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Luxury hotels going green—The antecedents and consequences of consumer hesitation

Abstract

Luxury hotels might hesitate to operate in a more environmentally friendly way because they worry such practices will harm their performance. However, hotels can have a significant impact on the natural environment. Building on protection motivation theory, this study examines consumers' evaluations of luxury hotels that are becoming more environmentally friendly by investigating the influences of perceived risks (i.e., functional, financial, hedonic, and self-image risks) on consumers' hesitation and subsequent purchase intentions. Additionally, the moderating effect of consumers' green hotel knowledge on the influences of perceived risks on hesitation is examined. Questionnaires were completed by 548 participants from Taiwan and revealed that perceived risks can significantly influence hesitation, which can in turn affect purchase intentions. Furthermore, green hotel knowledge moderates the influence of perceived functional and hedonic risks on hesitation. This study's contributions to the luxury product consumption literature and sustainable tourism studies are discussed.

Keywords: luxury service products; luxury hotel; perceived risk; green hotel knowledge; hesitation; protection motivation theory

Introduction

The concept and practices of green hotels have attracted the attention of scholars, policymakers, and practitioners due to the potential impacts of hotels on the natural environment (Chen & Peng, 2012; Han, Hsu, & Sheu, 2010; Kim & Han, 2010). However, since the 2010s, consumers have become more critical and aware of hotels' greenwashing propensities (Rahman, Park, & Chi, 2015), which has caused some hotels to be hesitant when considering adopting new or additional green practices. Greenwashing refers to the act of misleading consumers regarding a company's environmental practices and/or a product or service's benefits to the environment (Parguel, Benoit-Moreau, & Larceneux, 2011). Greenwashing as a phenomenon confuses consumers when they evaluate products and negatively influences their confidence when organizations adopt green practices for genuine reasons. Many consumers confirm that they believe organization's green initiatives are often only a marketing strategy and that they distrust these claims. Chen and Chang (2013) suggest that the skepticism about greenwashing can ultimately cause consumers to stop purchasing green products altogether.

The greenwashing phenomenon is prevalent in the tourism and hospitality sector, as these products are mostly intangible (Ponnareddy, Priskin, Ohnmacht, Vinzenz, & Wirth, 2017). Greenwashing in the hotel industry context often involves hospitality services, in which providers overstate their efforts to protect the environment when cost-saving is their actual motive. An example of this problem is asking lodgers to reuse their towels to conserve water but with the additional, or even sole, motive of trying to reduce laundry expenses (Ponnareddy et al., 2017; Rahman et al., 2015). Another example of greenwashing would be companies claiming their products are 100% organic, but they cannot provide supporting evidence to prove it.

A luxury hotel is defined as a hotel that is unique and superior in quality and that provides excellent service, symbolizing the wealth and status of its patrons (Berthon, Pitt, Parent, & Berthon, 2009; Chen & Peng, 2014). To achieve and maintain luxury status, hoteliers sometimes adopt practices that could have a negative impact on the natural environment (Line & Hanks, 2016). For example, luxury hotels switch towels in customers' rooms even if not used. Four luxury hotels in New York, Waldorf Astoria, Grand Hyatt, Loews Regency, and the Peninsula, accounting for more than 11,000 guest rooms, produced more than 105,000 tons of greenhouse gas emissions (Vora, 2016). In addition, water usage is high in the hotel industry. Each hotel room uses approximately 250-500 liters of water per day (SiteMinder, 2019).

However, apart from being criticized for greenwashing, the luxury hotel sector has an additional reason to be hesitant about operating in a more environmentally friendly way, as hoteliers may worry that such behavior will decrease their hotels' perceived luxury value, authenticity, and brand image (Cervellon, 2013; Kang, Stein, Heo, & Lee, 2012). Although challenges exist, luxury hotels also have more reasons than before to operate in a more sustainable way, such as being resource efficient and protecting the natural environment. First, certain consumer segments, such as millennials, women, and consumers with university degrees or higher, have started to demand more sustainable travel options (Cervellon, 2013; Lee, 2017; Zsóka et al., 2013). Second, due to technology advancements, some green practices, such as recycling programs, reduce hotels' operating costs and can even generate revenues (Perramon, Alonso-Almeida, Llach, & Bagur-Femenías, 2014). Third, adopting green initiatives can act as "reputation insurance" for luxury hotels because more consumers and organizations are willing to hurt a corporation's equity, by, for example, staging protests outside of hotels, if they believe these hotels are not operating in a sustainable way (Cervellon, 2013). Luxury hotels' decisions to operate in a more sustainable way can be a

particular concern for researchers, practitioners, policymakers, and the public, as luxury hospitality services represent the third largest market share in the global luxury product industry behind personal luxury goods and luxury cars. In addition, luxury hospitality services have been growing steadily and were valued at US\$217.6 billion in 2017 (Bain & Company, 2018).

Considering the developments mentioned above and the observation that the survival of green products is partially dependent on consumers' willingness to support green products by taking actions such as staying at green hotels when traveling (Chan, 2001; Teng, Wu, & Liu, 2013; Ponnepureddy et al., 2017), further research on how consumers perceive luxury hotels' green initiatives could add value to existing theory and practices. Researchers have investigated luxury hotels and environmentally friendly practices (e.g., Chen & Peng, 2012; 2014; Baker, Davis, & Weaver, 2013; Kang et al., 2012; Manaktola & Jauhari, 2007). Chen and Peng's (2012) research investigates tourists' decisions to stay at green hotels when traveling by using the theory of planned behavior. Baker et al. (2013) and Manaktola and Jauhari (2007) explore consumers' attitudes and green hotel staying behavior. Kang et al. (2013) examine consumers' willingness to pay for hotels' green initiatives. Scant research has explored hotels' value propositions and/or risk perceptions when they are in the process of becoming more environmentally friendly from consumers' perspectives. However, opportunities for further research exist.

First, Wiedmann, Hennigs, and Siebels (2009) suggested consumers evaluate the value and risks of luxury products before making a purchase. However, existing research on luxury service products tends to focus more on these products' perceived luxury values than their perceived risks (Chen & Peng, 2018; Yang & Mattila, 2016). Moreover, purchasing luxury service products when traveling for tourism purposes involves risks given that tourists have little or no opportunity to sample a luxury service prior to consumption and that the

service quality is generally more variable than the product quality (Chen & Peng, 2018). Furthermore, initiating new green practices might contribute to tourists' perception of luxury hotels' risks, as some of these practices require hoteliers to change their existing procedures and offers (Cervellon, 2013; Kang et al., 2012; Rahman et al., 2015).

Proposing and examining a research framework by considering the relationships between perceived risk, hesitation, and consumers' purchasing intentions when luxury hotels initiate new green practices can contribute to the literature on environmentally friendly practices and luxury hotel consumption. In tourism research, hesitation has been mentioned as an important variable that could affect consumers'/tourists' subsequent behaviors (Wong & Yeh, 2009); however, few frameworks have tested this factor's antecedents or influence. In addition, previous studies investigating risk perceptions' effects focused mainly on perceived overall risk (e.g., Chang & Wu, 2012; Deng & Ritchie, 2018; Sohn, Lee, & Yoon, 2016). From a theoretical perspective, this approach might not be sufficient, as the risks differ and their influence on consumers might vary. Furthermore, the findings have been inconsistent (Aghekyan-Simonian, Forsythe, Kwon, & Chattaraman, 2012). This research adopts Chang and Ko's (2017) risk perception scales to study tourist behavior as it considers different types of risks (i.e., functional risk, financial risk, hedonic risk, and self-image risk).

