How do green attributes elicit guest pro-environmental behaviors?
– The case of green hotels in Vietnam

ABSTRACT

This study aims to identify green hotel attributes and determinants that contribute to guests' intention generation for visiting a green hotel and practicing pro-environmental actions during their hotel stay. The study's results find five dimensions (Customer benefit, Energy efficiency, Water efficiency, Recycling policy and Green characteristic) that underlie 24 green-hotel attributes. Out of the five dimensions, customer benefit, energy efficiency, and green characteristics are found to positively affect pro-environmental value and attitude that in turn enhance intention to practice environmentally-friendly actions and visit a green hotel while pro-environmental value does not trigger pro-environmental attitude. Theoretical and managerial implications are discussed.

KEYWORDS: Green-hotel attributes; perceived value; attitude; intention to practice eco-friendly actions; intention to visit a green hotel

Introduction

In past decades, tourism has experienced continuous growth and diversification and has become one of the world's largest and fastest-growing industries. However, such growth often comes with unsustainable consumption practices that endanger ecosystems and natural resources (Chan, 2013). The potential influences of such development on the environment, along with other global issues such as climate change, global warming, pollution and resource depletion, have become contemporary hot topics within the tourism arena. Therefore, sustainable concepts are applied and promoted widely in the tourism industry.

Vietnam's accommodation and hospitality services continue to be the most critiqued tourism component because of their potential adverse impacts on the environment (Le et al., 2006).

Therefore, Vietnam's government continuously shows its considerable interest in promoting eco-friendly approaches to development in the lodging industry. To achieve that goal, the Ministry of Culture, Sports and Tourism has structured a program to assess the environmental management and protection of accommodations in Vietnam. The program has the sustainable tourism label of Green Lotus. Recently, workshops and training courses have been organized in many cities in Vietnam in order to establish evaluation criteria and issue this label, and to identify feasible solutions for future development (Vietnam National Administration of Tourism, 2015). Previous studies have paid attention to environmental issues with Vietnam's hotel industry from the perspective of hotel management, but no study has explored the customers' viewpoint. Because it is essential to understand the perceptions from both the demand and supply sides of the market, hotel guests' behavioral intentions need to be examined in order to identify their formation process.

Extending this issue into the global hotel industry, relevant studies have simply identified customers' behavioral intentions, which include an intention to visit a green hotel, an intention to revisit, an intention to pay extra for green products and a willingness to spread information by word of mouth (e.g., Han & Kim, 2013; Tang & Lam, 2017; Wu & Cheng, 2016). Some studies have examined hotel guests' participation in specific eco-friendly programs, by conducting an experimental study (Noah, Robert, & Vladas, 2008) and an empirical survey (Smith et al. 2015). The prior literature, however, does not include investigations of the formation of customers' intentions to practice environmentally friendly actions in a green hotel.

Basically, hoteliers need to understand customers' needs and desires through exploring which factors the customers truly consider when choosing a hotel. That consideration becomes especially important for hotel managers who attempt to attract new guests or enter a niche market, such as attracting pro-environment customers. Therefore, many hotels are looking for appropriate

strategies to reduce negative impacts on the environment as well as to create competitive advantages in the green arena.

Chan (2014) reviewed previous green-marketing-related studies and pointed out that there is a scarcity of hotel guests' evaluations of green-hotel attributes. The literature has revealed an inadequate understanding of the link between green-hotel attributes and customers' pro-environment behavioral intentions (Millar & Baloglu, 2011). Noting that prior research has explored hotel guests' preferences for individual attributes of green hotels, Millar and Baloglu (2011) identified the bundles of green-hotel attributes and investigated customers' likes toward these attributes. However, they admitted that their green-hotel attribute list was not exhaustive. This study thus attempts to address that gap by developing a comprehensive list of green-hotel attributes with which to examine attributes' contribution to the formation of customers' behavioral intentions. Moreover, research that investigates the formation of eco-friendly intentions (both the intention to practice green actions and the intention to visit) through various determinants is limited in the literature. In terms of customers' intention to visit a green hotel, Han and Kim (2010) extended the theory model of planned behavior to investigate green-hotel guests' decision formation (Han and Kim, 2010). In another study, Ham and Han (2013) provided insight into customers' decision-making processes regarding green practices by determining that customer perceptions of a hotel's green practices mediate the impact of the perceived fit on a hotel's core business and behavioral intentions. However, those previous studies did not mention and investigate any specific green-hotel practices and instead directly asked the customers' perceptions of green practices in general.

This study attempts to bridge the aforementioned research gaps by identifying other psychological determinants that contribute to the formation of environmentally friendly intentions, including guests' intention to participate in eco-friendly practices, which has not been reflected in the literature, and their intention to visit a green hotel. As a result, this study is designed to develop a

conceptual model that explains guests' pro-environmental decision-making processes by considering the impact of green-hotel attributes. Specifically, this study aims to (1) develop and validate a comprehensive set of green-hotel attributes in Vietnam, (2) identify the role of these green-hotel attributes in shaping consumers' pro-environmental attitudes and pro-environmental perceived values, which influence pro-environmental behavioral intentions (i.e., the intention to practice environmentally friendly actions and the intention to visit a green hotel), and (3) generate implications for pro-environmental management in the Vietnam hotel industry.

Literature review

Green hotels in Vietnam

Although the government of Vietnam has promoted eco-friendly management in the hotel industry, it is still a new concept for many conventional accommodations. Most small hotels do not really care about environmental issues, because they apparently lack relevant information about the efficiency of an eco-friendly strategy and are afraid of the initial investment that would be required. Hotels that meet the standards for environmental protection in terms of the national sustainable tourism Green Lotus Label are mostly located in big cities and famous tourist destinations, such as Ha Noi, Ho Chi Minh, Da Nang, Thua Thien Hue, Khanh Hoa, and Binh Thuan. Therefore, the government of Vietnam has continuously organized various kinds of workshops, seminars, conferences and training courses in order to announce the Green Lotus Label and seek ways to advance sustainable tourism (Vietnam National Administration of Tourism, 2015).

