

Factors that influence potential green hotel customers' decision-making process

- evidence from China

Abstract

“Going green” has become an inevitable trend for the hotel industry given companies' need for costs saving, customers' increasing environmental awareness, and governmental policies and regulations. This study aims to investigate potential green hotel customers' decision-making process and the factors influencing that process. The study produced the following results: (1) customers' environmental concern (EC) (i.e. environmental knowledge, consciousness of environmental issues, and daily ecological behavior) had a significant impact on their attitude toward green practices (AGP), overall attitude toward green hotels (OA), and behavioral intention (BI). Further analyses indicated that environmental knowledge had positive influences on both AGP and OA, while daily ecological behavior was the most powerful predictor of BI; (2) AGP may be measured multi-dimensionally. In addition, the results revealed a three-factor solution of AGP, including practices improving green service quality, practices preventing pollution, and practices reducing energy. The relationships between AGP and OA, as well as OA and BI were moderated by “green hotel experience”. For the group without green hotel experience, AGP significantly influenced OA, and practices improving green service quality was the most powerful predictor of BI.

Keywords: eco-friendly attitude; environmental concern; green hotel; green practices; green hotel purchase intention

Introduction

As the world's largest and best tourism investment market, China's hotel industry has

quickly become one of the fastest-growing industries in the national economy (China National Tourism Administration, 2017). However, hotels using traditional management practices not only incur a higher level of operational costs (Enz & Siguaw, 1999; Tzschentke, Kirk & Lynch, 2004), but also generate a large amount of waste (Gustin & Weaver, 1996; Yim & Penny, 2007). This makes it difficult to meet the long-term interests of the company and of society. At the 5th Plenary Session of the 18th CPC Central Committee, the Chinese government placed special emphasis on green development, which is considered as an important principle for economic and social development during the current “13th Five-Year Plan” and beyond. The emphasis on green development has been attributed to the recent problems of haze pollution and food safety (Tian, Chang, Huang, & Li, 2011). According to a customer survey conducted by a world-renowned market research company (GfK, 2015), up to 80% of Chinese customers believe that brands and companies should be responsible for the environment, while 72% said that they are willing to buy products that conform to their values and beliefs. Therefore, responding to the impetus of national policy and to the increase of customer awareness, the hotel industry in China has ushered in a period of green transformation, making this the best time for the development of green hotels.

The hotel industry in China has made some achievements after learning about green hotel management practices from Western countries. However, there are still problems existing both in practice and in academia about green hotels. For example, although there were more than 700 green hotels in China, with that number rapidly increasing (Green Hotel Development Report of China, 2010), both industry research reports (e.g. China Hotel Association, 2016) and an empirical studies (e.g. Xie, 2016) demonstrated that Chinese customers’ awareness and

understanding of green hotels was still at a low level. This indicates that the promotion of green hotels remains dominated by administrative conduct and governmental leadership (Li & Wei, 2010). Enterprises work toward compliance certification, but they fail to analyze the demand for such products from the customers' perspective (Kasim, 2004; Li & Wei, 2010). Therefore, managers who want to improve competitiveness through green products and services (henceforth "products") need to understand customers' attitudinal characteristics toward environmental protection and to identify the related factors influencing their decision-making process. Then, managers can design and formulate effective communication mechanisms and reasonable green marketing strategies (Gustin & Weaver, 1996; Han, Hsu, & Sheu, 2010).

Research on green hotels in China is still in its preliminary stage, lacking a unified definition and a systematic framework (Li & Wei, 2010). By conducting qualitative analyses, most studies are inclined to propose general suggestions for the development of green hotels based on a particular concept of such hotels and on an analysis of their characteristics (Chen, 2014; Liu, & Zhou, 2012; Lu, 2015; Ruan & Wang, 2017; Xiao, 2011, Zhang, 2013; Zhang, 2016). Although these efforts have opened up the process of research on related topics in China, they have at least two shortcomings. First, there is a lack of literature review in Western literature and the theoretical basis is weak for those studies on green hotels in China. Second, most studies have not adopted customer-oriented empirical research methods. Given that perceptions of green hotel products may vary between Chinese and Western customers, the characteristics of the Chinese customers should be investigated by drawing on the Western literature. This effort can lead to the determination of the theories and methods that are

compatible with the current situation.

Therefore, to understand the eco-friendly attitudinal profile of Chinese customers and to identify the critical factors in their eco-friendly decision-making process, this study undertakes a thorough review of the relevant literature. Two major research objectives are proposed:

- To analyze the characteristics of Chinese customers, including their level of environmental awareness and supportive attitude toward green hotel products;
- To build a theoretical framework for analyzing the Chinese customers' eco-friendly decision-making process.

This study provides a framework of a customer-oriented perspective, and it applies relevant general theories to the specific research context of China. In addition, the research findings may improve the understandings of potential customers' eco-friendly attitudes, helping managers make green marketing plans, especially for brands planning to enter the Chinese market.