Second, when promoting green products, Cronin Jr., Smith, Gleim, Ramirez, and Martinez (2011) mentioned that consumers' green product knowledge is a key factor that companies need to be aware of because knowledge has the potential to influence all phases of the consumption decision-making process (Laroche, Bergeron, & Barbaro-Forleo, 2001). The survival of green products and practices may partially be based on consumers' understanding of the importance of environmental issues (Chen & Peng, 2012); however, whether consumers' knowledge about green hotels is sufficient to offset the concerns that consumers have when selecting luxury hotels implementing new green practices remains to be explored.

Furthermore, previous studies' emphasis has been on knowledge direct influence (e.g., Kang, Liu, & Kim, 2013; Pagiaslis & Krontalis, 2014) rather than its moderating effect. In particular, the ability of knowledge to reduce the effects of perceived risks on hesitation has remain less explored. Additional research on how consumers' green hotel knowledge might moderate the effects of perceived risks on consumers' level of hesitation might shed new insight on the relationships between knowledge, perceived risks, and hesitation. It can make a contribution to the literature on sustainability and luxury product consumption and could also provide implications for practitioners and policymakers.

The study aims to contribute to existing theory and narrow the gaps in the sustainable tourism literature and luxury product consumption research in three ways. First, it provides a framework for examining tourists' hesitation to stay at luxury hotels when traveling and their purchase intentions by incorporating a "green hotel knowledge" variable into a consumption risk model. Few studies have explored luxury service providers' challenges when trying to be more sustainable despite it being a particular concern for practitioners, policymakers, and the public. Second, as existing luxury product consumption studies have focused more on their perceived value than perceived risks, the study tests the influence of perceived risks (i.e., perceived functional, financial, self-image, and hedonic risks) on tourists' levels of hesitation to stay at luxury hotels when traveling. This study intends to further the existing understanding on how different perceived risk dimensions affect consumers when purchasing luxury service products. The findings can contribute to the literature on perceived risks. Third, previous studies on consumer knowledge often investigate knowledge's direct influence on consumption behavior. This research adds value to the literature on knowledge's indirect effect by examining the ability of green hotel knowledge to moderate the effects of perceived risks on hesitation.

Literature review

Protection motivation theory

To support the investigation, the study draws on protection motivation theory, which studies the likelihood that an individual will engage in protective behavior when exposed to a risky decision-making process (Roger, 1975; Wong & Yeh, 2009; Youn, 2009). An individual's motivation to protect himself/herself from risks arises from several appraisal processes, including the likelihood the risk will occur, the severity of the risk, and the potential that protective behavior will reduce the risk (Rogers, 1975). Later studies further developed this theory by suggesting that self-efficacy, response costs, and rewards are also relevant to studying how an individual might respond to risk (Maddux & Rogers, 1983; Rogers, 1983). Although the relevant framework of protection motivation theory has been expanded, its main goal remains: to understand the likelihood that an individual will engage in protective behavior when making a risky decision or one with a highly uncertain outcome (Wong & Yeh, 2009). Protection motivation theory has been used to study the effectiveness of marketing communication techniques, such as fear appeals, and online security (Anderson & Agarwal, 2010; Gallopel-Morvan, Gabriel, Gall-Ely, Rieunier, & Urien, 2011; Youn, 2009), and it has been applied to the study of tourist behavior because travel decisions are often influenced by individuals' perceptions of the safety and risks of a region (Wong & Yeh, 2009).

Perceived risks

To examine tourists' evaluation of luxury hotels when these hotels implement new green practices, this study focuses on consumers' perceived risks regarding luxury hotels. In consumer behavior studies, perceived risk refers to consumers' perceived uncertainty regarding negative consequences associated with a purchase decision. It is consumers'

subjective evaluations associated with the possible consequences of making wrong decisions (Chen & Chang, 2012). The studies of perceived risks are derived from the study of negative consequences and research on uncertainty. The former focuses on negative outcome, whereas the latter emphasizes the decision-making process that might lead to positive or negative outcomes. In recent research, researchers integrate negative consequences and processes that may lead to negative uncertainties when assessing perceived risk (Chang & Ko, 2017; Chen & Chang, 2012).

The influence of perceived risk is particularly apparent when buyers have insufficient knowledge about the product and/or seller. Aghekyan-Simonian et al. (2012) and Chen and Chang (2012) argue consumers of green products and consumers who shop online prefer to minimize their perceived risks rather than to maximize their utility. In addition to green products and online shopping behavior, perceived risk is important when studying consumers' luxury hospitality service product purchase behavior (Chang & Ko, 2017; Chen & Peng, 2018). Lowering a product's perceived risk has been suggested as a main factor that can affect consumers' luxury product purchase behavior (Chang & Ko, 2017).

Wiedmann et al. (2009) reported that consumers evaluate the value and risks of luxury products before making a purchase. Nonetheless, consumers' decisions to purchase luxury service products when traveling might be heavily influenced by their risk perceptions given that these tourists have little or no opportunity to sample a luxury service prior to consumption and that these services tend to be more expensive than nonluxury services (Chen & Peng, 2018). Because luxury service products tend to have premium quality, a recognizable style, a strong reputation, high hedonic value, and greater expense than nonluxury service products, researchers have suggested that the particular characteristics of these products must be considered (Chang & Ko, 2017; Chen & Peng, 2018; Yang & Mattila,

2016). For this reason, this study adopts Chang and Ko's (2017) perceived risk dimensions because their research context was luxury hospitality services.

Chang and Ko (2017) delineated four perceived risks when purchasing luxury services: perceived functional risk, perceived financial risk, perceived hedonic risk, and perceived self-image risks. In the context of this research, functional risk refers to the perceived risk that purchasing a luxury hotel service after it initiates new green practices might fail to provide the desired utility and performance (Chang & Ko, 2017). The financial risk of a luxury hotel relates to consumers' perceptions of whether staying at luxury hotels adopting new green practices when traveling is worth the price (Wiedmann et al., 2009). Hedonic risk relates to consumers' perceptions of whether staying at luxury hotels that adopt new green practices when traveling can arouse their emotions of indulgence, joy, and pleasure (Yang & Mattila, 2016). Self-image risk refers to consumers' perceived risk that their self-image could be negatively affected after staying at luxury hotels that have adopted new green practices (Chang & Ko, 2017).

Hesitation

In terms of the direct influence of these perceived risks, this research focuses on hesitation. In this study, hesitation refers to the consumer's decision to postpone or defer luxury hotel stays by taking additional processing time before making final product purchase decisions. Perceived risk can make a consumer hesitate over any new purchase and struggle to make similar purchases in the future (Chang & Wu, 2012). Cho, Kang, and Choen (2006) argued that risk perception should be treated as the main antecedent of hesitation instead of other factors.