The hospitality literature includes a limited number of research studies focusing on sustainable management in the Vietnam hotel industry, and those studies mostly examined hotel operators' awareness of and behavior toward eco-friendly practices. For example, Le et al. (2006) investigated factors influencing the intentions of businesses to adopt pro-environmental practices

and indicated potential advantages and barriers to the adoption of eco-friendly practices. In another study, Grant Thornton (2013) showed the increasing pro-environmental awareness and management in Vietnam hotels' operation. With regard to customers' viewpoints, the reactions of hotel guests toward eco-friendly initiatives are still unclear. Hence, a deeper and clearer understanding about customers' behaviors toward pro-environmental practices in the hotel industry should be pursued to provide further insight into guests' decision-making. Such an expanded understanding of motivations is a very necessary prerequisite for proposing appropriate green strategies in the lodging context.

Attributes of green hotels

Green hotels are pro-environmental accommodations that have applied the principles of sustainability and ecological practices into their operations to protect the Earth (GHA, 2015). They put their efforts into becoming more environmentally friendly through various programs that minimize negative effects on the environment (Rahman et al., 2015; Tang & Lam, 2017). Therefore, green hotels provide a comfortable, natural, healthy and safe lodging service that is founded on promoting sustainable development and reducing the negative impacts of their operation. Hotels that voluntarily provide environmentally friendly attributes are often referred to either as green hotels or as environmentally friendly hotels. Some hotels may have many environmental attributes in place, whereas others may have just a few. The question then becomes which hotel is truly a green or environmentally friendly one. Because hotels may take different steps to reduce their environmental impact, providing a general definition that encompasses all green hotels is difficult. Therefore, this study first reviews the literature to create a universal description of green-hotel attributes. Then, in-depth interviews with professionals and hotel guests are used to identify green-hotel attributes.

On the supply side, green hotels have applied environmentally friendly practices in various operational areas, including housekeeping, laundry, food and beverage services, guestrooms, conferences, meeting services, and so forth. Normally, proactive environmental practices in such operations are examined in terms of three main categories: energy management, waste management and water conservation (Ogbeide, 2012). Also, Erdogan and Tosun (2009) proposed five additional categories, including architecture and landscape design, education and training for environmental awareness, communication for environmental awareness, managerial knowledge of environmental protection, and others. In a recent research study, Mbasera et al. (2016) mentioned seven sections, including sustainable management of water, energy conservation, solid-waste management, air-quality management, environmental purchasing, community awareness and managing permit.

This study aims to investigate customers' assessments of green-hotel attributes and to determine what they would consider in their selection of a hotel as a green hotel's attributes need to be considered from customer perspectives and must be recognized and evaluated by customers (on the demand side). Fuller (1999) stated that product attributes are essential for providing added value, and that differentiation through core attributes offers basic benefits sought by customers, whereas peripheral attributes deliver supplementary benefits. In the hospitality industry, products perform functionally through their core attributes and also perform environmentally through their nonessential attributes (i.e., water disposal, use of an alternate source of energy).

Although a large number of existing studies on hotel attributes have been conducted, those on pro-environmental hotel attributes and on guests' assessment of those attributes are limited (Millar & Baloglu, 2011). Watkins (1994) identified certain green-hotel attributes that guests may consider when choosing a green hotel, such as provision of recycling bins, use of energy-efficient lighting, use of recycled paper for promotional materials, changing of sheets only when requested and turning off lights in unoccupied guest rooms. Another research study conducted in Malaysia

6

found that travelers did not require environmentally friendly features of hotel rooms; however, they were likely to approve of rooms with water-saving features, recycling bins, energy-saving features and information on local ecotourism attractions (Kasim, 2004). Millar and Baloglu (2008) interviewed both hotel professionals and scholars in academia to identify a final list of environmentally friendly practices in hotels, including "sheets changed upon request only", "occupancy sensors", "key cards to turn power in the room on and off", "energy-saving bulbs in the sleeping area", "energy-saving bulbs in the guest bathroom", "towel re-use programs", "recycling bins", "low-flow toilets", "low-flow faucets", "refillable shampoo dispensers", "refillable soap dispensers", and "low-flow showerheads".

In addition, Kim et al. (2012) used a list of pro-environmental programs for hotels and grouped those programs into four sections, including solid waste and water programs in guest rooms, energy programs, solid waste and water programs in housekeeping, and biodiversity programs. Nevertheless, some items in that list were not appropriate because customers cannot recognize or evaluate the items during their use of a hotel's services. Those inappropriate items were "removal of unnecessary amenities", "water levels adjusted for short loads of laundry", "limited water use while cleaning", "investigation of the feasibility of reusing water for washing", "reduced use of insecticides", and "using plants that are locally adapted". A qualitative study by Han and Chan (2013) used in-depth interviews to examine tourists' perceptions of pro-environmental practices at hotels in Hong Kong and proposed two new attributes for a green hotel: "fresh and clean air", and "cultivating a physical environment with plants or green decorations".

Proposed conceptual framework and research hypotheses

According to Zeithaml (1988, p. 14), value is defined as "the consumer's overall assessment of utility of a product based on perceptions of what is received and what is given". Similarly,

Monroe (1990, p. 46) stated that "buyers' perceptions of value represent a trade-off between the quality/benefits they perceive in the product relative to the sacrifice they perceive by paying the price". In terms of the theory of utility, Tellis and Gaeth (1990) indicated that perceived value is based on the difference between the utility provided by product attributes and the disutility presented by the price paid.

A survey by the Boston Consulting Group found that green products' quality presents higher competition and better advantages, compared with those factors from conventional alternatives (Manaktola & Jauhari, 2007). Moreover, Chen and Chang (2012) implied that the perceived value of eco-friendly products is investigated on the basis of a product's performance in terms of its environmental context. Consumers are most likely to perceive value when a product is associated with the practice they directly observe (Millar & Baloglu, 2011). In that line of logic, this study suggests that as customers perceive more quality or benefits from green-hotel attributes, they are likely to favorably evaluate the hotel's value.

