intention to revisit, and on recommendations has been widely studied (Dutta *et al*., 2008; Hu *et al.,* 2010; Kang *et al.,* 2012).

However, further research is needed to understand customer willingness to pay a Price premium (extra money) for environmentally friendly products or services, since existing research remains inconclusive (Chou and Chen, 2014; Kang *et al.,* 2012; Manaktola and Jauhari, 2007; Zhang *et al.*, 2014). We argue that this is due to the limited understanding of customers' Environmental Concern, as a variable towards understanding the importance ascribed to environmental practices by consumers. Although Environmental Concern has been widely measured by using the New Ecological Paradigm scale (NEP) (Johnson *et al*., 2004; Kang *et al.*, 2012), this study adopts the Value-Belief-Norm (VBN) theory in order to explain Environmental Concern in relation to consumers' (egoistic, social-altruistic, and biospheric) value orientations. In VBN theory, the Environmental Concern scale reflects consumers' opinions based on their value orientations in contrast with the NEP scale, which reflects values and world views of a more general nature (Hansla *et al.,* 2008).

We further argue that the impact of a hotel's environmentally friendly image, as a mediating factor in the relation between Perception of environmental practices and willingness to pay a Price Premium remains insufficiently understood in relation to environmental matters. A hotel's image is the most relevant intangible asset that can be employed to influence customers' perceptions of the operations and communications conducted by the company (Kang and James, 2004; Nguyen and LeBlanc, 2001). Hence, a positive perception of environmental initiatives will positively influence hotel image perception and, therefore, will reinforce a

customer's identification with the company and, in turn, foster loyalty and advocacy (Maignan *et al.,* 1999; Rust and Oliver, 2000).

This study also contributes towards the literature since it uses Social Identity Theory to support and explain the significant relationships found. The use of Social Identity Theory to explain the relationship between 'Environmental Concern' and 'willingness to pay a Price premium for environmentally friendly hotels' constitutes the originality of this study. Previously, Social Identity Theory has been used to explain that people who feel a strong degree of congruence with those companies engaged in environmental practices are more likely to have a favourable behavioural intention towards those practices and therefore would lead to a willingness to pay a Price Premium for the companies' products or services (Du *et al.*, 2007; Hong *et al.,* 2010; Lichtenstein *et al.,* 2004). Social Identity Theory has also been applied in the tourism industry to predict behavioural intentions (Brown *et al.,* 2010; Kang *et al.,* 2012; Namkung and Jang, 2017). However, Social Identity Theory has not been used to explain the extent to which customers' Environmental Concerns influence their perceptions of the companies' environmental practices, nor whether this in turn influences their willingness to pay a Price Premium for the services provided by those companies.

Traditionally, environmental behavioural intention has been explained using Social Identity Theory, which adopts a rather narrow conceptual lens, without considering the relationship between organizations and individuals explicitly in terms of the individuals' environmental concerns based on their value orientations (egoistic, social-altruistic, and biospheric values). VBN theory and Social Identity Theory are both used herein to explain the customers' environmental behavioural intentions as a result of their environmental concerns based on their values; the study uses an environmental concern construct not previously measured in the hospitality industry (Huang and Liu, 2017; Teng *et al.,* 2018). It is expected that environmentally concerned customers will positively evaluate an organisation's environmental

practices and, therefore, behave favourably towards that company resulting in the company gaining a competitive advantage in the marketplace.

Hence, the study aims to address the following research questions: 1) Does customer environmental concern positively influence: a) their willingness to pay a Price Premium to stay at an eco-friendly hotel; and b) their evaluation of the hotel's environmental practices? 2) Is the influence of Environmental Concern on willingness to pay a Price Premium enhanced when a customer has a good perception of a hotel's eco-friendly practices? 3) Does the perception of a hotel's eco-friendly practices influence a customer's view of that hotel's image and, correspondingly, their willingness to pay a Price Premium? 4) Is the influence of the perception of environmental practices on willingness to pay a Price Premium reinforced when a hotel has a favourable image?

Literature Review

Environmental Concern and willingness to pay a Price Premium in eco-friendly hotels

A fundamental premise of consumer behaviour is that consumers develop certain attitudes towards products or concepts that reveal their preferences and, consequently, their actual behaviours (Mooradian *et al.,* 2012). Multiple approaches have emerged to explain the progression from attitudes to behaviours, such as the Theory of Planned Behaviour, Social Identity Theory, the Means-End Theory, and the Norm Activation Model, later extended to create VBN theory. Environmental behavioural intention has been commonly defined as a manifestation of multiple individual actions, namely political and social, recycling, and green consumption and knowledge (Thapa, 2010). Environmental behavioural intention generally refers to the likelihood of customers to recommend, revisit, and pay a Premium for environmentally friendly products and services. Willingness to pay a Price Premium, on the other hand, refers to the amount of money a consumer would be willing to pay for perceived

additional features of a product or service, in this case in relation to environmental benefits (Han *et al.*, 2009; Lee *et al*., 2010). Environmental behavioural intention has been measured through factors such as willingness to behave in an environmentally responsible way (e.g. green consumerism), eco-management, involvement in civic actions and environmentally friendly practices, intentions to return, willingness to recommend, and willingness to pay a Price Premium for a product (Bigne *et al.,* 2001; Chiu *et al*., 2014; Handriana and Ambara, 2016; Lee *et al.*, 2005).