The study of hesitation derived from research on decision-making styles. Hesitation is one style consumers display when encountering information provided by marketers and/or

when making a decision with a highly uncertain outcome (Wong & Yeh, 2009). Earlier consumer behavior research does not often discuss consumers' decision-making style when choices involve risk despite it being a situation consumers face regularly (Wong & Yeh, 2009). Nevertheless, it has received additional attention since the 2010s from researchers who studied online shopping behavior after observing many online shoppers postponing or delaying their purchase decisions (Chang & Wu, 2012; Huang, Korfiatis, & Chang, 2018; Zheng, Lee, & Cheung, 2017). Hesitation as a decision-making style is particularly influential before consumers make their final purchase decision. Consumers could exhibit an avoidance and/or a postponing behavior when they hesitate (Hong & Cha, 2013). Hesitant consumers are more likely to abandon their shopping cart compared to less hesitant consumers (Huang et al., 2018).

The concept of hesitation has been applied to the tourism context. Wong and Yeh (2009) confirmed that tourists will hesitate in their decision to choose a destination if the destination is perceived as risky or potentially unsafe. This situation occurs because travel decisions can be influenced by the perception of risk consumers have of specific regions. Regarding the influence of hesitation, this research examines tourists' purchase intentions, defined as a consumer's desire to stay at luxury hotels while participating in international tourism (Chen & Peng, 2014).

Green hotel knowledge

Although studies have shown that perceived risk could cause an individual to hesitate, the literature has also shown that being knowledgeable about the subject could moderate this relationship (Chang & Wu, 2012; Wong & Yeh, 2009). Green hotel knowledge is defined as consumers' self-perceived knowledge of facts, concepts, and relationships concerning the impact of hotels on the natural environment (Fryxell & Lo, 2003). Consumer knowledge and

its effects have been researched extensively in the consumer behavior literature (Naderi, Paswan, & Guzman (2018). Consumers' knowledge influences all phases of the consumption process, and some researchers have suggested that it is particularly influential when consumers process market/product information (Lin & Chen, 2006). This influence occurs because knowledge reinforces or undermines the impact of a brand's message (Naderi et al., 2018). Naderi et al. (2018) suggest that consumers with a high level of product knowledge can process brand information and make decisions faster than those with limited product knowledge because they can retrieve relevant information more effectively. In addition, a fit between consumer knowledge and brand information will enhance brand evaluation favorableness and increase the ease of judgement and decision making.

Consumers' product knowledge has been identified as a key factor when purchasing luxury products and green hotel stays (Bian & Moutinho, 2011; Chen & Peng, 2012). For example, tourists are more willing to stay at environmentally friendly hotels if they consider themselves to be knowledgeable about the details of green hotels and environmentally friendly practices (Chen & Peng, 2012). Consumer knowledge is also relevant when studying consumers' risk perceptions of luxury hotels when these hotels implement environmentally friendly measures because consumers must process new information, using their green hotel knowledge to evaluate luxury hotel's revised brand image and offer (Chen & Peng, 2012). An exploration of green hotel knowledge's moderating effect on the relationship between perceived risks and hesitation might benefit existing literature and practices.

Research framework and hypotheses

This study hypothesizes that perceived risk (i.e., perceived functional risk, perceived financial risk, perceived hedonic risk, and perceived self-image risk) could influence hesitation and affect consumers' intentions. In addition, the study proposes green hotel

knowledge can moderate the relationship between perceived risk and hesitation. The first relationship to be examined is the influence of perceived functional risk on tourists' hesitation levels. A key characteristic of luxury products is superior quality (Berthon et al., 2009; Chen & Peng, 2018; Yang & Mattila, 2016). When making a purchase, luxury product consumers will be concerned about the ability of these products to provide superior utility in comparison to nonluxury products (Chang & Ko, 2017). Luxury hotels must sometimes alter their offerings and procedures when implementing new environmentally friendly practices, such as lowering the water pressure of showerheads to conserve water (Kang et al., 2012). Some consumers worry that new green practices can be detrimental to the comfort aspects of their hotel experiences, making luxury hotels no longer superior to nonluxury hotels (Line & Hanks, 2016). The study proposes that consumers will delay making the decision to stay at a luxury hotel if they are worried that the hotel will no longer be well maintained because of the implementation of new green practices (H1).

H1: Perceived functional risk has a positive effect on consumers' hesitations toward staying at luxury hotels.

The second hypothesis investigates the influence of perceived financial risk on consumers' hesitation toward staying at luxury hotels that have implemented new green practices. Consumers acknowledge that luxury products tend to be more expensive than nonluxury products; however, they justify the additional expense because it is money well spent (Yang & Mattilia, 2016). When studying consumers' perceptions of green hotels, researchers have suggested that some consumers are not willing to pay extra to stay at green hotels because they believe that these hotels do not provide economic value (Ponnapureddy et al., 2017; Rahman et al., 2015). Given that luxury hotels tend to be more expensive than

nonluxury hotels and that they represent a consumption experience that typically lasts only several days (Chen & Peng, 2014), perceived financial risk may be particularly relevant to consumers' hesitation toward luxury hotels that implement new green practices. Specifically, this study hypothesizes that consumers might wait a long time before purchasing luxury hotel stays if they believe staying at luxury hotels that have implemented new green practices is not worth the high price (H2).

H2: Perceived financial risk has a positive effect on consumers' hesitations toward staying at luxury hotels.

The third hypothesis of this study focuses on the influence of perceived hedonic risk on consumers' hesitation. The ability of luxury products to provide a sense of pleasure and self-indulgence has been suggested as a key reason that consumers purchase them (Berthon et al., 2009; Wiedmann et al., 2009), and this characteristic of luxury products is particularly relevant in the context of service. Consumers stay at luxury hotels for reasons that extend beyond fulfilling basic needs. Thus, successful luxury hotels provide enjoyment for lodgers through various methods, for example, by offering a broad range of entertainment facilities (Xu, La, Zhen, Lobsang, & Huang, 2019). When studying consumers' perception of green hotels, researchers have found that some consumers worry that new green practices, such as not replacing towels unless consumers request clean towels, will reduce the ability of hotels to stimulate pleasure and excitement (Cervellon; 2013; Rahman et al., 2015). The study hypothesizes that consumers' hesitation toward luxury hotels that implement new green practices may be positively affected by their perceptions of the hedonic risk of staying at luxury hotels (H3).

H3: Perceived hedonic risk has a positive effect on consumers' hesitation toward staying at luxury hotels.

The fourth hypothesis examines the effect of perceived self-image risk on consumers' hesitation toward staying at luxury hotels that implement new green practices. One of the abilities of luxury products is to signal users' images to other individuals and to themselves (Chang & Ko, 2017; Chen & Peng, 2018). In the case of luxury hotels, Chang and Ko (2017) suggested that the perceived risk of not being able to support users' images through luxury service products might cause consumers to not recommend these products to others. Luxury hotels employ multiple methods to sustain and enhance their customers' self-image, such as constructing luxurious lobbies filled with expensive ornaments, because hoteliers believe that these methods may lead to better evaluations from customers (Chen & Peng, 2018). However, implementing new green practices sometimes requires hotels to alter their design to be more energy efficient, such as installing solar panels on an aesthetically appealing rooftop (Kang et al., 2012). This research proposes that these green initiatives might cause consumers who use luxury hotel services to signal, sustain, and enhance their self-image to postpone their purchase (H4).