Literature review

Green Hotels and Green Practices

At present, many hotels are actively implementing environmental protection measures, but there is still no unified conclusion on how many specific practices it takes to become a green hotel (Jiang & Kim, 2015). Various definitions, made according to the degree of implementation of green practices, are applicable to different stages of green hotel development (Millar & Baloglu, 2011). For example, some scholars have suggested that green hotels are those that show a kind of environmental concern that can translate into a

commitment to ecologically sound practices (e.g. Watkins, 1994). This definition is particularly applicable to the markets that are in the early stages of green hotel development. The most widely used definition of green hotels comes from the Green Hotels Association. Here, green hotels are defined as lodging establishments that perform various eco-friendly practices such as saving water/energy, implementing eco-friendly purchasing policies, and reducing emissions/waste to protect the natural environment and reduce operational costs (Kalafatis, Pollard, East, & Tsogas, 1999; Laroche, Bergeron, & Barbaro-Forleo, 2001). Obviously, this definition is more standardized and systematic, and it may also represent the developmental status of this industry in Western countries. More rigorous views insist that green hotels must adopt an environmental management system that meets international standards and that extends throughout the hotel and between the hotel, its customers, the local community, and suppliers (Chan, 2010). This should be the most mature stage and highest goal for the development of the green hotel industry.

Scholars in China have made fewer attempts to define “green hotels.” Most of the research (Li, 2009; Xu, Wang, & Gao, 2010) has adopted the national standards of green hotels (GB/T21084-2007) promulgated by the General Administration of Quality Supervision, Inspection and Quarantine of China. These standards refer to hotels that advocate the principle of saving resources, protecting the environment, safety, and health in the process of planning, construction, and operation. Under the goal of maximizing resource efficiency and minimizing environmental impact, green hotels are designed to provide customers with safe and healthy products.

However, from the perspective of green marketing, the aforementioned definitions may

have at least two problems in their practical applications. Firstly, the definitions come more from the social or corporate perspective, ignoring communication with customers (Jiang & Kim, 2015). Therefore, many hotel customers misunderstand the situation, thinking that environmental protection practices are there just to help firms reduce operational costs, and that they have little relation with them (Manaktola & Jauhari, 2007). Chinese customers' awareness of the green hotel is generally low (China Hotel Association, 2016; Xie, 2016), and their so-called "green consumption" is often performed unconsciously (Li, 2009). In fact, the protection and responsibility of companies for the environment depends to a large extent on the support and recognition of the market, that is, customer awareness and customer demand are the main incentives and guarantees for the greening of the hotel (Kasim, 2004). If the company wants to achieve the ultimate goal of green marketing through effective communication with customers, then it should develop a customer-oriented definition of a green hotel. Secondly, the concept of "green practices" is the most common and core element in different definitions of the green hotel because such practices represent the unique green attributes of the products. According to the theory of customer demand (Lancaster, 1966), the intention to choose a hotel is somewhat determined by customers' evaluation of the attributes or characteristics of the product (Lockyer, 2005). However, in the green context, the attributes of a green hotel product are categorized as non-essential, unlike the core attributes of a traditional hotel (Manaktola & Jauhari, 2007). Although customers' support for non-essential elements may not necessarily be the decisive factor in buying green hotel products (Kasim, 2004; Watkins, 1994), it significantly affects the customers' overall evaluation of the green hotel (Dimara, Manganari, & Skuras, 2017) along with their level of satisfaction (Robiont &

Giannelloni, 2010). Therefore, the marketing process of green hotels should reflect the customers' supportive attitudes and preferences, to enhance resonance and further stimulate relevant behavioral intentions.

Thus, this study first selected a large number of green practices by thoroughly reviewing the literature (Table 1). These practices appear to be highly relevant to customers and widely implemented by green hotels, and hence they may form the theoretical basis for defining green hotels and for investigating their impact on customers' attitude and behavioral intentions (Baker, Davis, & Weaver, 2014; Bruns-Smiths, Choy, & Chong, 2015; Dimara et al., 2017; Gustin & Weaver, 1996; Hu, Parsa, & Self, 2010; Manaktola & Jauhari, 2007; Millar & Baloglu, 2011). Secondly, by studying the green hotel and green practices, it is reasonable to assume that if the customers support green practices, then their attitude positively influences their overall evaluation of green hotels.

[Table 1 near here]

Customer Decision-making Process for Green Hotels

Studies have shown that when environmentally conscious customers choose to purchase eco-friendly products they are concerned about the impact of their behavior on the environment, that is, the more environmentally friendly the products are, the easier it becomes for such customers to develop a good impression of the product and therefore make the decision to buy (Han et al., 2010).

As for the hotel industry, whether or not the products are eco-friendly depends on customers' judgments of the product's attributes (Lockyer, 2005). Therefore, in addition to the factor of environmental awareness, scholars have also used customers' supportive attitude

toward green practices to predict their demand for green products and their purchase intentions (Manaktola & Jauhari, 2007; Robiont & Giannelloni, 2010; Wu & Teng, 2011). The theoretical basis to support such prediction is found in the theory of planned behavior (TPB), which is an expanded theory of rational behavior (TRA). The core concept of TRA is “intention,” which means that individuals are willing to make an effort to implement a specific behavior. This motivation is influenced by two major factors: “attitude” and “subjective norms” (Fishbein & Ajzen, 1975). Due to the rational nature of these two factors, to achieve more scientific research on marketing and customer behavior, scholars have added an irrational factor to TRA, namely “perceived behavioral control,” thereby expanding the theory of planned behavior (Ajzen, 1985).

TPB is widely used in the study of green hotel customers’ behavioral intentions. The results showed that the three factors mentioned above accounted for large percentage of the variance in behavioral intention (Han et al., 2010). To improve the predictability of TPB, scholars have added factors such as “overall image” (Han & Kim, 2010) and “altruism” (Teng, Wu, & Liu, 2015) to the original conceptual framework.