The Theory of Planned Behaviour (Ajzen, 1991; Fishbein and Ajzend 1975) has been applied to multiple behavioural fields to explain which factors determine the performance of a certain pro-environmental behaviour (Choo *et al.*, 2016; Wang *et al.*, 2016/2018). For this theory, future behaviour is mainly predicted by behavioural intention, which, in turn, is explained by three predictors: first, an individual's attitude toward a behaviour, which is determined by their global evaluation of performing that behaviour; second, the subjective norm that reflects the social pressure perceived by an individual regarding the performance of a certain behaviour; and, third, the perceived behavioural control that captures an individual's perception of their abilities and resources to perform a behaviour. Thus, the Theory of Planned Behaviour has been employed to investigate the factors that influence the consumer's behaviour related to willingness to pay a Price Premium for environmentally friendly products (Choo *et al.,* 2016; Han *et al.,* 2011). Kim and Han (2010) using an extended Theory of Planned Behaviour, found that Environmental Concern, social pressure, and the perceived ease of engaging in the behaviour, all led customers towards a willingness to pay the *same price* for environmentally friendly hotels as for conventional hotels, but not a premium.

In the hospitality industry, we argue that the Theory of Planned Behaviour, even when extended, may not be the most appropriate avenue towards understanding the reasons behind customer choices in relation to the environment (see Ajzen, 2011, for a series of criticisms),

since it is based mainly on the cognitive and conative dimensions of one's environmental attitude. Thus, by focusing on customers' affective dimensions, with respect to the organisation with which they are engaging, Social Identity Theory may provide answers of a more meaningful nature to explain behaviours (such as willingness to pay a Price Premium). Moreover, for contexts such as the hospitality industry, in which relationships between customers and organisations are significantly influenced by pro-environmental behaviour, Social Identity Theory appears to be more appropriate than the Theory of Planned Behaviour (Kim *et al*., 2019; Rather *et al*., 2019). Social Identity Theory is apparently more suitable since it assumes that people tend to associate themselves with organisations whose activities are enduring, differentiated from others, and capable of increasing customers' self-esteem (Bhattacharya and Sen, 2004; Tajfel and Turner, 1986). In circumstances where environmentally friendly practices can be considered as attributes that differentiate a product or service, those customers who more closely identify with a company, as a result of their concern for environmentally sustainable practices, are more likely to purchase products or services from that company, which in turn satisfies their self-esteem. Multiple studies have used Social Identity Theory to explore the relationship between customers' attitudes and their behaviours, with respect to environmental practices (Brown *et al*., 2010; Manaktola and Jauhari, 2007; Tuan, 2018). Consistent with Social Identity Theory, customers who manifest a strong congruence with hotels engaging in environmentally friendly initiatives have been shown to demonstrate positive behavioural intentions towards the hotel and a higher willingness to pay a Price Premium (Kang *et al.*, 2012; Namkung and Jang, 2017).

In addition, we adopt VBN theory to explain Environmental Concern. VBN theory assumes that people believe, and are concerned about, the consequences of environmental issues for themselves (egoistic beliefs and concerns), others (social-altruistic beliefs and concerns), or for the planet (biospheric beliefs and concerns). Both the scales of Environmental Concern and

Awareness of Consequences have been developed under VBN theory (Hansla *et al.,* 2008; Ryan and Spash, 2010; Schultz, 2000). These scales have been successfully applied in the environmental context to explain certain environmental behavioural intentions, such as willingness to sacrifice and policy acceptability (Stern *et al.,* 1993; Stern *et al.,* 1999/2005).

Hansla *et al*. (2008) pointed out that the constructs Environmental Concern and Awareness of Consequences appear to be treated as interchangeable in the literature whereas they are conceptually different; Environmental Concern refers to an attitude toward, or an evaluation of, environmental issues, while Awareness of Consequences refers to having an awareness of, or beliefs about, potential future world states (e.g. "thousands of species will die within the next few decades"). In addition, Ryan and Spash (2010) pointed out that, when using the Environmental Concern scale, individuals cognitively differentiate between egoistic, social-altruistic, and biospheric consequences, which is a different outcome to that of the Awareness of Consequences scale, which measures an alternative cognitive process. In fact, Ryan and Spash (2010) suggest that the Awareness of Consequences scale cognitively differentiates between the costs/benefits and action/inaction of environmental issues. To summarise, while the Awareness of Consequences scale refers to certain beliefs about the adverse consequences of not acting in a pro-environmental way, the Environmental Concern scale is closer to a favourable attitude towards environmental issues (Hansla *et al.,* 2008). Hence, the Environmental Concern scale is a more appropriate tool towards understanding concerns about environmental issues and the potential for these to influence pro-environmental behaviour.

Based on the discussion above, Social Identity Theory and VBN theory are used in this paper to constitute a social-environmental, psychological framework for the analysis of the relationship between customers' Environmental Concern and their willingness to pay a Price Premium. In the context of this study, and according to Social Identity Theory, customers strongly identify with organizations that have similar Environmental Concerns to their own.

Accordingly, VBN theory complements Social Identity Theory to capture the role played by customers' value-oriented environmental concerns in evaluating hotels' environmental practices and, thereby, their willingness to pay a Price Premium to stay at those hotels. Hence, we assume that customers declaring a high degree of concern about environmental issues are more likely to choose a hotel that promotes its environmentally friendly initiatives, as well as more likely to report a willingness to pay a Price Premium for environmentally-friendly services. Furthermore, we argue that customers with a high degree of Environmental Concern are more likely to make a positive evaluation of the hotel's environmental initiatives and the hotel's environmentally friendly image. This, in turn, will lead to those customers to have a greater willingness to pay a Price Premium for hotels that introduce such initiatives (Kang *et al.*, 2012; Martínez *et al.*, 2018). Based on previous arguments, in the conceptual model (Figure 1), VBN theory (through the Environmental Concern variable) has been explicitly added to those relationships derived from Social Identity Theory (namely hotel environmental practices, hotel environmental images, and willingness to pay a Price Premium) and the following hypotheses are postulated:

H1: Customers' Environmental Concern positively influences a customer's willingness to pay a Price Premium to stay at an environmentally friendly hotel.