H4: Perceived self-image risk has a positive effect on consumers' hesitation toward staying at luxury hotels.

The fifth hypothesis tests the effect of hesitation on consumers' intentions to purchase luxury hotel stays when participating in tourism activities. During their research on consumer hesitation, Huang et al. (2018) found that the possibility of not completing a purchase

increases with consumers' level of hesitation. This process occurs because consumers tend to engage in protective behavior when exposed to decision-making processes and outcomes that they are unsure of (Maddux & Rogers, 1983). Apart from being more expensive than nonluxury service products, purchasing luxury service products when traveling involves additional uncertainty (Chen & Peng, 2018); therefore, consumers who delay making decisions to stay at luxury hotels are likely to decide that they do not want to purchase luxury hotel stays when traveling. The present study proposes that consumers' hesitation toward luxury hotels will contribute to their intentions to not purchase luxury hotel stays when participating in tourism activities (H5):

H5: Consumer hesitation has a positive effect on consumers' intentions to not purchase luxury hotel stays.

The sixth hypothesis tests the ability of green hotel knowledge to moderate the relationship between perceived risk and hesitation. Green hotel knowledge has been confirmed to moderate different stages of tourists' decision-making process. Chen and Peng (2012) found that the decision-making process for staying at green hotels is different between tourists with a high and a low level of green hotel knowledge. Tourists with a high level of green hotel knowledge tend to be more confident about their decision, while their counterparts rely more on the suggestions of others. Wong and Yeh (2009) confirmed the moderating effect of knowledge on the relationship between perceived risk and hesitation; however, this study further investigates how knowledge might moderate the influence of different dimensions of perceived risk on hesitation. Luxury hotels adopting new green practices can be perceived as risky by consumers who try to book hotel stays. This perception occurs because these hotels' brand meanings, values, and offers might be affected as a result

of these changes (Cervellon, 2013; Kang et al., 2012). When consumers make a risky decision or one with a potentially negative outcome, they are likely to delay their decision (i.e., hesitate) (Hong & Cha, 2013; Wong & Yeh, 2009). On the other hand, luxury hotels' perceived risks might have less effect on consumers' level of hesitation if consumers believe they know what it means to be a green hotel and how green practices might help the natural environment. This phenomenon is likely because consumers who are knowledgeable about green hotels will be more certain about making the decision to stay at luxury hotels and/or they are more likely to come to the conclusion that luxury hotels' perceived risks when going green are acceptable to them than consumers who are less knowledgeable about green hotels.

The following hypothesis (H6) will be examined:

H6: Luxury hotel consumers' green hotel knowledge will moderate the positive effect of perceived risk (i.e., perceived functional, financial, hedonic, and self-image risks) on hesitation.

Research method

Research context

Taiwanese consumers were recruited for a study examining the proposed framework in this research. Between 2017 and 2018, the Asia-Pacific region had the highest percentage of outbound tourism visitors (4.5%) compared to other regions such as Europe (4.3%) and the Americas (4.3%). Within the Asia-Pacific region, Taiwan has performed well since 2015 in terms of outbound tourism visitor growth (Statista, 2019; Tourism Bureau, 2019), and Taiwanese society and businesses have begun to recognize the importance of tourism activities. Furthermore, Taiwanese consumers have shown that they are enthusiastic about consuming luxury services when traveling (Chen & Peng, 2018). They have also

demonstrated familiarity with and support for green hotels (Chen & Tung, 2014; Teng et al. 2013). Of Taiwanese individuals, 32.5% made at least one international trip between 2016 and 2017, and the average trip duration for Taiwanese tourists was approximately 8 nights (Tourism Bureau, 2019). Considering these developments, Taiwanese tourists have multiple opportunities to purchase hotel stays before traveling, and some tourists will stay at luxury hotels.

Sampling and data collection methods

A nonprobability, purposive sampling technique was used to obtain the data. Using an interception technique, trained interviewers approached individuals who were about to enter or leave a luxury hotel in Taipei, New Taipei, Taichung, or Kaohsiung, Taiwan's four largest cities. This method was adopted to increase the likelihood of identifying consumers who might be interested in staying at luxury hotels when traveling abroad for tourism purposes. The purpose of the study was explained to the individuals who agreed to participate, and a set of screening questions was then asked. To be eligible to complete the survey, potential participants needed to 1) be over the age of 18 years, 2) have stayed at luxury hotels when traveling abroad by themselves (rather than as part of a group package tour) within the previous twelve months, and 3) have plans to stay at luxury hotels when traveling abroad by themselves within twelve months after the survey administration. The questionnaire was administered to respondents who passed the screening questions. The interviewers checked for missing data, debriefed the respondents, and thanked them for their assistance once the survey was returned. During the ten-week data collection period, 548 usable surveys were collected. The effective return rate was 75%.

To ensure the interviewees understood the research context, a description and examples of luxury hotels were provided to the participants prior to filling out the survey (Chen & Peng,

2014). In addition, a description of green hotels and examples of green practices were provided to the participants prior to filling out the questionnaire (Chen & Peng, 2012; Han et al., 2010). Interviewers were instructed to give the same examples to this study's participants to ensure consistency. These examples were installing solar panels, not replacing towels unless they are on the floor, and switching automatic doors to semiautomatic doors that open after a button is pressed. This study's participants spent an average of \$607 on hotels per night, with a range between \$450 and \$1200. The demographic profile of the sample is presented in Table 1.

*Table 1 about here

Questionnaire design

The interviewees completed a survey consisting of two sections. The first section collected participant demographics, such as gender and age. The second section included 23 statements about the participants' purchase intentions (Hong & Cha, 2013), green hotel knowledge (Chen & Peng, 2012), hesitation (Wong & Yeh, 2009), perceived functional risk (Chang & Ko, 2017), perceived financial risk (Chang & Ko, 2017), perceived hedonic risk (Chang & Ko, 2017), and perceived self-image risk (Chang & Ko, 2017). In Chang and Ko's (2017) study, the Cronbach Alpha values for functional risk, financial risk, hedonic risk, and self-image risk were 0.86, 0.81, 0.84, and 0.75, respectively. In Hong and Cha's (2013) study, the Cronbach Alpha value for purchase intentions was 0.82. The Cronbach Alpha value for hesitation was 0.80 in Wong and Yeh's research (2009). The Cronbach Alpha value for green hotel knowledge was 0.81 in Chen and Peng's research (2012). These statements were generated from a review of the previous hospitality and tourism literature. A seven-point

Likert-type scale was used in the item design. The items for each variable are presented in Table 2.