To the author’s best knowledge, very few scholars in China have tried to analyze the decision-making process for green hotel products with an empirical study, and only one study (Xie, 2016) was based on TPB. However, as the level of Chinese customers’ environmental awareness is not yet clear (China Hotel Association, 2016), and as their overall level of awareness of green hotels is generally low (Xie, 2016), the variables in TPB and related studies may not necessarily be suitable for the current research context. On the one hand, “subjective norms” reflect the social pressures from customers’ relatives, friends, or

colleagues, when deciding whether to choose a green hotel. Here, “perceived behavioral control” embodies the customer’s perceived difficulty in choosing a green hotel, including the required knowledge, time, and other indicators. Obviously, the lack of knowledge about or experience with green hotels among most people in China makes this evaluation more difficult. This leads to the factors of “subjective norms” and “perceived behavior control” potentially exerting insufficient influence on the prediction of customers’ behavioral intentions. On the other hand, “altruism” broadly refers to the principle or practice of concern for the welfare of others (Teng et al., 2015). This single measurement also makes it difficult to fully evaluate Chinese customers’ current environmental awareness and to analyze its impact on behavioral intentions.

In summary, this study does not use the factors of “subjective norms” and “perceived behavior control” in the original TPB model, but it does retain the factor of “attitude.” However, due to Chinese customers’ lack of awareness of green hotels, instead of only measuring overall attitude, this study investigates customer attitudes toward each green practice implemented in a green hotel. In addition, given the unique eco-attributes of green hotel products (Kasim, 2004), this study also incorporates multi-dimensional measures of “environmental concern” to increase the predictability of the model.

Overall Attitude toward Green Hotels (OA)

Attitude is defined as the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question, and attitude can be expressed as a certain kind of emotion or tendency. In addition, a person’s positive or negative attitude strengthens or weakens their intention to engage in a certain behavior (Ajzen, 1991). In the research field

of tourism and in the hospitality industry, customers' attitude to green hotels and restaurants is an important factor influencing their purchasing decisions and related behavior (Baker, 2014; Chou, 2012). The formation of customers' attitude toward green hotels is based on their evaluation and judgment of the unique attributes of the products, and it is an emotional attitude added to the overall understanding and experience of green hotels. This kind of emotional attitude can be manifested as whether customers believe that the choice of the products is desirable, wise, pleasant, or positive (Ajzen, 1991). Therefore, in the green hotel context, for example, when customers think that they can enjoy healthier organic food or participate in environmental protection activities to meet their social responsibility and improve their image, they are more inclined to consider this decision as wise or positive. A number of empirical studies have shown that OA based on the evaluation of product attributes has a decisive influence on customers' purchase intentions (Gustin & Weaver, 1996, Han, Hsu, & Lee, 2009). Therefore, we suggest that if the customers have a good overall evaluation of the green hotel, then they probably show positive behavioral intentions.

Environmental Concern (EC)

Environmental concern (EC) is an evaluation of or an attitude toward the facts, one's own behavior, or the behavior of others that has consequences for the environment (R. Weigel & Weigel, 1978). EC may be measured by different aspects, such as people's willingness and actual behavior, how they emotionally relate to such issues, and their ecological knowledge (Maloney & Ward, 1973), but studies on green hotels have seldom explored EC from a multi-dimensional perspective. Some of the results have indicated that EC has a direct impact on purchase intention (Manaktola & Jauhari, 2007; Barber, 2014), while other studies have

argued that environmentally concerned customers may not necessarily buy green hotel products again (Han et al., 2009). An important reason for this disagreement is partly because the factors used in each individual research represent different levels of EC among customers (Han, Hsu, Lee, & Sheu, 2011). Therefore, this study uses the most common factors from previous studies to develop a multi-dimensional measurement scale, thus establishing a more vivid attitudinal profile of Chinese customers in the context of green products. In this research, EC consists of three constructs: environmental knowledge, environmental consciousness, and daily eco-logical behavior.

Environmental knowledge

This refers to the ability of customers to identify ecological symbols, concepts, and behavior (Laroche, 2001). In the purchasing process, the mastery of this knowledge influences customers' attitudes and evaluation of the products (Murray & Schlacter, 1990), helping them make decisions and convert this knowledge into real behavior (Moisander, 2007).

Environmental consciousness

The perceived severity of environmental problems and thus the importance of environmental protection are recognized as sound measures of customers' consciousness of environmental issues (Roberts, 1996). With such awareness, customers may feel that natural resources are limited and that the ecological environment is vulnerable. This feeling is likely to be transformed into an eco-friendly attitude and into taking specific action on environmental protection (Kalafatis et al., 1999).

Daily eco-logical behavior

This refers to individual behavior that seeks to reduce the waste of resources and prevent environmental pollution. Such behavior includes waste recycling, non-use, and the purchase of disposable products in daily life (Manaktola & Jauhari, 2007). Many scholars have insisted that the real concern of environmental preservation may reflect in everyday life, that is, the customers who frequently engage in eco-friendly activities are the ones more likely to commit to green purchasing (Kalafatis et al., 1999; Roberts, 1996). In the hospitality industry, the extent to which customers engage in these activities is frequently used to measure EC (Han et al., 2010; Hu et al., 2010).

Therefore, it is suggested that the level of EC significantly influences customers' supportive attitude toward green practices and green hotels. The higher the level of EC, the more likely customers are to engage in eco-logical behavior.