H2: Customers' Environmental Concern positively influences their perception of environmental practices in a hotel.

H3: Customers' Environmental Concern positively influences their willingness to pay a Price Premium through the perception of environmental practices in a hotel.

Image and willingness to pay a Price Premium in eco-friendly hotels

A company's image is commonly defined as a mental representation, or perception, that customers hold of that company (Jeong *et al.*, 2014; Nguyen and Leblanc, 2001). A hotel's

eco-friendly image refers to customers' perceptions of its eco-friendly environmental practices and performance; these factors are critical to differentiate one hotel from another (Nysveen *et al.,* 2018). Chen (2010) associated customers' perceptions of a brand with the brand's environmental commitments and environmental concerns. Therefore, we argue that one's concern about the environment influences one's expectations of a hotel (in relation to its environmental practices), which in turn influences one's impression of the hotel's environmentally friendly image (in relation to how one's concerns are satisfied by the hotel), and ultimately results in one having a higher willingness to pay a Price Premium.

Stakeholder theory helps us to understand that organisations are expected to satisfy a broad range of stakeholder economic (e.g. market and financial performance), and non-economic (e.g. social and environmental performance) expectations (Maignan and Farrell, 2004; Pirsh *et al.,* 2007). Although satisfying stakeholder expectations is often positively correlated with consumer purchasing behaviour (Martínez and del Bosque, 2013), this is not always the case (Boulstridge and Carrigan, 2000; Manaktola and Jauhari, 2007). We argue that the study of a hotel's environmentally friendly image can shed some light on this matter.

An organisation's image results from the perceptions that stakeholders have, in relation to the expectations they previously had of the company (Pomering and Dolnicar, 2009). An organisation's image exerts an impact on its customers' perceptions of the communications and operations of that organisation (Kang and James, 2004). The image is affected by tangible and intangible aspects of the organisation, including the stakeholders' perceptions of the organisation's values and motives. According to Social Identity Theory, customers who perceive that a company acts in a responsible manner identify more closely with that company and, therefore, are more engaged with the organisation in the form of customer loyalty and advocacy (Tajfel and Turner, 1986). Empirical evidence regarding customer perceptions of environmental practices supports this theory (Du *et al.,* 2007; Hong *et al.,* 2010). This is

because customers value the environmental efforts of those companies and assume that they have desirable characteristics congruent with their sense of self. This, in turn, fosters customers: i) to identify with the company (Lichtenstein *et al.*, 2004; Maignan and Ferrell, 2004; Tuan, 2018); and ii) to have favourable consumer behavioural intentions (Nikbin *et al.*, 2010). Furthermore, in the tourism industry, Lee *et al.* (2010) report that although a hotel's positive environmentally friendly image can enhance the likelihood of favourable customer behavioural intentions (such as positive recommendations and high likelihood to revisit), these customers also have a high willingness to pay a Premium to stay at such environmentally friendly hotels. Hence, we articulate four further hypotheses, and visualise all the hypotheses in Figure 1:

H4: A positive perception of a hotel's environmental practices positively influences a customer's willingness to pay a Premium for that hotel.

H5: A positive perception of a hotel's environmental practices enhances the hotel's positive environmentally friendly image.

H6: A hotel's positive environmentally friendly image influences a customer's willingness to pay a Premium to stay at such a hotel with environmentally friendly practices.

H7: A favourable perception of a hotel's environmental practices positively influences a customer's willingness to pay a Price Premium to stay at that hotel, when the environmentally friendly practices have enhanced the hotel's environmentally friendly image.

[Insert figure 1 about here]

Methodology

Questionnaire design

A survey was employed to measure customers' Environmental Concern and their perceptions of the hotels' environmental practices, their perceptions of the hotels' environmentally friendly image, and their willingness to pay a Premium to stay at environmentally friendly hotels. Following the guidelines proposed by Churchill (1979), this study adopted scales previously validated in the literature and adapted to the context of this study with: i) a group of 5 managers at environmentally friendly hotels; and ii) a group of more than 20 randomly chosen hotel customers. The role of both groups was to test potential incongruences detected in the survey questions and, thereby, to ensure the reliability of the measurement. Based on feedback from the managers and customers, certain questionnaire items were slightly modified.

The Environmental Concern scale was adopted from Schultz (2000). It includes three value-based environmental concerns: egoistic, social-altruistic, and biospheric. Egoistic values predispose people to protect the environment in situations where it affects them personally or where they perceive a high cost for not protecting the environment. Social-altruistic values relate to concerns for environmental issues that result from the costs or benefits for others rather than for oneself. Biospheric values encourage environmental concern for all living things (Stern and Dietz, 1994).

Customers' perceptions of a hotel's environmental practices as a latent variable were measured by adapting the measurement scale for the environmental dimension of the corporate social responsibility construct employed by Martínez and del Bosque (2013). Perceptions of the hotels' environmentally friendly images were measured using the measurement scale of Chen (2010), adapted to the context of environmentally friendly practices. The variable for the measurement of the willingness to pay a Price Premium was based on the behavioural intention literature review by Zeithaml *et al.* (1996) and the scale validated by Leet *et al.* (2010). The four measurement scales (for Environmental Concern, perception of hotel environmental practices, hotel environmentally friendly image, and willingness to pay a premium) each used

a seven-point Likert Scale ranging from completely disagree (1) to completely agree (7), while the scale employed to measure the hotels' environmentally friendly practices ranged from very negative (1) to very positive (7). The survey questions, for all the variables, are shown in Table 1.