H1: Green-hotel attributes positively affect the pro-environmental perceived value

Churchill and Iacobucci (2005) summarized that attitude is "a person's ideas, convictions, or liking with regard to a specific object or idea". In other words, attitude represents an individual's evaluation of something, or the person's likes or dislikes (Millar & Baloglu, 2008). According to Amstrong and Kotler (2009), attitude is a person's favorable or unfavorable evaluations, feelings, and tendencies toward an object or idea. Moreover, Churchill and Surprenant (1982) suggested that attitude toward a product can be evaluated through various attributes of the product. A consumer's attitude toward a product or service is learned through both the customer's self-experience via his/her personal consumption experience and the indirect information received from external sources

about products or services (Alhabeeb, 2006). Thus, a product's attributes yield a corresponding customer attitude gained through experience with those attributes. Further, high-quality attributes cause a positive attitude toward the product or service that has those attributes.

With regard to ecotourism accommodations, Lee and Moscardo (2005) discovered that satisfying experiences with eco-friendly accommodations might increase guests' favorable environmental attitudes. This implicitly suggests that satisfying experience with a green accommodation can enhance environmental attitude through a high quality of pro-environmental attributes. Therefore, this study postulates the following hypothesis:

H2: Green-hotel attributes positively affect customers' pro-environmental attitudes

Rosenberg's (1956) model of attitude theorized that an individual has a positive or negative feeling toward an object because of the person's cognitive expectations about the object's capability to do certain things and the perceived values the person attaches to those things. Specifically, a positive perceived value relates to the perception of a product's high value, and therefore it can create a good experience that can then generate a favorable attitude toward that product (Hwang & Hyun, 2017; Lyu & Hwang, 2017; Makanyeza, Macheyo, & Toit, 2016). Thus, if consumers perceive that the value of a product is higher, they tend to have a higher level of comfort from, or a more favorable attitude toward, that product. In particular, ecological attitude governs a person's attitude toward green products/services, and if a person perceives more value of green attributes, he or she will present a favorable attitude (Chen, 2009).

In the context of green products, Hamid, Shad and Ghafoor (2012) indicated that consumers who come from developing countries perceive product value lower than expected, and their perceived value does not influence their attitude toward green products. In contrast, Hamid (2014)

argued that customers who evaluated green products at a high value when they were purchasing could build a positive attitude. Nevertheless, this research emphasized that consumers have a negligible attitude and a low perceived value of green products in the context of a developing country, and in that context there is no significant relationship between perceived value and attitude. Moreover, Lee (2009) stated that an environmental attitude is generally understood to be the rational judgment of people toward the value of environmental protection. Mahesh (2013) also indicated that a consumer's perceived value of and attitude toward green products are positively associated with each other. Because of the limited research in the hospitality industry and the contrasting results in the literature about the relationship between perceived value and customer attitude, the current study proposes and investigates the following hypothesis.

H3: A pro-environmental perceived value positively affects a pro-environmental attitude

Goal and action identification theories (Carver & Scheier, 1990) have proposed that customers are likely to rank their goals from the lowest to highest and they drive their actions to pursue the highest ranked one. In relational marketing, because customers tend to make an exchange to get the maximum value, the highest-ranked goal is perceived as having the most value (Sirdeshmukh, Singh, & Sabol, 2002). Thus, perceived value is considered to be an antecedent of behavioral intentions.

Nowadays, more and more customers care about their purchases; green products really need to capture their attention and acceptance in order to encourage their consumption. A model of ecological behavior proposed by Fietkau and Kessel (1981) indicated that environmental value was one of determinants that shaped customer pro-environmental behavior. The literature indicated that a green perceived value positively affects consumers' purchase intentions (Mahesh, 2013). Similarly,

some studies supported this relationship by identifying the fact that the importance of customers' perceived value is a significant indicator of those customers' loyalty in dining decision processes (Tam, 2004). In summary, perceived value has been identified to be the most relevant determinant of behavioral intentions, but the literature had not examined this relationship in the context of green hotels at the time of this study. Thus, this study suggests the following hypotheses:

H4: A pro-environmental perceived value positively affects a customer's intention to practice environmentally friendly actions in a green hotel

H5: A pro-environmental perceived value positively affects a customer's intention to visit a green hotel

In discussing the theory of reasoned action, Fishbein and Ajzen (1975, p. 6) wrote that attitude is defined as "a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object". This concept refers to the important characteristics of attitude as a behavioral construct. In a later paper, on the theory of planned behavior, Ajzen (1991) stated that an individual tends to do a certain behavior if he/she has a positive attitude toward undertaking that behavior. Both these theories are based on the assumption that customers' attitudes are the essential determinant of their intention to perform a behavior. In the context of green hotels, many studies have demonstrated the influence of customers' attitudes on their intention to participate in the green programs of hotels (Lee & Moscardo, 2005; Mensah & Mensah, 2013). Given these, the current study proposes to investigate the following hypothesis:

H6: A pro-environmental attitude positively affects a customer's intention to practice environmentally friendly actions in a green hotel

In terms of the intention to visit a green hotel, many studies have indicated that customers' pro-environmental attitudes positively influenced their expressed intentions. Customers with a positive ecological attitude tend to choose and visit green hotels (Manaktola & Jauhari, 2007). Although consumers' ecological attitude may influence their purchase intention, it is not always easy to predict buying decisions based on their attitude (Mei, Ling, & Piew, 2012). Moreover, Lee (2009) found that Hong Kong adolescents' pro-environmental attitude was weakly associated with their green purchasing intention. The contradictory results in the hospitality literature of the relationship between a person's pro-environmental attitude and the person's behavior call into question the assumption that customers' attitudes affect their behavior, and it proposes a need to test and confirm this relationship.

H7: A pro-environmental attitude positively affects the intention to visit a green hotel

(Insert Figure 1)

Methodology

Qualitative research method

Green-hotel attributes were extracted by combining the results of the literature review, in-depth interviews and a pilot test. After a review of the literature, the study collected 20 potential attributes of green hotels that represented green-hotel features, and then subjected those potential attributes to a review by in-depth interviews with both experts and hotel guests in order to develop the appropriateness of the attributes. To find experts for an in-depth interview, for questionnaire development, individuals were selected on the basis of their knowledge and experience in the

context of environmentally friendly hotels. Ten experts were chosen, in order to ensure a wide variety of experiences from academic institutions, government officials and hotel managers. They took the role of confirming the green-hotel attributes that had been selected, all of which are applicable and appropriate to the hotel industry in Vietnam. The purpose of this qualitative study was to identify whether the selected green-hotel attributes were recognized by experts and were consistent with their definition of green hotels.