Behavioral Intention (BI)

BI is considered as one of the most important factors in predicting the real behavior of customers. It refers to the willingness, readiness, or likelihood to do something (Ajzen, 1991), such as to provide positive/negative recommendations, pay a premium, repurchase, or switch to another brand (Zeithaml, 1996). This has been the most widely used theory in studies on customer behavioral intentions thus far. Specifically, in the green context, BI is defined as the commitment to the possibility of participating in green purchasing behavior. Customers are willing to repurchase, recommend green hotel products to their relatives and friends and pay relatively high prices (Han et al., 2010; Han et al., 2011). However, Chinese customers have a low level of green hotel awareness and many people do not even know if they have ever had a green hotel experience, so the indicator of "recommend" is henceforth revised to "will

proactively learn about the green hotel, and introduce and recommend it to others,” and the indicator of “re-purchase” is revised to “have plans or wishes to choose green hotels next time you travel.”

Research model

EC, AGP (attitude toward green practices), and OA are incorporated into the final research model (Figure 1) as the main influential factors of BI. The research hypotheses are presented as follows:

[Figure 1 near here]

H1. Environmental concern positively influences customers’ attitude toward green practices.

H2. Environmental concern positively influences customers’ overall attitude toward green hotels.

H3. Environmental concern positively influences customers’ behavioral intention.

H4. Attitude toward green practices positively influences customers’ overall attitude toward green hotels.

H5. Customers’ overall attitude toward green hotels positively influences their behavioral intention.

Questionnaire design

As shown in Table 1, there are 22 measurement items of green practices included in the study. However, because they are all derived from the Western literature, it is necessary to further verify their compliance with the Chinese green hotel market (Hair et al., 2010). Therefore, quantitative and qualitative pretests are conducted first to improve the reliability

and validity of the original measurement scale.

According to the list of hotels in Hefei provided by Ctrip, which is the largest OTA in China, 34 hotels of international chain brands (e.g. Westin, Hilton, Sheraton, etc.) and well-known local brands (e.g. Jinjiang Inn, Home Inn, etc.) were randomly selected from the eight administrative regions of Hefei. To ensure a good understanding of the overall operation of the hotel, the survey and interviews randomly selected middle or senior managers as the respondents and interviewees. This process led to the observations below.

Firstly, no matter whether the brand is international or local, upscale or entry-level, all of the respondents showed a certain degree of awareness and understanding of the environmental issues and of green hotel practices. Additionally, the respondents indicated that the environmental awareness of both companies and customers has been continuously increasing, thus further confirming the feasibility and significance of this study.

Secondly, none of the hotels implemented 22 green practices simultaneously, indicating that the green management of the hotel is not yet systematic, which is consistent with the judgment of the current situation of the green hotel industry in China, and with the use of the definition of green hotels in the preliminary phase of this study.

Thirdly, none of the employees raised objections to any of the green practices, stating that in addition to the ones being implemented, other practices are to be implemented in the future. Therefore, the scale has content validity (Hair, Black, & Babin, 2010).

Fourthly, in consideration of brand positioning and the demand of Chinese customers, the only practice that the 34 hotels do not adopt is “toiletory amenities upon request.” To ensure the reliability of the scale, this item was removed. The measurement scale of AGP includes 21

items.

Fifthly, in the interview, the respondents mentioned some practices that did not appear in the questionnaire, such as the use of double-sided printing paper and a hotel with its own garden. As these practices are either not highly relevant to customers or are found in few cases, they are not added to the original scale.

The final questionnaire has six parts. The definition of a green hotel is presented in the first part. As discussed above, hotels that only implement certain green practices would be at a very basic level, while those hotels taking more extensive measures would be at higher levels (Millar, & Baloglu, 2011). Given the level of “greening” of the hotel industry is not high in the current research setting, a basic level of green hotel definition was presented (e.g. “hotels taking various steps to reduce environmental degradation with environmental concern can be considered as a green hotel” (Watkins, 1944). Parts 2-4 include the measurements of EC, AGP, OA, and BI, using a 5-point Likert scale (1= strongly disagree, 5= strongly agree). The last part has questions relating to demographic characteristics and the green hotel experience.

Data collection

Data were collected by the world’s largest Chinese online survey platform: WJX (<https://www.wjx.cn>). This platform is widely used in academic research and social surveys because of the stringent quality control mechanisms in place to ensure the authenticity of the sample. At present, the platform has more than 2.6 million samples. The proportion of males and females in the sample composition is 52% and 48%, respectively (WJX, 2017), which is identical to the characteristics of sampled Chinese green hotel customers (Li, 2009; Xie, 2016). The population of this study is the potential Chinese green hotel customer, and

therefore this online database can be used as a valid sampling frame.

To ensure the representativeness of sampled units, on the one hand, the screening question of whether the respondent has had a hotel stay during the past year was used. This was achieved by the sample service provided by Questionnaire Star. On the other hand, given that the awareness level of “green” is low, even if the respondents had ever stayed at hotels implementing certain green practices, they might have not noticed every detail or developed any awareness of green practices (Li, 2009). Therefore, they were asked to carefully read the description of a green hotel presented in the opening of the questionnaire. It is believed that people with hotel stay experience can better understand the green hotel products mentioned, and recall whether they have had a relevant experience, thus contributing to attitude formation.