Data collection

The target population comprised customers who had stayed at a selection of Spanish five-star urban hotels labelled Eco-Leaders by TripAdvisor, where the hotel managers had agreed to participate in this study. These hotels reduce energy and water consumption, reduce waste production and greenhouse gas emissions, use sustainability criteria in their purchasing decisions, and train staff about sustainability, amongst other factors. Data was collected by the hotels' front desk staff, who randomly asked checkout customers about their willingness to participate voluntarily and anonymously in the research. Data was collected over a twelve-month period, during which time 454 usable responses (57.2% valid response rate) were collated, and 42% of the respondents were female and 58% male. While 73% travelled in couples or families, 27% travelled alone; 63% were educated to university degree or high school diploma level.

Data Analysis

Partial Least Squares, a variance-based structural equation modelling (PLS-SEM) approach, was applied to explore the relationships that appeared in the research model (Figure 1). This approach was chosen for four reasons (do Valle and Assaker, 2016). First, variance-based structural equation modelling is better suited to exploratory studies like this one than is covariance-based SEM. Second, the presence of composites in either Mode A or Mode B suggested the use of PLS-SEM in this study (see Hair *et al.,* 2017). Composite measurement models were selected for all the study's variables since each construct was made up of

indicators representing different facets or dimensions (Rigdon, 2012). The latent variables (environmental practices, hotel environmentally friendly image, and willingness to pay a Price Premium) were each modelled as composites estimated in Mode A (correlation weights), since the variables' indicators were correlated (Henseler, 2017). The non-latent variables (environmental concern and the egoistic, social-altruistic, and biospheric constructs) were modelled as composites and estimated in Mode B (regression weights), since their internal consistencies could not be assumed. Third, PLS allows hierarchical models to be modelled with both first-order and second-order constructs (Wold, 1985). In the research model, the latent variables were defined as first-order constructs. However, Environmental Concern was defined as a second-order construct that included three first-order constructs, namely, Egoistic (Ego), Social–Altruistic, and Biospheric (Bio) dimensions. The definition of Environmental Concern as a second-order construct was obtained by applying the two-stage approach (Hair *et al.,* 2017). Fourth, PLS enables complex models to be tested, such as the case of our research model, where direct and mediating effects need to be analysed. For the data analysis, SmartPLS v.3.2 software (Ringle *et al.,* 2015) was employed.

Results

Measurement Model

In general, an assessment of the measurement model reveals whether the theoretical concepts or constructs have been measured correctly through the items observed. Such an assessment provides different results depending on whether the construct was estimated in Mode A (correlation weights) or Mode B (regression weights). For this study, the assessment of the measurement model for the composites estimated in Mode A (Environmental practices, Hotel environmentally friendly image and willingness to pay a Price Premium) entailed an evaluation of the their validity and reliability (Hair *et al.,* 2017), whereas the measurement model for the

composite estimated in Mode B (Environmental Concern) was assessed at the indicator level (multicollinearity and weight assessment) for both the lower-order construct dimensions and the higher-order construct.

[Insert Table 1 about here]

Table 1 shows that the indicators of Mode A composites meet the reliability and convergent validity requirements: the outer loadings are higher than 0.7, composite reliabilities (CR) are greater than 0.8, and the Average Variances Extracted (AVEs) exceed the 0.5 level. Table 2 shows that all Mode A composites achieve discriminant validity following the Heterotrait-Monotrait (HTM) ratio of correlation criterion (Hair *et al.,* 2017). The HTM ratio inference tests show that none of the confidence intervals contain the value one; hence, each construct is distinct from any other (Henseler *et al.,* 2016).

[Insert Table 2 about here]

The composite Mode B (Environmental Concern) is assessed at the indicator level (multicollinearity and weight assessment) for both the lower-order dimensions (Egoistic, Social-Altruistic, Biospheric) and the higher-order (Environmental Concern) construct. As Table 3 shows, the maximum values of the Variance Inflation Factor (VIF) are all below 2.5, which indicates that the items have no multicollinearity problems (Diamantopoulos and Siguaw, 2006). The magnitude and significance of the weights were subsequently checked via the bootstrapping technique by providing p-values and 95% confidence intervals. We observe that all indicators have significant weights.

[Insert Table 3 about here]

Structural Model

The potential multicollinearity between the constructs was analysed first. The results show that, for each partial, multiple regression, the VIF index for the exogenous constructs is below three and hence no multicollinearity problems are detected between the exogenous constructs of each endogenous variable involved in the research model. We then analysed the structural model's direct relations (baseline model) and the model's indirect relations. The indirect effects are expressed as the product of the coefficients of each of the direct causal relations involved in the mediating path (Hayes and Scharkow, 2013). Figure 2 displays the details of the path coefficients and Table 6 shows the path coefficients (including direct and mediating effects). To test for the significance of the path coefficients, a bootstrapping procedure with 5,000 subsamples was used; this generated t-statistics and confidence interval bias, corrected at 95% (Table 4), as suggested by Hayes and Scharkow (2013). The structural model results are also displayed in Figure 2.