*Table 2 about here

Data analysis and results

Model measurement

Data were analyzed by using IBM SPSS AMOS 24. Following Anderson and Gerbing's (1988) recommendation, a two-step approach to structural equation modeling (SEM) was carried out, i.e., an examination of the measurement model through confirmatory factor analysis (CFA), followed by an examination of the structural model. All the factor loadings on the intended latent variables were found to be significant and greater than 0.7 (Fornell & Larcker, 1981). The reliability of the measurement items was supported through squared multiple correlations. Convergent validity was analyzed in terms of factor loadings and average variance extracted (AVE). AVE values ranged from 0.63% to 0.82% (Table 3); therefore, convergent validity was established (Fornell & Larcker, 1981). Discriminant validity was examined by comparing the AVE of each individual construct with the shared variances between the individual construct and all the other constructs. Discriminant validity was supported, as the AVE value for each construct was greater than the squared correlation between constructs (Table 3).

Because we observed relatively high correlations among some variables, we check the variance inflation factor (VIF) value and the collinearity tolerance value. The VIF ranged from 1.70 to 2.49, well below the conservative threshold of 5.3 (Hair, Black, Babin, Anderson, & Tatham, 2006), suggesting that the results of the regression model are not substantially influenced by the multicollinearity effect.

Common method bias

Common method variance was then examined using a common latent factor (CLF) as suggested by Podsakoff, MacKenzie, Jeong-Yeon, and Podsakoff (2003). For this test, a latent variable was added to the CFA model, then it was connected to all the observed factors in the model. The standardized regression weights of the new model were then compared with those of the original proposed model. The results between the two models were similar after comparison, supporting the assumption this research was not significantly influenced by common method bias.

Additionally, the marker variable technique was used to examine for common method bias. A theoretically unrelated construct (marker variable, MV) was used to adjust the correlations among constructs. This research used participants' years in employment as a marker variable. The lowest positive correlation ($r=0.001$) between the MV and one of the other variables was selected. This research computed the adjusted correlations and their significant differences. After comparing the intercorrelations among the construct before and after the MV adjustment are made, this study found no significant correlations became nonsignificant and no nonsignificant correlation became significant after the MV adjustment. Last, the MV was included in the proposed model. Based on the results gathered, this study's results appeared unlikely to be threatened by common method bias.

*Table 3 about here

Structural model

The structural model was examined after the overall measurement model was found to be acceptable. The model fit was good ($\chi^2/df=2.904$; RMSEA=0.059; CFI=0.972; NFI=0.958;

GFI=.930), and the findings obtained from examining the proposed hypotheses are presented in Table 4. H1 was supported ($t=6.39$; $\beta=0.28$; $p<0.001$) because the perceived functional risk of luxury hotels had a positive impact on tourists' hesitation. H2 posited that perceived financial risk would positively influence tourists' hesitation. The results gathered from the statistical analysis supported this hypothesis ($t=2.16$; $\beta=0.12$; $p<0.05$). H3 was also upheld ($t=3.99$; $\beta=0.32$; $p<0.001$), as perceived hedonic risk had a positive impact on tourists' hesitation. H4 was supported ($t=2.67$; $\beta=0.13$; $p<0.01$), suggesting that perceived self-image risk significantly affects tourists' hesitation. H5 was supported ($t=11.70$; $\beta=0.68$; $p<0.001$), as tourists' hesitation had a positive impact on their intentions to not purchase (Table 4).

*Table 4 about here

The moderating effect of green hotel knowledge (H6)

A multigroup analysis was performed to examine the moderating effect of tourists' green hotel knowledge. The respondents were divided into two groups, a high and a low green hotel knowledge group, using means split before the analysis. The mean of the participants' spending was 4.31 on a seven-point Likert-type scale; therefore, those with spending means greater and lesser than 4.31 were categorized in the high and the low green hotel knowledge group ($N=294$, $N=254$), respectively.

To test the differential effect between the high and low green hotel knowledge groups and, the chi-square difference between the constrained and unconstrained models was assessed by the difference in degrees of freedom (Anderson & Gerbing, 1988). In the unconstrained model, all path coefficients in each group were freely estimated. In the constrained model, the path coefficients for the relationships between perceived functional risk and hesitation, perceived self-image risk and hesitation, perceived financial risk and hesitation, and perceived hedonic risk and hesitation were set equally across the two groups.

The chi-square difference ($\Delta\text{chi-square}=57.97$, $\Delta\text{df}=18$) between the constrained and the unconstrained models was significant ($p<0.001$). The results demonstrated that the high and low green hotel knowledge groups were significantly different on the model level.

To identify where significant differences appeared, coefficients for the relationships between perceived risk and hesitation were compared between the two groups (Table 5). Statistical tests revealed tourists' green hotel knowledge had a moderating role in the relationship between perceived functional risk and hesitation. The difference in the coefficients for H6a ($\Delta\text{chi-square}=2.32$, $\Delta\text{df}=1$, $p<0.05$) between the constrained model and the unconstrained model was significant. Additionally, green hotel knowledge moderated the relationship between perceived hedonic risk and hesitation. The difference in the coefficients for H6c ($\Delta\text{chi-square}=1.96$, $\Delta\text{df}=1$, $p<0.05$) between the constrained model and the unconstrained model was significant. Green hotel knowledge did not moderate the relationship between perceived self-image risk and hesitation. The difference in the coefficients for H6b ($\Delta\text{chi-square}=1.18$, $\Delta\text{df}=1$, $p>0.05$) between the constrained model and the unconstrained model was not significant. Green hotel knowledge also did not moderate the relationship between perceived financial risk and hesitation. H6d was not supported ($\Delta\text{chi-square}=1.08$, $\Delta\text{df}=1$, $p>0.05$) based on the results for the constrained model and the unconstrained model. Based on the above analysis, H6 was partially supported.

*Table 5 about here

Discussion and implications

The findings of this research are generally consistent with the literature on protection motivation theory. Similar to individuals who faced decisions with uncertain/risky outcomes, consumers of luxury hotels are likely to engage in protective behavior, which involves hesitancy in making a decision and abandonment of their intentions to purchase when

deciding whether to stay at luxury hotels implementing new green practices (Roger, 1975). However, the findings also offer new insights into the luxury service product consumption literature and sustainable tourism research. The next section elaborates further on the implications of this research for theory and how the findings compare and contrast with those of similar studies.

Theoretical implications—perceived risk, hesitation, and luxury hotel stay purchase intentions

Few studies have explored whether and how adopting new green practices will affect consumers' evaluation of luxury products and subsequent purchase intentions despite marketers' concerns regarding the effects of these practices on the authenticity and brand image of their products (Cervellon, 2013; Kang et al., 2012). This research is one of the first to report that consumers will delay making a decision on whether to stay at luxury hotels when traveling if the luxury hotels implement new green practices. This delay occurs because consumers worry that luxury hotels might not be able to offer superior quality products, support their self-image, stimulate a sense of indulgence, and be considered a good investment. Moreover, consumers who hesitate about staying at luxury hotels are likely to have low intentions to purchase luxury hotel stays. Considering that consumers since the 2010s have become more critical and aware of hotels' greenwashing propensities (Rahman et al., 2015), that hotels can have profound impacts on the natural environment (Chen & Peng, 2012), and that the luxury hotel sector has the third largest market share in the steadily growing global luxury product industry (Bain & Company, 2018), this research contributes to the literature on sustainability and luxury product consumption.