The result of the in-depth interview with the experts indicated that all of the 20 initial items were identified as being appropriate green-hotel attributes by at least 83.3% of the experts. These experienced professionals' responses and comments were provided through the review process, and the follow-up interviews from each expert were documented. According to these experts, questionnaire wordings were further refined to describe the attributes more clearly. For example, some experts pointed out that cotton was the common and appropriate material for linens. Therefore, the attribute "use natural fibers for linens" was changed to "use natural/cotton fibers for linens". The attribute "use low-flow showerheads" was compiled into "use low-flow showerheads/ intelligent showerheads" in order to cover and present various types of water-efficient showerheads. Similarly, the attribute "fresh and clean air" was changed to "fresh, clean air, and freedom from secondhand smoke". The attribute of "cultivate a physical environment with plants or green decorations" was revised to "green landscape and architectural design" to better reflect a green physical environment. In addition, the new attribute "using solar energy" was added on the basis of the experts' comments, because it is a very important, efficient and common attribute of a green hotel.

For an in-depth interview with hotel guests, a face-to-face interview with hotel guests was undertaken with their consent. Each participating guest was briefed on the current study prior to the interview. In this stage, the study aims to develop the potential set of green-hotel attributes. The survey invited a total of 10 participants. Regarding the initial potential green-hotel attributes, almost

all hotel guests approved the attributes' relevance for a green hotel. A few of respondents emphasized the importance of "fresh, healthy and vegan food" because more and more people are aware of how animal protein fare not only hurts our health but also harms the environment and supports cruelty to animals. From fast-food to five-star restaurants, vegetarian options are becoming more commonplace. Other interviewees were interested in a "hotel's architecture in harmony with nature", which protects the nature environment and offers special and unique experiences for guests. In particular, some interviewees stressed that eco-friendly hotels can help them improve their knowledge of environmental responsibility. As the final result, 24 items were generated as the universe of attributes that represented the green-hotel construct (see Table 1).

(Insert Table 1)

Quantitative research method

For data collection, a nonprobability convenience sampling technique was used to obtain data through interviewing via questionnaire. Respondents were required to stay in green hotels that are certified at least at the third level of Green Lotus (from three Green Lotus to five Green Lotus), an eco-label of Vietnam's government, in order to ensure that those respondents have experienced and recognized environmentally friendly practices during their stay. This study collected primary data in four cities, which represent all parts of Vietnam: Ha Noi from the North, Da Nang from the Central and Highlands, Ho Chi Minh from the South and Can Tho from the Mekong Delta area.

A questionnaire was the principal instrument of data collection for the survey. It included three sets of questions: (1) The first section of the questionnaire incorporated those statements relating to specific green-hotel attributes. Respondents were initially asked the extent of their agreement with the green-hotel attributes, using 1 = strongly disagree, and 7 = strongly agree. (2) In

the second section, respondents rated their level of agreement with statements pertaining to a customer's pro-environmental attitude and perceived value, and expressed their willingness and intention to practice eco-friendly actions in a hotel and their intention to visit a green hotel. Their level of agreement/willingness was rated on a scale of 1 = strongly disagree/very unlikely, and 7 = strongly agree/very likely. (3) The last section was designed to generate descriptive information about the respondents. The hotel customers were requested to provide information on their nationality, gender, age, level of education, occupation, marital status, and annual household income.

With 309 usable completed questionnaires, the survey for this research showed a gender ratio of 55% (female) to 45% (male). In terms of age, 33% were between 21 and 30 years of age, followed by 22.3 % between 31 and 40 years of age. More than 63% of respondents were married or living with a partner, and the majority (64.8%) had a bachelor's degree or a higher level of education. In addition, the annual household income was approximately $25,000 USD (92.2%). Finally, the majority of the respondents were international tourists. They included 26.8% Europeans, 23.3% Australians, 8.1% New Zealanders, and 5.9% Americans and others.

Results

Underlying dimension of green-hotel attributes

With principal axis factoring and the oblique rotation method, an exploratory factor analysis (EFA) was applied to identify the underlying dimensions of the green-hotel attributes. The value of the Kaiser-Meyer-Oklin (KMO) measure of sampling Adequacy equaled 0.91, and the Bartlett test of Sphericity was significant at α = 0.000. These results supported the idea that the degree of inter-correlations among variables was superb for continuing with the principal axis factoring (Hair et al., 2010). However, when communalities representing the amount of variance that accounted for the

factor solution for each variable were checked, an item of "set hallway temperature properly" had communalities lower than 0.4. That item was thus deleted (Hair et al., 2010). Then, the researcher conducted an EFA again and found three attributes ("contribution toward environment", "fresh air, and "renewable energy") that had a factor loading lower than 0.4. Those attributes were also excluded.

By respecifying the principal axis factoring analysis after excluding the above attributes, the study obtained five factors. Moreover, the explained total variance increased from 72.73% (with the full 24 attributes) to 75.31% (with 20 attributes). The summary of the EFA findings is shown in Table 1. Five factors with Eigenvalues greater than 1 were extracted from the analysis. These five factors accounted for 75.31% of the total variance. The first factor, named "Customer benefit" and including five items, explained approximately 45.93% of the variance. The second factor was labeled "Energy efficiency" and contained four items, and it captured 13.65% of the variance. The third factor, "Recycling policy", involved four items and explained 8% of the variance. The fourth factor, named "Water efficiency", consisted of four items and explained 5.63% of the variance in the data. The last factor was known as the "Green characteristic" and included three items, and it explained 4.52% of the variance. Coefficient alphas were used to evaluate the internal consistency of items loaded to each factor. The alpha values were all larger than 0.7, which is considered acceptable as an indication of reliability and acceptability for basic research (Field, 2005). The factor loadings for all 20 items were relatively high – greater than 0.5. Moreover, item-to-total correlations were all larger than the expected value of 0.3 (Hair et al., 2010). These findings show that the above five extracted factors are statistically vigorous and appropriately summarized the data.