[Insert Table 4 about here]

[Insert Figure 2 about here]

Table 4 summarises the following results: Environmental Concern, the perception of the hotel's environmental practices, and the hotel's environmentally friendly image each have a positive and significant influence on willingness to pay a Price Premium (β_1=0.432, t=3.867; β_4=0.287, t=5.842; β_6=0.158, t=2.065, respectively), thus supporting hypotheses H1, H4, and H6. The perception of the hotel's environmental practices has a significant and positive influence on the hotel's environmentally friendly image (β_5=0.790, t=12.31), which in turn supports hypothesis H5. The influence of Environmental Concern on willingness to pay a Price Premium, through the perception of the hotel's environmental practices, is significant (β_3=0.1286, t=4.976), hence hypothesis H3 is also supported. The mediating role of the perception of the hotel's environmental practices strengthens the direct influence of

Environmental Concern on willingness to pay a Price Premium, leading to a total effect of 0.561 (i.e. $\beta_{\text{total effect}}$ =0.561= ($\beta_{1\text{direct effect}}$=0.432 + $\beta_{3\text{indirect effect}}$=0.129)). Likewise, a positive and significant influence of the perception of the hotel's environmental practices on willingness to pay a Price Premium through the hotel's environmentally friendly image is found (β_7=0.125, t=3.976). Hence, hypothesis H7 is also supported. Finally, the hotel's environmentally friendly image is a mediator that enhances the influence of the perception of the hotel's environmental practices on willingness to pay a Price Premium, with a total effect of 0.4538 ($\beta_{\text{total effect}}$= 0.4538= ($\beta_{4\text{direct effect}}$ =0.287 + $\beta_{7\text{inidrect effect}}$=0.125)).

Table 4 also reports the coefficient of determination (R2) of the endogenous variables and the cross-validated redundancy measure (Q2) to examine the predictive relevance of the research model (Hair *et al.*, 2017). All the Q2 values are positive, thereby indicating predictive relevance for the endogenous constructs of the research model (perception of environmental practices, hotel environmentally friendly image, and willingness to pay a Price Premium). The standardised root mean square residual (SRMR) was employed to evaluate the model's goodness of fit. The model specification shows a good fit since SRMR is 0.035, well below the standard threshold of 0.10 and the more conservative threshold of 0.08 (Hu and Bentler, 1999).

Conclusions

This study investigates the influence of customers' Environmental Concerns, their perceptions of hotels' environmental practices, and these hotels' subsequent environmentally friendly images, on the consumers' willingness to pay a Price Premium to stay at these hotels. This research has been designed using Social Identity Theory and VBN theory to fill a gap in the literature regarding the identification of factors that influence customers' behavioural pro-environmental behaviour intentions, defined here as their willingness to pay a Price Premium to stay at environmentally friendly hotels. The study explores the main effects of predictor

variables, as well as the mediating effects derived from the research model. Although Environmental Concern has been widely measured by using the NEP scale (Johnson *et al*., 2004; Kang *et al.*, 2012), this study adopts the VBN scale to measure Environmental Concern by assuming, according to VBN theory, that Environmental Concern is biased towards an individuals' value orientations.

The study finds a positive and significant relationship between Environmental Concern and a willingness to pay a Price Premium. Hence, the findings demonstrate that customers' value-based self-perceptions of environmental practices influence their behavioural intentions, as predicted by Social Identity Theory. Those customers with a higher than average level of Environmental Concern are better placed to evaluate hotels' environmentally friendly practices. This is the first hospitality study that establishes a relation between Environmental Concern and Perception of Environmental Practices by integrating both VBN theory and Social Identity Theory.

Respondents who declared a greater Environmental Concern according to their values also stated that they were more willing to pay a Price Premium to stay in hotels undertaking environmentally friendly practices. This in turn makes these hotels distinctive and capable of making customers identify with their environmentally-friendly practices (Bhattacharya and Sen, 2004; Kang *et al.*, 2012; Maignan *et al.*, 1999). The study also shows respondents are willing to pay a Price Premium to stay in environmentally friendly hotels when they have a positive perception of the hotel's commitment towards such environmental practices. Regarding the mediating role of the hotel's image, the respondents' perceptions of the hotels' environmental practices had a greater influence on their willingness to pay a Price Premium in cases when they had a positive image of the hotels' environmental practices. This finding is consistent with the previous literature that also found that customers' positive perceptions of environmental practices positively influences the environmentally friendly image of the hotels

and therefore these customers declare favourable behavioural intentions towards the hotel (word-of-mouth, willingness to pay a premium, and intention to revisit), which in turn enhances the hotel's competitiveness (Han *et al.,* 2009; Lee *et al.,* 2010).

These findings are consistent with previous research that showed that environmentally concerned customers declare a higher willingness to pay a Price Premium to stay in environmentally friendly hotels (Kang *et al.,* 2012). It is important to highlight that Environmental Concern has a much greater explanatory value than does the customers' perceptions of the environmental practices on willingness to pay a Price Premium, when the main effects of these explanatory variables are considered. However, the explanatory power of both antecedents (Environmental Concern and Perception of environmental practices) on willingness to pay a Price Premium is similar when considering the total effects of the antecedents. This last finding can be explained by the strong influence of the perception of a hotel's environmental practices on its environmentally friendly image.

Theoretical implications

This study contributes to the hospitality literature in numerous ways. It highlights both the importance of achieving a good understanding of the cognitive processes that influence pro-environmental behavioural intentions, and the importance of selecting appropriate measurement techniques. A conceptual framework is developed herein to explain the influence of consumers' Environmental Concerns on their willingness to pay a Price Premium. In doing so, this study frames the explanation behind the relations established in the research model through Social Identity Theory and VBN theory. Under Social Identity Theory, the perception of a hotel's environmental practices is evaluated positively if customers find the hotel's behaviour to be congruent with their own Environmental Concern (Bhattacharya and Sen, 2004; Ho *et al.*, 2012). The findings further validate the rationale behind VBN theory, in that

individual value orientations bias the information that is congruent with those values, which in turn influence their environmental perceptions, and their behavioural intentions.