Additionally, existing research on luxury service products tends to focus more these products' perceived luxury values than their perceived risks (e.g., Chen & Peng, 2014; 2018;

Yang & Mattila, 2016). Additionally, few studies have explored the effects of different perceived risk dimensions on consumers' decision-making processes despite consumers' propensities for evaluating the risks of luxury products before making a purchase (Wiedmann et al., 2009). The findings of this research demonstrated luxury hotel consumers will postpone and/or avoid making a decision to stay at luxury hotels when traveling if these hotels cannot justify their high cost, provide superior quality service, support/enhance consumers' self-image, and arouse their emotions of indulgence. Furthermore, previous tourism and hospitality studies have rarely discussed the consequences of consumer hesitation. To make an incremental contribution to the literature on hesitation, this research tests and finds consumers' intentions to not purchase luxury hotel stays are greater if their levels of hesitation are high.

When compared with previous research, this study extends the luxury product consumption studies and hesitation literature in three ways. First, Chang and Ko (2017) develop perceived risk scales and confirm perceived risks can affect consumers' recommendation intentions directly. In addition, lowering a product's perceived risk has been suggested as a main factor that can affect consumers' luxury product purchase behavior and repeat purchase behavior (Chang & Ko, 2017). In this study, we find that consumers will hesitate when exposed to potential risks, then change their purchase intentions. Perceived risk's influences on behavioral intentions could be direct and/or indirect. Second, previous studies on luxury product consumption emphasize these products' perceived values more than their risks. This focus might not be sufficient as the influence of perceived risk is particularly apparent when buyers do not know enough about the product, such as purchasing luxury services when traveling (Aghekyan-Simonian et al., 2012; Chen & Chang, 2012; Chang & Ko, 2017; Chen & Peng, 2018). This research investigates the risks associated with purchasing luxury products. It confirms that perceived risk can affect consumers' decision-

making process. Third, Wong and Yeh's (2009) study confirm perceived risk will affect hesitation. However, because their perceived risk is a unidimensional factor, they did not have the opportunity to further explore different perceived risk's effects. This gap also occurs in some of the research on green products (Chen & Chang, 2012). This study investigates different perceived risk's impact on hesitation. It confirmed that perceived functional, financial, self-image, and hedonic risks can each affect hesitation.

Theoretical implications—green hotel knowledge

The research examines the ability of green hotel knowledge to moderate the influence of perceived risk on hesitation. Chen and Peng's (2012) study is one of few exploring green hotel knowledge's moderating effect. They incorporated "green hotel knowledge" into a theory of planned behavior model. However, their focus is on green hotels and knowledge's ability to reinforce tourists' green hotel staying behavior, whereas this study explores green hotel knowledge's ability to lower perceived risk's effect on hesitation when luxury hotels adopt new green practices.

The results show that all four perceived risk dimensions can affect consumers' hesitation levels if consumers have a low level of green hotel knowledge. For consumers with a high level of green hotel knowledge, only perceived hedonic risk will cause them to hesitate. At first glance, this outcome seems to support the suggestion that these two groups of consumers are quite different from one another. However, on closer examination, the main difference between these two groups of consumers lies in the influences of perceived functional and hedonic risks.

Consumers with low self-perceived green knowledge will display an avoidance and/or a postponing behavior (i.e., hesitate) if they believe that new/additional green practices will cause luxury hotels to no longer have superior quality. Consumers with a high level of green

knowledge will not hesitate even if they are concerned that the quality of luxury hotels might drop after the implementation of new green practices. Since the 2010s, some policymakers and members of the general public have been asking the hospitality industry to share some responsibility for the environment by implementing green practices (Kang et al., 2012; Line & Hanks, 2016; Leaniz, Crespo, & López, 2018). Consumers who are more knowledgeable about green hotels may recognize that hotels, luxury or not, must implement some green practices to respond to these requests. These consumers do not hesitate to stay at luxury hotels because adopting new green practices could be a sector-wide trend for the hospitality industry.

Another significant difference between these two groups of consumers relates to the impact of perceived hedonic risk on hesitation. Both groups of consumers will hesitate to purchase luxury hotel stays if they are concerned that new green practices will cause the luxury hotels to not be fun or pleasurable. This finding confirms that a sense of pleasure and self-indulgence are key reasons that consumers purchase luxury products (Berthon et al., 2009; Wiedmann et al., 2009). However, the relationship between perceived hedonic risk and hesitation is significantly stronger among consumers with a lower level of green hotel knowledge. Zsóka, Marjainé, Széchy, and Kocsis (2013) reported that university students are generally more knowledgeable about environmental issues than high school students. Furthermore, in terms of consumption behavior, university students are less hedonistic than high school students, and they have a more positive attitude toward environmentally friendly behavior. Consumers who are knowledgeable about green hotels might be less hedonistic when compared to consumers who are less knowledgeable about green hotels; therefore, they may be slightly more receptive to the possibility that staying at luxury hotels might not be as enjoyable as it was in the past because of the new green practices that these hotels have

implemented. The next section discusses the potential implications of this research for practitioners and policymakers.

Practical implications

Previous studies on hotel's sustainable practices have focused on nonluxury hotels (Leaniz, Crespo, & López, 2018). This focus may be because nonluxury hotels outnumber luxury hotels; therefore, collectively, nonluxury hotels influence the natural environment more. Another possibility is that some researchers have inferred that acting in a more environmental friendly way might not be in luxury brands' interests because green practices might decrease their perceived brand value and overall performance (Cervellon, 2013; Kang, Stein, Heo, & Lee, 2012). However, more luxury hotels have implemented new green practices since 2010s. Moreover, some of these hotels highlight their green initiatives to the public and their customers by taking such actions as including their green pledge in promotional materials (SiteMinder, 2019; Vora, 2016). Change in consumer preferences, green technology advancement, and using green initiatives as "reputation insurance" might have contributed to this changing trend (Cervellon, 2013; Lee, 2017; Perramon et al., 2014; Zsóka et al., 2013). Although the trend might be changing, existing research has not studied this phenomenon sufficiently to make suggestions to luxury hotel practitioners.

For luxury hotel practitioners, this study's findings confirm the concern that adopting new/additional green practices can be risky for their businesses and brands. Apart from consumers who are more aware of hotels' greenwashing propensities, luxury hotels will likely lose their appeal for reasons ranging from no longer being perceived as superior to nonluxury hotels, to not being able to support consumers' self-image, to not being perceived as a good investment, to no longer being pleasurable. Although this study's findings highlight the risks associated with adopting green practices, luxury hotels should still try to act in a

more sustainable way. First, some green practices can be cost saving or even revenue generating while having a minimum direct influence on consumers' experiences (Perramon et al., 2014). For example, having a more rigorous recycling program not only helps the environment but also has monetary benefits. In addition, this program's direct influence on lodgers' experiences is often less noticeable (Singh, Cranage, & Lee, 2014). Second, several segments of consumers, such as women, millennials, and consumers with university degrees or higher, tend to pay closer attention to an organization's corporate social responsibility performance before making a purchase. These consumer segments could be important to luxury service providers (Cervellon, 2013; Lee, 2017; Zsóka et al., 2013). Previous studies have shown women and consumers with university degrees or higher are enthusiastic about luxury service products (Chen & Peng, 2018; Jang & Namkung, 2009; Wu & Liang, 2009; Yang & Mattila, 2016). Third, some not-for-profit organizations and consumer groups have started negative campaigns to harm corporations' equity because they believe these corporations are not operating in a sustainable way. For luxury hotels, adopting green initiatives can act as "reputation insurance" (Cervellon, 2013).