(Insert Table 2)

Measurement model testing

In the measurement model testing stage, the current study conducted confirmatory factor analysis (CFA) to assess the adequacy of the measurement components for the proposed model. The model fit for the measurement model was good (χ^2 = 1738.21, df = 692, RMSEA = 0.07, CFI = 0.91, TLI = 0.90). All of the average variance extracted (AVE) values were significant, with high factor loadings that ranged from 0.63 to 0.79 and thus surpassed the threshold value of 0.5 in Table 3. The results showed that all the indicators are statistically significant at 0.01, which supports the theoretical assignment of the indicators to each construct (Anderson & Gerbing, 1988). Therefore, convergent validity was supported. The correlations among and between the exogenous and endogenous constructs ranged from 0.16 to 0.73, which indicates an appropriate level of intercorrelation. Furthermore, the squared correlation coefficients between the constructs were smaller than the AVE value of each construct. Therefore, these results provide evidence of discriminant validity. In conclusion, the assessment of the measurement model suggested that the validity and reliability of the operationalization of the latent variables was acceptable.

(Insert Table 3)

Structural model testing

After achieving a satisfactory measurement model, the structural model was examined to test the hypotheses. The overall model fit for the structural model was good (χ^2 = 1600.88, df = 598, RMSEA = 0.07, CFI = 0.91, TLI = 0.90), showing that all of the model fit indices achieved the thresholds. The results of SEM showed that only three factors, including customer benefit, energy efficiency and green characteristics, had significantly positive influences on customers' pro-

environmental perceived value and attitude, whereas factor 3 (recycling policy) and factor 4 (water efficiency) did not show significant effects on perceived value and attitude. In addition, a pro-environmental value was found not to be related to a pro-environmental attitude. However, pro-environmental value and attitude were all found to positively affect the intention to practice environmentally friendly actions and to visit a green hotel. Consequently, H1 and H2 were partially supported, while H3 was not supported. The remaining hypotheses (H4, H5, H6, and H7) were all supported.

(Insert Figure 2)

(Insert Table 4)

Discussion and conclusion

This study was conducted to identify an appropriate set of green attributes for the hotel industry. The attributes were determined and validated through both qualitative and quantitative research methods. The proposed model involving such attributes and other related variables was developed to identify the formation of customers' behavioral intentions. Overall, the results indicated that the green-hotel practices positively influence customers' pro-environmental perceived values and attitudes, and that that influence significantly affects customers' intention to practice eco-friendly actions and their willingness to visit a green hotel.

Theoretical implications

This paper fills a gap in the green hotel literature by developing an appropriate set of green-hotel attributes. This was important because previous researchers admitted that they had limited the number of attributes they studied, to avoid overload, but in so doing they had oversimplified the picture (Kasim, 2004; Millar & Baloglu, 2011; Baker, et al., 2014; Verma & Chandra, 2016).

Twenty four green hotel attributes across the five dimensions are developed from a careful critical review of a number of relevant previous research papers, from practical eco-friendly programs in the hotel industry and from professionals' and hotel guests' in-depth interviews. A development and validation of the comprehensive green hotel attributes provide a basis for researchers to further examine issues and phenomena in green hotels. Especially, this study identifies two new green-attribute factors: customer benefit (e.g., vegan food, environmentally friendly products) and green characteristic (e.g., green landscape and architectural design). The two factors are found to be significantly involved in the formation of pro-environmental behavioral intentions. Thus, developing innovations in these two areas can make excellent impressions on hotel guests. These findings provide unique, new perspectives for a green hotel that has performed traditional eco-friendly practices.

This study extends the green hotel literature by utilizing the green-hotel attributes as constructs in the proposed theoretical model. The literature until now has simply explored green-hotel attributes as eco-friendly practices in hotels that satisfy customers' demands (Kasim, 2004; Milar & Baloglu, 2011; Baker, 2014). None of the previous studies has investigated the effects of green-hotel attributes on other dependent variables in order to explore their roles in customer's decision-making processes. The design of this paper differs from previous studies by presenting empirical evidence in order to explain hotel customers' pro-environmental intentions and by incorporating green-hotel attributes, customer's eco-friendly perceived value and pro-environmental attitude, into a model. Therefore, another contribution of the current research is that a comprehensive set of independent variables was developed, and thus it presents a holistic analysis of the impacts of those variables on customers' behavioral intentions. The findings indicate the consequences that hotel guests consider to be most relevant for their behaviors, including engaging in eco-friendly practices and choosing a green hotel. As a result, the study contributes to the green

hotel literature with a series of statistically significant relationships that can be used as references for further projects to develop hypotheses and structural models.

Consequently, this study contributes a foundation to filling the gap in the prior literature that simply investigated green-hotel attributes; here, the attributes were used as exogenous constructs in the measurement model to explain their contribution to hotel guests' behavioral intentions. What is missing from the previous green hotel research is the formation of hotel customers' intention to practice green actions, since the majority of prior research has focused on investigating guests' intention to visit a green hotel and their intention to pay more for such a visit (Lee, 2009; Han & Kim, 2010). Although some previous studies have mentioned and discussed customers' participation in eco-friendly practices, they simply calculated the percentage frequency of the customers' interest in green programs (Lee & Moscardo, 2005; Smith et al., 2015) and did not explore the formation of this construct. According to the present study, customer benefit, energy efficiency, and green characteristics are found to positively affect pro-environmental value and attitude that in turn enhance intention to practice environmentally friendly actions and visit a green hotel while pro-environmental value does not trigger pro-environmental attitude. The current research provides better understanding of the formation and determinants of hotel guests' intentions to engage in pro-environmental practices.

Managerial implications

The current study proposes an appropriate set of green-hotel attributes that can help hoteliers set up their eco-friendly hotels accordingly. Additionally, this study allows hotel managers to develop effective marketing strategies to attract potential environmentally conscious guests and retain existing tourists, and to drive their marketing campaigns to target their eco-friendly customers. Based on the results, hotel managers should considerably improve the three green-

attribute factors of "customer benefit", "energy efficiency" and "green characteristic", because these eco-friendly practices demonstrated that they had considerable impact on customers' perceived values and attitudes.