This paper addresses the gap in the literature on the relationship between the Environmental Concern and the willingness to pay a Price Premium for environmentally friendly services (Serra-Cantallops *et al.*, 2018). The meaning of Environmental Concern remains largely under-researched, and only limited empirical evidence can be found in the hospitality literature regarding the relationship between consumers' Environmental Concerns and their willingness to pay a Price Premium for environmentally friendly services (Kang *et al.*, 2012). How people cognitively structure beliefs regarding adverse environmental consequences, which in turn influences their environmental behaviour, is a difficult task to explore (Hansla *et al.*, 2008; Ryan and Spash, 2010). To the best of our knowledge, no previous studies have analysed how the degree of hotel customers' Environmental Concern, in terms of their value orientations, influences how they perceive the hotel's environmental practices. To fill this gap, we have analysed in depth how Environmental Concern is measured through VBN theory.

Previous studies that analyse the relationship between perceptions of an organisation's environmental practices and willingness to pay a Price Premium remain inconclusive (Agarwal and Kasliwal, 2017). Hence, we contribute to the literature by showing that consumers' consciousness influences their perception of environmental practices by others, which in turn influences their willingness to pay a Price Premium. Not only should the main effect of Environmental Concern and perception of a hotel's environmental practices on behavioural intention be borne in mind, but also the mediating role of the perception of a hotel's environmental practices in the relationship between Environmental Concern and willingness to pay a Price Premium.

Although empirical evidence can be found that examines the relationship between image and behavioural intention (Han *et al.,* 2009; Lee *et al.,* 2010; Namkung and Jang, 2017), our study has integrated this relationship with the framework of Social Identity Theory. This study therefore contributes to the literature by further examining the relationship between having an environmentally friendly image and customers' willingness to pay a Price Premium for a hotel's services, by considering the mediating effect of the hotel's environmentally friendly image on consumers' perception of the hotel's environmental practices and their willingness to pay a Price Premium.

Practical implications

This study also offers significant implications for environmentally friendly hoteliers. The findings provide managers with a better understanding of how customers' Environmental Concern and their sense of identification with environmentally friendly hotels influence their decision-making processes and therefore their behavioural intentions. Customers with a high degree of concern about the environment perceive that a hotel engaged in environmentally friendly practices acts congruently with what they expect from the hotel. Environmental practices have not always been understood and perceived by customers as valuable in terms of environmental protection, but instead they have been perceived as a cost-reduction business strategy (Hu and Wall, 2005; Leonidou *et al.,* 2013).

Hoteliers need to learn to market their products in such a way that their environmentally friendly practices are not perceived as being achieved at the expense of any other set of benefits. Hoteliers ought to explore methods to persuasively communicate their environmentally friendly practices that resonate with consumers' values and social identities in relation to their environmental concerns, while, at the same time, they should not put off other customer segments that share the same hotel but do not hold the same values (Font and McCabe, 2017).

The literature has identified that over 70% of sustainability actions are not communicated (Font *et al.*, 2017) despite the many cost-effective opportunities that exist to communicate sustainability actions more persuasively (Villarino and Font, 2015). Hoteliers must learn how to take advantage of their customers' behavioural intentions and ensure that they adequately communicate their concerns for the environment to the target market, whether for the benefit of themselves, others, or of the planet. Moreover, hotels need to improve their efforts to provide good, highly visible, and accessible communication regarding their environmental practices to all customers both before and during their hotel visit. Specifically, environmentally friendly hotels should improve the design and content of their websites and take advantage of the benefits of social media, such as Instagram, Facebook, and TripAdvisor, as well as of mass communication, such as TV, radio, and newspapers. The hotels' Community Managers should pay more attention to the User Generated Contents (photos, video, stories, reviews, etc.) that accurately reflect their environmental practices not only on the social media networks but also in the travel metasearch engines such as Booking.com.

Limitations and future research

The findings above, and the acknowledgement of several limitations here, lead us to suggest further avenues of research. First, the paper is based on customers staying at environmentally friendly hotels in Spain. Our selection of hotels targeted those that had environmental credentials but did not highlight those credentials in their main distribution channels; this feature contributes towards asserting the value of the findings (Pomering and Dolnicar 2009). However, the findings cannot be generalised to include other locations without further research and, particularly, without considering the customers' awareness of the hotels' environmental practices prior to booking. Second, this study reports on behavioural intentions, and therefore a future quasi-experimental, or experimental, study to test the model would be a priority, especially to test the impact that raising awareness of environmental practices has on

behavioural intentions (Boulstridge and Carrigan, 2000). Third, further research could segment the market according to its independent and dependent variables (Serra-Cantallops *et al.*, 2018), in particular whether the three types of Environmental Concern (self, others and biosphere) result in a different willingness to pay a Price Premium. Fourth, it is important to consider how environmental variables affect consumers' perceptions of service quality, and what influence this variable exerts on overall willingness to pay a Price Premium (Kang *et al.*, 2012; Loureiro *et al.*, 2002). Fifth, we research the role of Environmental Concern from VBN theory but our study does not extend to a consideration of the awareness of environmental adverse consequences. Since these two constructs measure different perspectives, further research into the comparison of the explanatory value of each would also be beneficial (Ryan and Spash, 2010).