The survey was conducted online for two weeks. In total, 300 customers responded to the survey. Although Questionnaire Star could eliminate the possibility of missing data (the system automatically prompts), 42 invalid questionnaires were still found through data inspection because of unreliability (i.e. answers were the same or with a fixed pattern). Finally, the valid data set featured 258 individuals (i.e. 86% usable rate). The research model contains four latent constructs with more than three observed variables per construct, and therefore its sample size of more than 200 can ensure the ideal level of statistical power and is suitable for data analysis using the structural equation model (SEM) (Hair et al., 2010).

Data Analysis

Demographic Profile

Male respondents (51.4%) were slightly higher than the proportion of female respondents

(48.6%). Also, 45.3% of the respondents were between 30 and 39 years of age, and 32.6% of them were less than 30 years of age. Nearly half (49.6%) of the participants held a bachelor's degree, and 25.6% of them obtained a master's degree or a doctorate. In terms of occupation, 51.2% of the respondents were employees, followed by professionals (i.e. teachers, doctors, etc.) (16.4%), and public servants (11%). Of all of the respondents, 35.6% reported a monthly personal income of between \$700-800, while 18.3% indicated an income of more than \$1,300 yuan (18.3%). More than half (51.2%) of the respondents said that they had stayed at a green hotel. The reason for the large difference from previous studies (Li, 2009; Xie, 2016) may be this study's adoption of a basic definition of green hotels. This result verifies the extensive implementation of green practices in China's hotel industry, and also confirms the importance and necessity of this study.

Assessment of Measurement Properties

Firstly, Cronbach's alpha was used to prove internal consistency. The coefficients of all of the constructs ranged between 0.775 and 0.912, and all of them were above the threshold level of 0.70 (Nunnally, 1978), indicating an acceptable level of reliability.

Secondly, as the scales were specifically developed and modified for the green hotel context, scale purification was carried out using exploratory factor analysis. Principal components analyses with varimax rotation identified three components for both EC and AGP with an eigenvalue > 1.0 respectively. The EC with the factors of "environmental knowledge," "environmental consciousness," and "daily eco-logical behavior" accounted for 68.73% of the total variance, and AGP with the factors of attitude toward "practices improving green service quality," "practices preventing pollution," and "practices reducing energy consumption"

accounted for 56.33% of the total variance.

Thirdly, confirmatory factor analysis was conducted after all of the items under each construct were summed to form the first-order reflective indicators. As shown in Table 2, although $\chi^2=163.296$ and $df=59$ ($p<0.001$), the normed chi-square ($\chi^2/df=2.77$) was between 2 and 5. With other goodness-of-fit indices, the results showed that the four-factor model had an acceptable fit with the data (Hair et al., 2010).

[Table 2 near here]

In addition, the convergent validity was supported by the facts below.

Firstly, all of the items were significantly loaded on the specified construct (Kline, 1998).

Secondly, the composite reliability of each construct was between 0.738 and 0.876, which is above the threshold level of 0.60 (Bagozzi & Yi, 1988).

Thirdly, all of the average variance extracted values were above the suggested cutoff of 0.50 (Fornell & Larcker, 1981). Also, all of the AVE values were greater than the squared correlations between constructs (e.g. the squared correlations between OA and EC, AGP, and BI were 0.582, 0.490 and 0.438, all of which were smaller than the AVE of 0.734), confirming discriminant validity (Fornell & Larcker, 1981).

Structural Models and Hypothesis Testing

After verifying the reliability and validity of the measurement model, the hypothesized relationships were examined by performing a structural model. As shown in Table 3, the overall model fit index ($\Delta\chi^2=164.122$, $df=60$, $p=0.000$, $\chi^2/df=2.74$) and other goodness-of-fit indices, including RMR (0.019), GFI (0.904), NFI (0.932), CFI (0.955), and RMSEA (0.082), all indicated that the conceptual model generally fits the data well (Hair et al., 2010).

Although not all of the proposed hypotheses were supported, the predictive relationships between the exogenous construct of EC and other endogenous variables were all proved to be significant (Table 3). Here, EC positively influenced AGP (H1: $\beta=0.881$, $t=10.305$, $p<0.001$), OA (H2: $\beta=0.741$, $t=5.060$, $p<0.001$), and BI (H3: $\beta=0.729$, $t=4.935$, $p<0.001$). The explained variance was 77.7% for AGP, 77.2% for OA, and 63.3% for BI, respectively.

[Table 3 near here]

However, no significant effects were found for AGP on OA (H4: $\beta=0.152$, $t=1.074$, $p>0.05$), or for OA on BI (H5: $\beta=0.142$, $t=1.06$, $p>0.05$), and these results are in disagreement with the theory arguing that customers' attitude toward green hotels is based on their evaluation of the products' attributes (Robiont & Giannelloni, 2010), which influences their behavioral intentions (Han et al., 2009).