For luxury hotels that want to implement green practices to protect the natural environment, these initiatives are best carried out gradually, for example, by not suddenly lowering the water pressure of showerheads. In addition, luxury hotels should start implementing green practices in less noticeable areas. For example, solar panels should first be installed on a more discreet side of the rooftop and building. Last, luxury hotels should avoid highlighting their green practices to potential customers even if they sincerely want to operate in a more sustainable way. This finding means avoiding obvious signposts telling consumers what actions have been taken to protect the natural environment.

If luxury hotels can determine their customers' self-perceived green hotel knowledge levels, they could gain a better idea of how to prioritize their green practices and how to

inform their customers about these practices. Luxury hotels should implement green practices discreetly when most of their customers are not very knowledgeable about green hotels. These customers will hesitate and abandon their intentions to purchase if they have concerns about a hotel's quality, ability to bring joy, economic value, or ability to support the consumer's self-image. On the other hand, luxury hotels can celebrate their green practices more when most of their clients believe they have a high level of green hotel knowledge. The only condition is luxury hotels should not allow these consumers to become concerned about the hotels' ability to arouse the consumers' sense of indulgence. For example, luxury hotels should avoid implementing and/or highlighting green practices related to their entertainment facilities, such as swimming pools and bars. Luxury hotel marketers could gather this information and construct relevant databases by sending surveys to existing customers.

Given that luxury hotels face many challenges when implementing new green practices, that hotels can have a profound impact on the natural environment, and that the luxury hotel sector is growing steadily, policymakers should take a more active role in assisting luxury hotels. Incentives such as tax refunds could be considered for luxury hotels taking extra steps to protect the natural environment. Alternatively, policymakers could evaluate the possibility of promoting green practices by facilitating sector-wide self-regulations. For example, the government in Seoul, Korea, strongly encourages businesses and offices to set the temperature of their air conditioners to approximately 28 degrees Celsius during the summer period. With careful research and consultation, this approach could be useful to luxury hotels operating in the same region, as they will be less worried about losing their luxury image to their direct competitors when they choose to operate in a more environmentally sustainable way.

Limitations, future studies, and conclusions

The present research provides several contributions to the luxury hotel consumption literature and sustainability studies by examining the relationships between perceived risk, hesitation, green hotel knowledge, and purchase intentions. Despite its contributions to the literature, this study has several limitations. First, several steps have been taken to increase the chance of recruiting suitable participants for this research; however, this research's participants may not be representative of Taiwan's luxury hotel consumers. A complete sample frame of Taiwanese tourists who have stayed in luxury hotels did not exist; therefore, future research will likely not be able to use a probability sampling method to revisit this research. Nevertheless, the luxury product consumption literature can benefit from a comparative study on the characteristics of luxury product consumers and consumers who have limited interest in luxury products. Second, although using subjective knowledge items to measure tourists' green hotel knowledge has benefits, future studies could consider using objective items or both objective and subjective items to measure tourists' green hotel knowledge. This approach could extend the understanding of how knowledge might affect consumers' decision-making processes.

References

- Aghekyan-Simonian, M., Forsythe, S., Kwon, W.S., & Chattaraman, V. (2012). The role of product brand image and online store image on perceived risks and online purchase intentions for apparel. *Journal of Retailing and Consumer Services*, 19, 325-33.
- Anderson, J.C. & Gerbing, D.W. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Anderson, C.L., Agarwal, R. (2010). Practicing safe computing: A multimethod empirical examination of home computer user security behavioral intentions. *MIS Quarterly*, 34(3), 613-643.
- Bain & Company (2018). Global personal luxury goods market expected to grow by 6-8 percent to €276-281b in 2018, driven by strong rebound in China. Retrieved January 21st, 2018 from Bain & Company's website: <https://www.bain.com/about/media-center/press-releases/2018/bain-spring-luxury-report-2018/>.
- Baker, M.A., Davis, E.A., & Weaver, P.A. (2013). Eco-friendly attitudes, barriers to participation, and differences in behavior at green hotels. *Cornell Hospitality Quarterly*, 55(1), 89-99.
- Berthon, P., Pitt, L., Parent, M., & Berthon, J-P. (2009). Aesthetics and ephemerality: observing and preserving the luxury brand. *California Management Review*, 52(1), 45-66.
- Cervellon, M-C. (2013). Conspicuous conservation- Using semiotics to understand sustainable luxury. *International Journal of Market Research* 55(5), 695-717.
- Chang, M-L., & Wu, W-Y. (2012). Revisiting perceived risk in the context of online shopping: An alternative perspective of decision-making styles. *Psychology & Marketing*, 29(5), 378-400.
- Chang, Y., & Ko, Y.J. (2017). Consumers' perceived post purchase risk in luxury services. *International Journal of Hospitality Management*, 61, 94-106.
- Chen, M-F., & Tung, P-J. (2014). Developing an extended Theory of Planned Behavior model to predict consumers' intentions to visit green hotels. *International Journal of Hospitality Management*, 36, 221-230.
- Chen, Y-S., & Chang, C-H. (2012). Enhance green purchase intentions: The role of green perceived value, green perceived risk, and green trust. *Management Decision*, 50(3), 502-520.
- Chen, A., & Peng, N. (2012). Green hotel knowledge and tourists' staying behavior. *Annals of*

- Tourism Research*, 39(4), 2203-2219.
- Chen, A., & Peng, N. (2014). Examining Chinese consumers' luxury hotel staying behavior. *International Journal of Hospitality Management*, 39, 53-56.
- Chen, A., & Peng, N. (2018). Examining consumers' intentions to dine at luxury restaurants while traveling. *International Journal of Hospitality Management*, 71, 59-67.
- Cho, C-H., Kang, J., & Cheon, H. (2006). Online shopping hesitation. *Cyberpsychology and Behavior*, 9, 261-274.
- Cronin Jr., J.J., Smith, J.S., Gleim, M.R., Ramirez, E., & Martinez, J.D. (2011). Green marketing strategies: an examination of stakeholders and the opportunities they present. *Journal of the Academy of Marketing Science*, 39, 158-174.
- Deng, R., & Ritchie, B.W. (2018). International university students' travel risk perceptions: An exploratory study. *Current Issues in Tourism*, 21(4), 455-476.
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement errors. *Journal of Marketing Research*, 18(1), 39-50.
- Fryxell, G., & Lo, C. (2003). The influence of environmental knowledge and values on managerial behaviors on behalf of the environmental: an empirical examination of managers in China. *Journal of Business Ethics*, 46, 45-49.
- Gallopel-Morvan, K., Gabriel, P., Gall-Ely, M.L., Rieunier, S., and Urien, B. (2011). The use of visual warnings in social marketing: The case of tobacco. *Journal of Business Research*, 64(1), 7-11.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). Multivariate Data Analysis (6th). Upper Saddle River, NJ: Pearson Prentice Hall.
- Han, H., Hsu, L-T(J)., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325-334.
- Hong, I.B., & Cha, H.S. (2013). The mediating role of consumer trust in an online merchant in predicting purchase intentions. *International Journal of Information Management*, 33(6), 927-939.
- Huang, G-H., Korfiatis, N., Chang, C-T. (2018). Mobile shopping cart abandonment: The roles of conflicts, ambivalence, and hesitation. *Journal of Business Research*, 85, 165-174.
- Jang, S(S)., & Namkung, Y. (2009). Perceived quality, emotions, and behavioural intentions: Application of an extended Mehrabian-Russell model to restaurants. *Journal of Business Research*, 62(4), 451-460.