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Figure 1. The conceptual framework

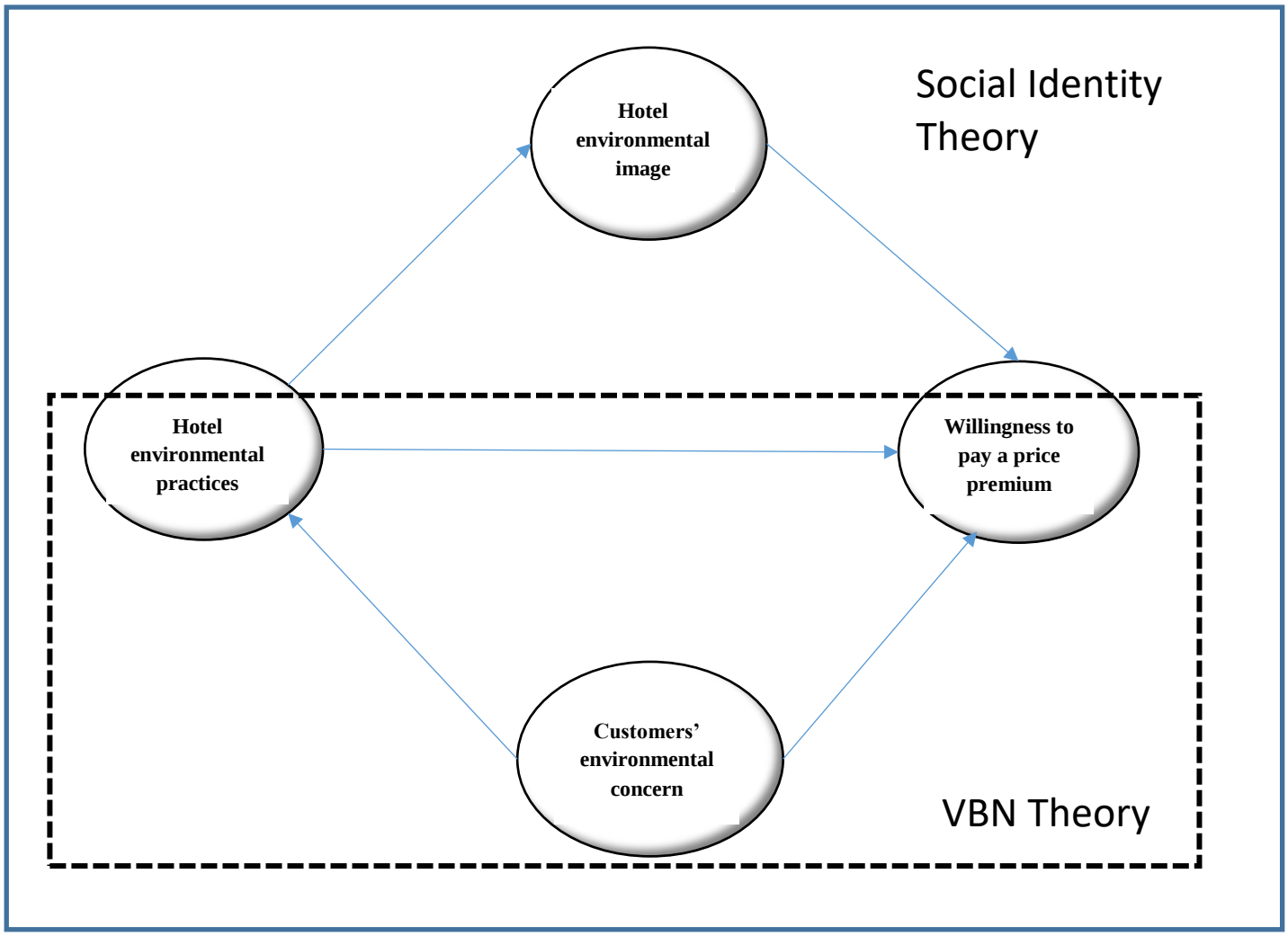

Figure 2. Estimated Research Model

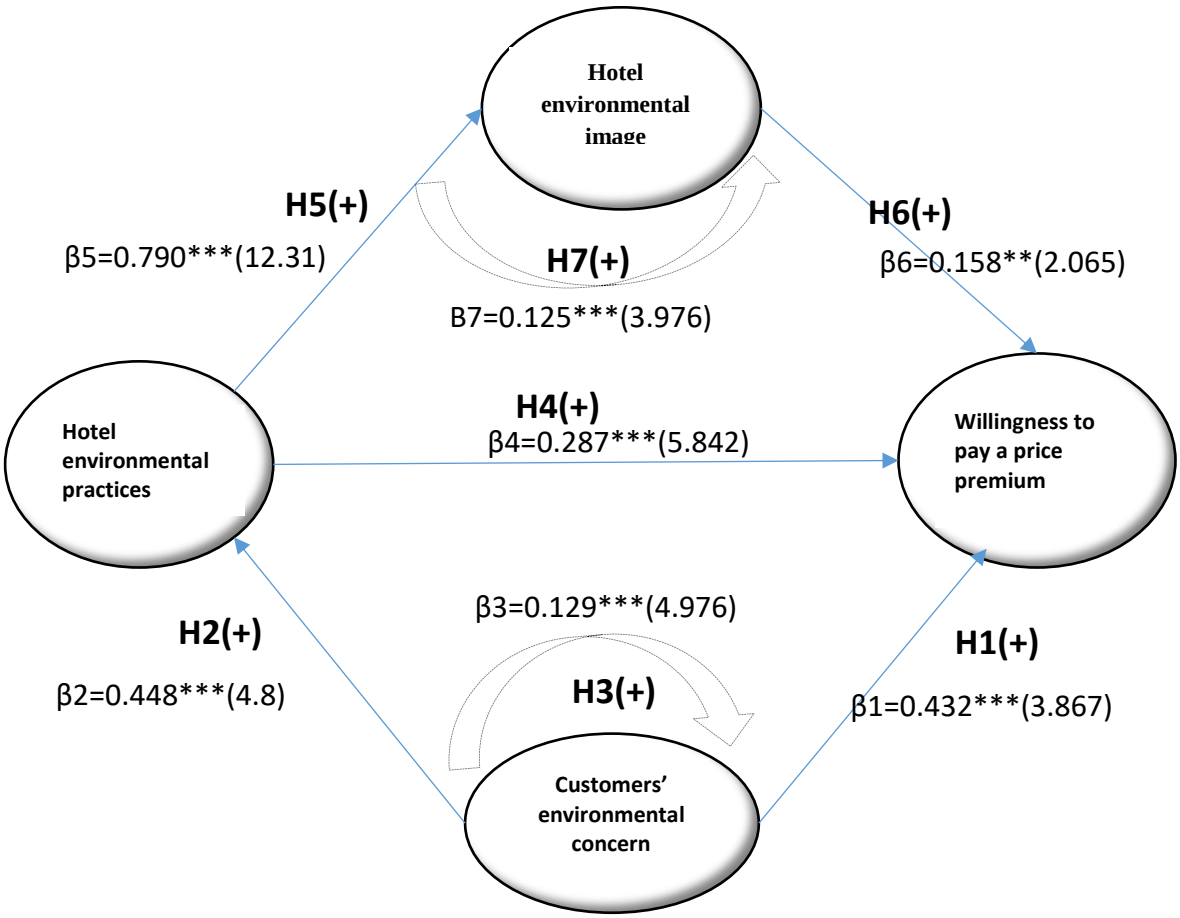

Table 1. Measurement model composite Mode A: Weights, Loadings, Construct Reliability (CR), and Convergent validity and Average Variance Extracted (AVE).

	Weight	Loadings	CR	AVE
Hotel environmental practices (Composite Mode A) **First-order construct**			0.952	0.771
This hotel protects the environment.	0.210	0.901		
This hotel reduces its consumption of natural resources.	0.369	0.892		
This hotel recycles.	0.210	0.913		
This hotel communicates its environmental practices to its customers.	0.326	0.924		
This hotel uses renewable energy.	0.226	0.840		
This hotel conducts annual environmental audits.	0.120	0.668		
This hotel participates in environmental certifications.	0.175	0775		
Hotel environmental image (Composite Mode A) **First-order construct**			0.842	0.649
I regard this hotel as a benchmark/standard of environmental commitment.	0.480	0.880		
This hotel is professional in terms of its environmental reputation.	0.450	0.831		
This hotel is successful in terms of its environmental performance.	0.487	0.853		
This hotel's environmental concern is well established.	0.358	0.785		
This hotel is trustworthy in terms of its environmental promises.	0.251	0.738		
Willingness to pay a Price Premium (Composite Mode A) **First-order construct**			0.904	0.771
It is acceptable to pay a premium to stay at a hotel that engages in environmentally friendly practices.	0.354	0.906		
I am willing to pay more to stay at an environmentally friendly hotel.	0.391	0.791		
I am willing to spend extra in order to support the hotel's effort to be environmentally sustainable	0.406	0.911		

Table 2. Discriminant validity. Composites Mode A

Fornell-Larcker Criterion				Heterotrait-Monotrait ratio (HTMT)		
	Hotel environmental practices	Hotel environmental image	Willingness to pay a Price Premium		Hotel environmental practices	Hotel environmental image
Hotel environmental practices	**0.878**			Hotel environmental practices		
Hotel environmental image	0.582	**0.806**		Hotel environmental image	0.448	