Customer benefit. "Customer benefit" was ranked the most determinative factor. Hence, hoteliers should first communicate visible evidence of their environmental practices to customers in order to clearly highlight the benefits of a better environment on our well-being and health. Information campaigns should emphasize the benefits of an eco-friendly hotel for customers in order to arouse their favorable perceptions, and not just their empathy. For example, hoteliers may invite health professionals to educate guests through nutrition-education campaigns or seminars. Also, a vegetarian food festival and vegan buffet can be organized to better promote the quality of healthy and vegan food. The Buddha day or the full moon day of the lunar month may be the most suitable days for such events, because Buddhists and most Vietnamese eat vegetarian food on those days. In addition, hoteliers encourage customers' cooperation in the eco-friendly programs of their hotels to provide those guests with educational benefits and also protect the surrounding environment. Finally, hoteliers make the effort to achieve a high level of green certification and build their green image by communicating their eco-label, because it represents and authenticates their level of sustainable programs' performance.

Energy efficiency. Most of hotels utilize various energy management strategies to save their performance cost (Ogbeide, 2012). This study indicates that energy saving is an essential challenge in sustainable strategies that have considerable impacts on the natural environment and significant influences on guests' perceived value and positive attitude. It is recommended that hoteliers clearly present statistics on the achievements of their green practices to establish a consistent calculation

protocol and reporting system with regard to their carbon footprint. It is hoped that those measures will improve customers' environmental consciousness about reducing negative effects on our planet and will reinforce customer confidence in the ecological hotels' contributions to environmental protection. Furthermore, utilizing solar power and other types of renewable energy should be innovative and creative in this modern time. In the hotel industry, a rooftop solar plant is a popular solution for most green hotels. In addition, many modern hotels' spaces are outfitted with daylight-sensing controls or are designed with oversized windows and mirrors to capture natural light from the sun. In particular, leading innovative ideas in eco-friendly programs may help a specific hotel stay ahead of the game in the competitive market.

Green characteristics. The study's findings also reveal that a "green characteristic" is an important eco-friendly factor. As the adoption of green practices can gain a competitive advantage over the other lodging services (Punitha et al., 2016), hotel managers and designers consider using a natural landscape and green architecture in their hotels' construction. For example, green hotels/resorts may build various kinds of eco-friendly bungalows to create unique architectures that are in harmony with nature. Practically speaking, many eco-friendly bungalows in the mountain, sea or island regions of Vietnam were built to serve tourists at a luxury level. However, that model is still limited in the Mekong delta, where farmers and fishermen live and pursue their vocation of farming and aquaculture. Accommodation suppliers can consider various solutions to an integration of specialist orchards into the eco-friendly bungalow model. Another recommendation for existing green hotels is to landscape the hotel with locally native, adaptable plants and other green items to develop green elements in the hotel. In particular, hotel managers need to choose native plants that are adapted to the sun, soil and space of the particular place where they will be planted. Additionally, hotel operators may plant organic gardens to cater to their guests who respond favorably to the

opportunity of being served fresh, locally grown, organic food and at the same time to create an eco-friendly scene in their hotels.

Encouraging customers' behavioral intentions. This research suggests that hotel marketers should develop a variety of marketing tools to improve customers' pro-environmental perceived values and attitudes, because of the considerable positive influence that those values and attitudes exert on green behavioral intentions. Fukey and Issac (2014) report a similar finding that when customers have a positive concept, perception, and recognition of a green hotel, they are likely to stay with the green hotel by appreciating its green value. Hotel marketers therefore need to communicate essential information to market green values to potential guests. It is recommended that marketers reinforce their hotels' message by presenting the benefits and results of their environmentally friendly programs, so that guests can recognize the ideas behind the operation of ecological hotels. Such information is bound to increase customers' eco-friendly perceived value. In addition, marketers simplify their hotels' green message so that common customers can understand it. They ensure that their message is straightforward and truthful and that it can help reduce hotel guests' skepticism. At the same time, practical evidence should be apparent in the public areas of hotels and in their various promotional channels. Further, the hotel staff is considered to be an important element in building value with customers. Conscientious employees with an appropriate explanation can improve customers' understanding about the meaning of a hotel's pro-environmental strategy, and that understanding can enhance customers' evaluations of green hotels.

Encouraging customers in green practices. Hoteliers attempt to maintain and improve customers' favorable attitude toward green programs. It is recommended that hoteliers work to enhance their customers' environmental awareness and concern. Because hotel customers are often unaware of

their own negative influence on the natural environment, hoteliers describe any potentially hazardous situations that could arise during their stay and thereby help customers to know how they can reduce their negative impact on the environment. Sharing environmental issues and consequences are considered valuable in developing guests' knowledge, awareness, positive attitude, and participation in green practices (Fukey & Issac, 2014). In public areas of the hotel, annual reports, and the company website, green hotels can provide information about environmental issues. Relevant exhibitions, green advertising and educational campaigns can be organized to boost customers' knowledge and encourage their favorable attitude toward eco-friendly practices, which will in turn engage their intention. Besides, a hotel is a popular venue for meetings and conferences, thus the hotel can promote its green theme through a green meeting concept (little food wastage, usage of local food and recycled material, etc.) as meeting attendees are in favor of eco-friendly meetings (Rittichainuwat & Mair, 2012). These efforts are intended to evoke empathy from hotel guests, to some extent. Also, the effectiveness of the environmentally friendly practices within the hotel industry needs to have the commitment and support of customers. Thus, it is necessary for the industry to launch green marketing campaigns that clearly explain the benefits of eco-friendly programs in hotels to arouse customers' interest. Green promotion marketing strategy suggests that a hotel focuses more on green advertising in a way that promotes the hotel role in environmental protection. This strategy develops an interaction with the guests and builds an innovative, unique hotel positioning in the lodging industry (Hakansson & Waluszewski, 2005). In addition, hoteliers should establish multiple communication channels for collecting guests' feedback, so that managers can explore how to evaluate the green-hotel attributes' performance for their guests and can learn what the guests value during their staying. It is proposed that hotel managers consider offering rewards or compensations for customers' useful cooperation – such as complimentary food and beverage coupons, gifts, an accumulated points system, and so forth.