These differing results might be due to the hypotheses proposed in this study being based on the premise that customers have little knowledge of green hotel products, and that the development of supportive attitudes does not require direct experience with such products (Karjaluoto, Munnukka, & Kiuru, 2016). However, almost half of the respondents reported that they had never stayed at green hotel(s) in this study. In addition, during the pretest, some of the respondents thought that green practices such as "the linen reuse program" was necessary for energy saving, but they also did not hesitate to cast their doubts on the service quality. The rationale behind this phenomenon could be "whether the green experience would bring customer good feelings or other benefits" (Jiang & Kim, 2015), and if it was, customers might have positive evaluations and even behavioral intentions. As there is a significant positive correlation between customers' experience and their overall attitude/satisfaction and

behavioral intention toward the products (Berry, Parasuraman, & Zeithaml, 1994; Knutson, Beck, & Kim, 2009; Xu & Chan, 2010), it is reasonable to believe that “experience” may have exerted an effect on the relationship between AGP and OA, and on the relationship between OA and BI. For example, when a customer has an unpleasant experience with green hotel products, even if they support the activities of environmental protection, it becomes difficult to develop a good overall impression or attitude toward the green hotel, not to mention related behavioral intentions. Therefore, further analyses are required.

Post-hoc analyses

Multi-group analysis

If the third variable changes the relationship between the other two variables, then it can be called a moderator and has a moderating effect (Baron & Kenny, 1986). Therefore, this study took the “green hotel experience” as a moderator and divided the original data set into two groups. One is the group with green hotel experience (N = 132) and the other is the group without green hotel experience (N = 126). If there are five or fewer latent constructs in the SEM model, and each has three or more observed variables, and the communality is greater than 0.60 (0.676-0.849 in this study), then the minimum sample size required is 100-150 (Hair, et al., 2010). Therefore, to verify whether the relationship between the latent constructs in the original model is affected by the moderator, multi-group analysis can be used in this study.

Comparison of measurement models. To ensure cross-group validity, this study first used multi-sample confirmatory factor analysis to compare the unconstrained and constrained model, testing measurement invariance.

[Table 4 near here]

As shown in Table 4, compared with the increase in df from the unconstrained model to the measurement residual model, the increase in chi-square was not significant. By analyzing goodness-of-fit indices such as RMSEA, the overall model fit was acceptable. It is obvious that regardless of the constraints placed on the regression coefficient ($\Delta df=9$, $\Delta\chi^2=17.021$, $p>0.05$), and regardless of the covariance ($\Delta df= 19$, $\Delta\chi^2=30.656$, $p>0.01$) or the error variance ($\Delta df=32$, $\Delta\chi^2=57.888$, $p>0.01$) of the measurement model, the overall goodness-of-fit level is not reduced. Therefore, comparison of the differences of chi-square and df between unconstrained model and each constrained model indicated that there was measurement invariance between the groups.

Comparison of Structural Models. After the confirmation of no significant difference in the understanding of the latent constructs between the groups, the moderating effects among constructs were tested by comparing the structural models. The results showed (Table 5) that the unconstrained model with the group with green hotel experience and the group without green hotel experience fit the data well ($\chi^2=265.137$, $df=120$, $p<0.001$, $RMSEA=0.069$, $CFI=0.939$). Based on the empirical results and relevant theories of this study, the constrained model 1 and model 2 were set up by constraining two path estimates, that is, AGP and OA, and OA and BI. The differences of chi-square value were then compared with the unconstrained model.

[Table 5 near here]

Comparison of unconstrained and constrained model 1. The chi-square difference between the models ($\Delta\chi^2$) was 4.788 with one degree of freedom. A value higher than 3.84 was significant, indicating that constraining the path (i.e. AGP to OA) estimate to be equal

between the groups produced worse fit. Therefore, “green hotel experience” did moderate the relationship between AGP and OA. It seems that AGP is positively related to OA among the respondents without green hotel experience ($\beta=0.485$, $t=2.436$, $p<0.05$) but negatively related to OA among the respondents with green hotel experience ($\beta=-0.116$, $t=-0.495$, $p>0.05$).

Comparison of unrestricted model and restricted model 2. The chi-square difference between the models ($\Delta\chi^2$) was 4.247 with one degree of freedom. A value larger than 3.84 was significant, indicating that constraining the path (i.e. OA to BI) estimate to be equal between the groups produced worse fit. Therefore, “green hotel experience” did moderate the relationship between OA and BI. It seems that OA is positively related to BI among the respondents without green hotel experience ($\beta=0.435$, $t=2.110$, $p<0.05$) but negatively related to BI among the respondents with green hotel experience ($\beta=-0.059$, $t=-0.222$, $p>0.05$).

T-test

The results of multi-group analysis indicated that the green hotel experience did moderate the relationships between AGP and OA, and also between OA and BI. Given the importance of AGP, this study uses a T-test to investigate if there is any significant difference in AGP between the two groups. As shown in Table 6, on the one hand, customers generally held a very positive attitude toward practices improving green service quality ($M=4.55$, $SD=0.479$), especially for those practices closely related to their health, such as the use of green building materials ($M=4.66$, $SD = 0.508$) and non-toxic cleaning supplies ($M = 4.61$, $SD = 0.562$), and they also held a positive attitude toward having visible communications on green practices around the properties ($M = 4.61$ $SD = 0.583$). Compared with practices preventing pollution ($M=4.47$, $SD=0.590$), customers’ supportive attitude toward practices reducing energy

consumption seemed less strong ($M=4.12$, $SD=0.690$), especially for practices such as using key-cards to turn power on and off ($M=3.88$, $SD=1.081$), shampoo dispensers ($M=3.80$, $SD=1.175$), and linen reuse programs ($M=3.72$, $SD=1.088$). On the other hand, comparing the mean value of practices improving green service quality ($T=1.005$, $p>0.01$), practices preventing pollution ($T=1.020$, $p>0.01$), and practices reducing energy consumption ($T=2.292$, $p>0.01$), using an independent sample T test suggested that no significant differences were found in customers' supportive attitude toward green practices due to their green hotel experience.