Willingness to pay a Price Premium	0.368	0.389	**0.871**	Willingness to pay a Price Premium	0.425	0.530

Notes: Fornell-Larcker Criterion: Diagonal elements (bold) are the square root of the variance shared between the constructs and their measurements. Off-diagonal elements are the correlations among constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements

Table 3. Measurement model for Mode B composite (Second-order construct). Outer weight and Variance Inflation Factor

Environmental Concern Second-order Construct	Weights	Bootstrapping 95% Confidence Intervals [BC]		VIF
		Lower	Upper	
Egoistic (First-order construct)	0.8082 *	0.328	0.980	1.880
My lifestyle	0.3578*	0.251	0.425	1.254
My health	0.4525*	0.347	0.521	1.110
Social - Altruistic (First-order construct)	0.279*	0.121	0.360	1.848
People in general	0.2879*	0.185	0.357	1.354
People in this community	0.3682*	0.258	0.574	1.430
Biospheric (First-order construct)	0.338 *	0.237	0.537	0.496
Animals	0.4582*	0.124	0.645	2.015
Plants	0.3487*	0.158	0.551	1.892

Notes: BC: Bias Corrected. 5,000 bootstrap samples; * $p<0.05$ (two tailed t-distribution)

Table 4. Hypotheses testing, path coefficients, and confidence intervals

R^2_{CSR} = 0.200 / Q^2_{CSR}= 0.136; R^2_{Image} = 0.811 /Q^2_{image}= 0.490; R^2_{WTP} = 0.281 / $Q^2_{imageWTP}$= 0.182		Bootstrapping 95% confidence interval BCa	
	Path coefficients	Lower	Upper
H1: Customers' environmental concern → Willingness to pay a Price Premium	0.432***(3.867)	0.177	0.661
H2: Customers' environmental concern → Hotel environmental practices	0.448** *(4.836)	0.249	0.563
H3: Customers' environmental concern →Hotel environmental practices→ Willingness to pay a Price Premium	0.129***(4.976)	0.037	0.276
H4: Hotel environmental practices→Willingness to pay a Price Premium	0.287*** (5.842)	0.119	0.569
H5: Hotel environmental practices → Hotel environmental image	0.790*** (12.31)	0.667	0.881
H6: Hotel environmental image → Willingness to pay a Price Premium	0.158**(2.065)	0.047	0.371
H7: Hotel environmental practices→ Hotel environmental image →Willingness to pay a Price Premium	0.125***(3.976)	0.037	0.276

Notes: BCa, Bias Corrected and accelerated; 5,000 bootstrap samples. * p<0.05; ** p<0.01; *** p<0.001 (based on t-statistics, one-tailed test).