Improving employees' implementation and contribution. Hotel staff's responsibility for environmental management should be properly qualified and the staff should be equipped with the appropriate awareness, knowledge and skills to implement best practices in accordance with regional and international standards. According to Goodman (2000), as most of employees are not completely aware of the concept of green and sustainable tourism, they cannot fully implement green practices to the best of their abilities. Similarly, Fukey and issac (2014) argue that a lack of knowledge and awareness proves to be a major barrier to green practices by employees. Therefore, hotel managers should develop an employee-training program that raises their consciousness of pro-environmental practices. Although it is a serious subject, there is no need for it to be boring – if training sessions are enjoyable, staff will learn more and will be more motivated to get involved. For instance, hotels can integrate thematic seminars with an annual retreat to create an interesting environment in which the staff combines studying and relaxing. In the retreat, professional speakers can be invited to transfer related information about environmental conservation, and meaningful activities can be included during the trip. Alternatively, on-site pro-environmental events can be organized to improve the staff's knowledge about sustainable programs and also to refresh them after working hours. An eco-friendly hotel can build its pro-environmental culture only when its staff integrates environmental consciousness into their practices and supports pro-environmental hotel initiatives regularly. For example, hotels may initiate activities that organize a yearly "cleanliness day" to give their staffs a chance to make artifacts from the hotels' waste material, encourage a 24-hour period of abstinence from all forms of tobacco consumption on world no-tobacco day (May 31st) and celebrate the world environment day (June 5th) with solar oven cooking. Also, hotels establish an appropriate reward and incentive system for employees who exhibit excellent performance in eco-friendly practices or who propose pro-environmental innovations.

Limitations and suggestions for future research

This study had limitations that future research may consider. For example, it only chose guests of upscale green hotels as the target respondents for the main survey. It is suggested that various segments of the hotel industry should be included in order to obtain broader results in terms of investigating green-hotel attributes. Further research should focus on various segments of hotel guests, including gender, nationality, income, age, and so forth. Also, the current research investigated customers' behavioral intentions as the main dependent variable, rather than actual customer behavior itself. Even though Chapman et al. (2004) stated that behavioral intention is an appropriate proxy of actual behavior, a follow-up study should investigate the structural model with actual behaviors. In addition, because the movement of greening hotels will continue to grow, the green-hotel attributes will need to be updated frequently. Therefore, further qualitative approaches will be necessary to gain insights into constantly changing green attributes.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Alhabeeb, M.J. (2006). Consumer attitude and attribution. *Proceedings of the Academy of Marketing Studies, 11*(1), 1-5.

Amstrong, G., & Kotler, P. (2009). *Marketing: An introduction* (9th ed.). United States of America: Pearson Prentice Hall.

Anderson, J.C., & Gerbing, D.W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411-423.

Baker, M.A., Davis, E.A., & Weaver, P.A. (2014). Eco-friendly attitudes, barriers to participation, and differences in behavior at green hotels. *Cornell Hospitality Quarterly, 55*(1), 89-99.

Byrne, B.M. (2010). Structural equation modeling with AMOS (2nd ed.). New York, NY: Routledge.

Carver, C., & Scheier, M. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*(1), 19-35.

Chapman, K., Davis, R., Toy, D., & Wright, L. (2004). Academic integrity in the business school environment: I'll get by with a little help from my friends. *Journal of Marketing Education, 26*, 236-249.

Chen, M-F (2009). Attitude toward organic foods among Taiwanese as related to health consciousness, environmental attitudes, and the mediating effects of a healthy lifestyle. *British Food Journal, 111*(2), 165-178.

Chen, P-T., & Hu, H-H (2010). The effect of relational benefits on perceived value in relation to customer loyalty: An empirical study in the Australian coffee outlets industry. *International Journal of Hospitality Management 29,* 405-412.

Chen, Y.S., & Chang, C.H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision, 50*(3), 502-520.

Churchill, G.A.J., & Iacobucci, D. (2005). *Marketing research: Methodological foundations* (9th ed). Mason, OH: South-Western.

Churchill, G.A.J., & Surprenant, C. (1982). Investigation into the determinants of customer satisfaction. *Journal of Marketing Research, 19*, 491-504.

Erdogan, N., & Tosun, C. (2009). Environmental performance of tourism accommodations in the protected areas: Case of Goreme Historical National Park. *International Journal of Hospitality Management 28*, 406-414.

Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). London, UK: Sage Publications.

Fietkau, H.-J., & Kessel, H. (1981). *Umweltlernen*. Königstein/Taunus: Hain-Verlag.

Fishbein, M.A., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An introduction to Theory and Research.* Reading, MA: Addison-Wesley.

Fukey, L.N. & Issac, S.S. (2014). Connect among green, sustainability and hotel industry: a prospective simulation study. *International Journal of Economics and Management Engineering*, *8*(1), 296-312.

Fuller, D.A. (1999). *Sustainable marketing: Managerial-ecological issues*. Thousand Oaks, CA: Sage.

GHA (2015). What are green hotels? Retrieved October 20, 2015, from Green Hotel Association (GHA). Retrieved from http://www.greenhotels.com

Goodman, A. (2000). Implementing sustainability in service operations at Scandic Hotels. *Intergaces*, *30*, 202-214.

Grant Thornton (2013). Vietnam lodging industry: Hotel survey 2013. Retrieved from http://www.gt.com.vn/files/media/Executive%20Summary%20-%20Hotel%20survey%202013%20-%20final%20ENG.pdf

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.

Håkansson, H., & Waluszewski, A. (2005). Developing a new understanding of markets: reinterpreting the 4Ps. *Journal of Business & Industrial Marketing*, *20*(3), 110–117.

Ham, S., & Han, H. (2013). Role of perceived fit with hotels' green practices in the formation of customer loyalty: Impact of environmental concerns. *Asia Pacific Journal of Tourism Research, 18*(7), 731-748.

Hamid, A.R. (2014). A study on the relationship between consumer attitude, perceived value and green products. *Iranian Journal of Management Studies, 7*(2), 329-342.

Hamid, S.A.R., Shah, T.Z., & Ghafoor, H.A. (2012). Analysis of attitude toward green purchase: Pakistan in context. *International Journal of Business and Social Science, 3*(6), 112-115.

Han, H., & Kim, Y. (2010). An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behavior. *International Journal of Hospitality Management, 29*(4), 659-668.