[Table 6 near here]

Multiple stepwise regression analysis

According to the results of SEM, EC exerted a significant impact on AGP, OA, and BI, respectively. In addition, the AGP of the group without green hotel experience was positively related to OA. Therefore, this study explores the relative importance and separate role of each dimension for both EC and AGP in predicting customers' behavioral intentions, using stepwise multiple regression analysis (SMRA).

[Table 7 near here]

Table 7 shows three main results. Firstly, all of the three dimensions of EC had a significant impact on AGP, explaining 53.4% of the total variance. Based on the absolute magnitude of the standardized coefficient, environmental knowledge was found to be the most powerful predictor of AGP ($\beta=0.353$, $t=5.660$, $p<0.001$). Secondly, all of the three dimensions of EC also had a significant impact on OA, explaining 58.5% of the total variance. Environmental knowledge was still the most powerful predictor ($\beta=0.429$, $t=7.290$, $p<0.001$).

Thirdly, when predicting BI, only daily eco-logical behavior ($\beta=0.437$, $t=7.817$, $p<0.001$) and environmental consciousness ($\beta=0.359$, $t=6.426$, $p<0.001$) showed a significant impact, explaining 51.2% of the total variance. Fourthly, as for the group without green hotel experience, practices improving green service quality ($\beta=0.558$, $t=7.317$, $p<0.001$) and practices reducing energy consumption ($\beta=0.213$, $t=2.790$, $p<0.01$) had impacts on the formation of OA, explaining 47.1% of the total variance.

Discussion

This is one of the few empirical studies to explore the decision-making process of green hotel purchases in China. It might be the first attempt to develop a multi-dimensional scale of green practices, and to incorporate EC and AGP into the theoretical model of TPB to make it more applicable for the research setting. This study continues and improves the understanding and research on potential Chinese green hotel customers' attitudinal and behavioral characteristics. Although not all of the proposed hypotheses were proved, the research findings still provide profound theoretical and managerial implications.

Theoretical Implications

Firstly, identifying multiple aspects underlying EC consolidates and deepens understanding of the green attitudinal profile of customers, especially in this specific research setting, thus improving the ability to predict green behavior. The three components of the results were supported by previous studies (e.g. Hu et al., 2010). Through further analysis, it was found that whether customers have environmental knowledge greatly affects their supportive attitude toward green practices and their overall impression of green hotels (Murray & Schlacter, 1990). When predicting BI, the factor of whether customers practice daily

eco-logical behavior was proved to be a powerful predictor (Han et al., 2010). The results suggested that AGP can be measured from three aspects: practices improving green service quality, practices preventing pollution, and practices reducing energy consumption. On the one hand, these results help researchers to better understand customer demand and to define the green hotel from a customer orientation; on the other hand, the results enhance the ability to predict and interpret customers' behavioral intentions. Through further analysis, it was found that the AGP of the group without green hotel experience greatly affects their overall evaluation of green hotels, and therefore directly influences the formation of behavioral intentions.

Secondly, the results show that EC has positive effects on AGP, OA, and BI. In other words, how knowledgeable and conscious customers are regarding environmental issues can influence whether they develop a good attitude toward the green practices and toward the green hotel itself, whether related behavior emerges, and whether such behavior is eco-logical in their daily lives. Even though Han et al. (2009) argued that environment concern, in and of itself, has no significant effect on eco-behavior, an important reason for this disagreement is this study's different interpretation of EC, one emerging from a multi-dimensional and loose-to-strict perspective. Moreover, the relationships of AGP with OA and of AGP with BI were significantly moderated by "green hotel experience." That is, the stronger attitude shown by the group without green hotel experience for AGP, the more likely it is that they develop a good overall impression of the green hotel, which further reinforces their related behavioral intentions. Although there was no significant difference of AGP between the group with experience and the group without experience, this finding does not positively impact either

OA or BI for the group with green hotel experience.

Managerial implications

Although the result showed that nearly half of the respondents have not stayed at a green hotel, this proportion is far lower than that reported by other Chinese studies (Li, 2009; Xu et al., 2010). This indicates that although the greening process of the hotel industry in China is fast and that the level of customers' environmental concern is continuously improving, there is still a wide gap of understanding between the customers and green hotels. Therefore, an efficient and high-quality communication mechanism should be created.

Communication Information

Environmental-knowledge-positioned information. Recently, more customers have become concerned about the environment due to the problems of haze pollution and food safety. However, according to the results for EC, it was generally believed that the responsibility for environmental protection lies heavily on the government and enterprises ($M= 4.67$, $SD=0.533$), with those institutions ranking first in terms of shouldering responsibility. This belief was followed by the belief among respondents that conventional hotels consume an enormous amount of resources and harm to the environment ($M=4.08$, $SD=0.870$). This finding suggests that most people do not understand how their choices and consuming behavior pertaining to hotel products influence the sustainability of the environment. Therefore, managers and marketers should regard the knowledge of environmental protection that closely relates to hotels as the key content of their communication with customers. For example, such communication may convey the differences in business philosophy between the green hotel and the conventional hotel, along

with the great efforts green hotels have made on energy conservation and emission reduction. In addition, explanations of the customers' role in protecting the environment should be proactively communicated. Such information, to some extent, can resonate with customers, creating favorable impressions, stimulating their support, and even reinforcing positive behavioral intentions toward green hotels.