Han, X., & Chan, K. (2013). Perception of green hotels among tourists in Hong Kong: an exploratory study. *Services Marketing Quarterly, 34*(4), 339-352.

Hwang, J., & Hyun, S. (2017). First-class airline travelers' tendency to seek uniqueness: How does it influence their purchase of expensive tickets? *Journal of Travel & Tourism Marketing, 34*(7), 935-947.

Kasim, A. (2004). Socio-environmentally responsible hotel business: Do tourists to Penang island, Malaysia care? *Journal of Hospitality & Leisure Marketing, 11*(4), 5-28.

Kim, Y.J., Palakurthi, R., & Hanceer, M. (2012). The environmentally friendly programs in hotels and customers' intention to stay: An online survey approach. *International Journal of Hospitality & Tourism Administration, 13*(3), 195-214.

Le, Y., Hollenhorst, S., McLaughlin, W., & Shook, S. (2006). Environmental management, a study of Vietnamese hotels. *Annals of Tourism Research, 33*(2), 545-567.

Lee, W.H., & Moscardo, G. (2005). Understanding the impact of ecotourism resort experiences on tourists' environmental attitudes and behavioral intentions. *Journal of Sustainable Tourism, 13*(6), 546-565.

Lyu, S., & Hwang, J. (2017). Saving golf courses from business troubles. *Journal of Travel & Tourism Marketing, 34*(8), 1089-1100.

Mahesh, N. (2013). Consumer's perceived value, attitude and purchase intention of green products. *Management Insight 9*(1), 36-43.

Makanyeza, C., Macheyo, R., & Toit, F.D. (2016). Perceived product necessity, perceived value customer satisfaction and affective attitude: an integrative model. *Journal of African Business 17*(1), 69-86.

Manaktola, K., & Jauhari, V. (2007). Exploring consumer attitude and behavior towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management, 19*(5), 364-377.

Mbasera, M., Plessis, E. D., Saayman, M., & Kruger, M. (2016). Environmentally friendly practices in hotels. *Independent Research Journal in the Management Sciences, 16*(1), 1-8.

Mei, O.J., Ling, K.C., & Piew, T.H. (2012). The antecedents of green purchase intention among Malaysian consumers. *Asian Social Science, 8*(13), 248-263.

Mensah, I., & Mensah, R.D. (2013). International tourists environmental attitude towards hotels in Accra. *International Journal of Academic Research in Business and Social Sciences, 3*(5), 444-455.

Millar, M. (2010). Travelers' most preferred green attributes for a hotel room. *Hospitality Management 2*, 1-38. Retrieved from http://repository.usfca.edu/cgi/viewcontent.cgi?article=1010&context=hosp

Millar, M., & Baloglu, S. (2008). Hotel guests' preferences for green hotel attributes. *Hospitality Management 5*. Retrieved from http://repository.usfca.edu/cgi/viewcontent.cgi?article=1007&context=hosp

Millar, M., & Baloglu, S. (2011). Hotel guests' preferences for green guest room attributes. *Cornell Hospitality Quarterly, 52*(3), 302-311.

Millar, M., Mayer, K.J., & Baloglu, S. (2012). Importance of green hotel attributes to business and leisure travelers. *Journal of Hospitality Marketing and Management, 21*(4), 395-413.

Monroe, K.B. (1990). *Pricing: Making profitable decisions* (2nd ed.). New York: McGraw-Hill.

Noah, J.G., Robert, B.C., & Vladas, G. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research, 35*(3), 472-482.

Ogbeide, G.C. (2012). Perception of green hotels in the 21st century. *Journal of Tourism Insights, 3*(1), Article 1.

Pipitvanichtham, P. (2013). Intention to adopt environmental friendly practices in Thailand. Proceeding of European Business Research Conference, ISBN: 978-1-922069029-0. Retrieved from https://wbiworldconpro.com/uploads/italy-conference-2013/management/1378531536_447-Piyarat.pdf

Punitha, S., Aziz, Y.A. & Rahman, A.A. (2016). Consumers' perception of green marketing in hotel industry. *Asian Social Science, 12*(1), 1-12.

Rittichainuwat, B.N. & Mair, J. (2012). An exploratory study of attendee perceptions of green meetings. *Journal of Convention and Event Tourism*, *13*(3), 147-158.

Rosenberg, M.J. (1956). Cognitive structure and attitudinal affect. *Journal of Abnormal and Social Psychology, 53,* 367-372.

Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer trust, value and loyalty in relational exchanges. *Journal of Marketing, 66*(1), 15-37.

Smith, A.B., Choy, V., Chong, H., & Verma, R. (2015). Environmental sustainability in the hospitality industry: best practices, guest participation, and customer satisfaction [Electronic article]. *Cornel Hospitality Reports, 15*(3), 6-16.

Tam, J.L.M. (2004). Customer satisfaction, service quality and perceived value: an integrative model. *Journal of Marketing Management, 20*(7/8), 897-917.

Tang, C.M.F., & Lam, D. (2017). The role of extraversion and agreeableness traits on Gen Y's attitudes and willingness to pay for green hotels. *International Journal of Contemporary Hospitality Management, 29*(1), 607-623.

Tellis, H.J., & Gaeth, G.J. (1990). Best value, price-seeking, and price aversion: The impact of information and learning on consumer choices. *Journal of Marketing, 54*(2), 34-45.

Verma, V.K., & Chandra, B. (2016). Hotel guest's perception and choice dynamics for green hotel attribute: A mix method approach. *Indian Journal of Science and Technology, 9*(5), 1-9.

Vietnam National Administration of Tourism (2015). Granting certificate of green lotus label for 33 accommodations. Retrieved from http://www.vietnamtourism.com/en/index.php/news/ items/ 10372

Watkins, E. (1994). Do guests want green hotels? *Lodging Hospitality, 50*, 70-72.

Wu, H-C., Ai, C-H., & Cheng, C-C. (2016). Synthesizing the effects of green experiential quality, green equity, green image and green experiential satisfaction on green switching intention. *International Journal of Contemporary Hospitality Management, 29*(9), 2080-2107.

Zeithaml, V.A. (1988). Consumer perceptions of price, quality and value: a means-end model and synthesis of evidence. *Journal of Marketing, 52*(3), 2-22.