Green-practices-positioned information. Communicating the benefits to society and the environment does not necessarily guarantee the success of the green hotel. Customers' recognition and support for green attributes is the key to their overall evaluation of the property (Han et al., 2009). Therefore, managers and marketers should understand how to inform their customers about the characteristics of the products, so that customers may decide whether or not the products can meet their needs or even create a better experience. When defining a green hotel from the customer's perspective, it is entirely possible to focus on the practices that improve green service quality to help them understand that green practices not only reduce energy consumption and prevent pollution, but also, more importantly, provide higher quality products such as a healthier diet (e.g. organic food) and green hotel stay experience (e.g. green building materials). Such information more easily affects customers' acceptance of the green hotel and stimulates relevant behavioral intentions.

Communication Methods

Online + offline. The results shown in Table 6 suggest that the customers' desire for green knowledge is very strong. Therefore, managers and marketers may adopt ongoing information campaigns both online (Chan, 2013) and offline (Jiang & Kim, 2015) to educate the market. On the one hand, social media marketing strategies should not only convey positioned

information based on environmental knowledge and green practices, but also motivate them to share their green hotel experiences. This kind of e-WOM marketing is more conducive to the rapid dissemination of information and resonance. On the other hand, in addition to presenting physical evidence demonstrating the nature of their green products, hotel managers and marketers should enter into the communities where customers work and live. By proactive communication and interaction (e.g. hazards associated with the use of disposables), customers may start to engage in environmental protection activities in their daily lives. As the results shown in Table 7 indicate, the more active customers are in terms of their daily eco-logical behavior, the more likely they are to promote and use green hotel products.

Two-way communication. Strategies and plans should not be drawn up behind closed doors, especially when customers are still relatively unfamiliar with green hotel products. Managers and marketers should establish multi-channel mechanisms for communication and feedback to become informed about the customers' evaluation of their experiences and about the real demand, so that the quality of green hotel products may continuously improve. For example, customers can be very supportive of the use of recycling bins in the hotel's public spaces. However, after staying at a green hotel, one customer suggested that placing the bin in the room makes it much more convenient. The adoption of this suggestion is particularly critical to improve the quality of green services, and hence to improve customer brand loyalty.

Goal orientation. The hotel's adoption of green positioning, as one of the major development strategies at this stage, creates in the minds of customers an impression of environmental leadership. Based on the results, managers and marketers should adopt a consistent calculation and reporting system of their carbon footprint, guided by the long-term

goal of protecting the earth, the environment, and human beings. Continuous communication with customers may include statistics on carbon emissions, the degree of progress and contributions made by the green hotel, or even of the entire industry, thus cultivating a sense of responsibility among customers for lessening negative impacts on the environment. Such communication can build a high level of confidence in achieving the goals that are shared by customers and green hotels.

Customer orientation. According to the pretest, not all of the green practices derived from previous studies can be applied to hotels in China. Managers and marketers should not use the common definition of the green hotel but instead communicate the most relevant information with the target market based on their own resources and market positioning. For example, as a budget hotel finds it challenging to meet stringent eco-standards, if too much emphasis is placed on practices that reduce energy consumption (e.g. linen reuse programs), then it is likely that price-sensitive customers may interpret the so-called green marketing campaign as just a gimmick (Jiang & Kim, 2015). The use of overly professional terms should also be avoided as much as possible to enable ordinary customers to receive information quickly and precisely, thus helping them make purchasing decisions.

In addition, the results (Table 5) showed that although there were no significant differences in customers' attitude toward green practices due to the green hotel experience, the attitude of the group with green hotel experience did not positively influence their overall evaluation and behavioral intention. This indicates that on the one hand the green hotel experience has failed to improve customers' value and satisfaction. On the other hand, it also confirms the contradiction between the short-term interests of individuals and the long-term interests of

society (Robiont & Giannelloni, 2010). Therefore, the responsibility of managers and marketers should not only lie in promotion but also in making efforts to improve the quality of green hotel products, especially for the products that may reduce perceived quality (e.g. changing generic shampoo dispensers to branded ones). Even if communication is effective, the best way to keep customers coming back is to improve their perceived value and experience.

Limitations and Future Research

The hypotheses proposed were specifically aimed at potential green hotel customers. However, more than half of the respondents thought that they have had a past green hotel experience due to the definition of green hotel in the preliminary phase of this study. This issue had a significant impact on this study's final results, which were considerably unpredictable when reviewing the literature and designing the research. However, this study is one of the very few attempts to develop multi-dimensional measurements of green practices. Although the empirical results were relatively satisfactory, the theoretical support seemed somewhat inadequate. Therefore, based on the results of this study, future research may be conducted to explore the benefits brought about by green hotel products. Such future research may incorporate this study's approach into the research model to improve the understanding of green hotel customers' decision-making process.

In addition, this study did not investigate levels of hotel brands. According to the pretest, different star-rated hotels may have differences in their focus and differences in the extent to which they implement green practices, in consideration of their resources and brand image. The characteristics of different target markets for hotels of different levels can also result in

the diversification of demand in the decision-making process (Xie, 2016). Future research can also include more updated technology-based green practices such as those utilizing Artificial Intelligence or Virtual Reality. Therefore, relevant variables may be used in future studies to improve the generalizability of this research.

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