- Kang, K.H., Stein, L., Heo, C.Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. *International Journal of Hospitality Management*, 31, 564-572.
- Kang, J., Liu, C., & Kim, S-H. (2013). Environmentally sustainable textile and apparel consumption: the role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance. *International Journal of Consumer Studies*, 37, 442-452.
- Kim, Y., & Han, H. (2010). Intention to pay conventional-hotel prices at a green hotel – a modification of the theory of planned behavior. *Journal of Sustainable Tourism*, 18(8), 997-1014.
- Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmental friendly products. *Journal of Consumer Marketing*, 18(6), 503-520.
- Leaniz, P.M.G., Crespo, Á.H., López, R.G. (2018). Customer responses to environmentally certified hotels: The moderating effect of environmental consciousness on the formation of behavioral intentions. *Journal of Sustainable Tourism*, 26(7), 1160-1177.
- Lee, D. (2017). Luxury hotels go green as millennials demand sustainable travel options. Retrieved March 17th, 2019 from South China Morning Post's website: <https://www.scmp.com/magazines/style/travel-food/article/2098622/luxury-hotels-go-green-millennials-demand-sustainable>
- Lin, L-Y., & Chen, C-S. (2006). The influence of the country-of-origin image, product knowledge and product involvement on consumer purchase decisions: an empirical study of insurance and catering services in Taiwan. *Journal of Consumer Marketing*, 23(5), 248-265.
- Line, N.D., & Hanks, L. (2016). The effects of environmental and luxury beliefs on intentions to patronize green hotels: the moderating effect of destination image. *Journal of Sustainable Tourism*, 24(6), 904-925.
- Manaktola, K., & Jauhari, V. (2007). Exploring consumer attitude and behavioral towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management*, 19(5), 364-377.
- Maddux, J.E., & Rogers, R.W. (1983). Protection motivation and self-efficacy: A revised theory of fear appeals and attitude change. *Journal of Experimental Social Psychology*, 19(5), 469-479.
- Naderi, I., Paswan, A.K., & Guzman, F. (2018). Beyond the shadow of a doubt: The effect of consumer knowledge on restaurant evaluation. *Journal of Retailing and Consumer*

- Services*, 45, 221-229.
- Pagiaslis, A., & Krontalis, A.K. (2014). Green consumption behavior antecedents: Environmental concern, knowledge, and beliefs. *Psychology & Marketing*, 31(5), 335-348.
- Parguel, B., Benoit-Moreau, F., & Larceneux, F. (2011). How sustainable ratings might deter 'greenwashing': A closer look at ethical corporate communication. *Journal of Business Ethics*, 102, 15-28.
- Perramon, J., Alonso-Almeida, M.d., Llach, J., & Bagur-Femenías, L. (2014). Green practices in restaurants: Impact on firm performance. *Operations Management Research*, 7(1-2), 2-12.
- Podsakoff, P., MacKenzie, S.L., Jeong-Yeon, L., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- Ponnapurreddy, S., Priskin, J., Ohnmacht, T., Vinzenz, F., & Wirth, W. (2017). The influence of trust perceptions on German tourists' intention to book a sustainable hotel: a new approach to analyzing marketing information. *Journal of Sustainable Tourism*, 25(70), 970-988.
- Rahman, I., Park, J., & Chi, C.G-q. (2015). Consequences of "greenwashing": Consumers' reactions to hotels' green initiatives. *International Journal of Contemporary Hospitality Management*, 27(6), 1054-1081.
- Roger, R. (1975). A protective motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91, 93-114.
- Singh, N., Cranage, D., & Lee, S. (2014). Green strategies for hotels: Estimation of recycling benefits. *International Journal of Hospitality Management*, 43, 13-22.
- SiteMinder. (2019). Sustainable hotels: How do you balance the struggle between luxury and frugality? Retrieved March 17th, 2019 from SiteMinder's website: <https://www.siteminder.com/r/trends-advice/hotel-management/sustainable-hotels-luxury-frugality/>.
- Sohn, H-K., Lee, J.J., & Yoon, Y-S. (2016). Relationship between perceived risk, evaluation, satisfaction, and behavioral intention: A case of local-festival visitor. *Journal of Travel & Tourism Marketing*, 31(1), 28-45.
- Statista (2019). Outbound tourism visitor growth worldwide 2008-2020, by regions. Retrieved January 21st, 2019 from Statista's website: <https://www.statista.com/statistics/274011/outbound-visitor-growth-forecast-worldwide->

[by-region/](#).

- Teng, Y-M., Wu, K-S., Lu, H-H. (2013). Integrating altruism and the theory of planned behavior to predict patronage intention of a green hotel. *Journal of Hospitality & Tourism Research*, 39(3), 299-315.
- Tourism Bureau. (2019), Republic of China 106- An investigation and report of citizen's tourism condition. Retrieved January 21st, 2019 from Tourism Bureau's website: <https://admin.taiwan.net.tw/statistics/market.aspx?no=133>.
- Vora, S. (2016). New York hotels make a green pledge. Retrieved March 7th, 2019 from New York Times's website: <https://www.nytimes.com/2016/01/24/travel/green-hotels-new-york-city.html>.
- Wiedmann, K-P., Hennigs, N., & Siebels, A. (2009). Value-based segmentation of luxury consumption behaviour. *Psychology and Marketing*, 26(7), 625-651.
- Wong, J-Y., & Yeh, C. (2009). Tourist hesitation in destination decision making. *Annals of Tourism Research*, 36(1), 6-23.
- Wu, C.H-J., & Liang, R-D. (2009). Effect of experiential value on customer satisfaction with service encounters in luxury-hotel restaurants. *International Journal of Hospitality Management*, 28, 586-593.
- Xu, F., La, L., Zhen, F., Lobsang, T., & Huang, C. (2019). A data-driven approach to guest experiences and satisfaction in sharing. *Journal of Travel & Tourism Marketing*, 36(4), 484-496.
- Yang, W., & Mattila, A.S. (2016). Why do we buy luxury experiences? *International Journal of Contemporary Hospitality Management*, 28(9), 1848-1867.
- Youn, S. (2009). Determinants of online privacy concern and its influence on privacy protection behaviors among young adolescents. *Journal of Consumer Affairs*, 43(3), 389-418.
- Zsóka, Á, Szerényi, Z.M., Széchy, A., Kocsis, T. (2013). Greening due to environmental education? Environmental Knowledge, attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of Cleaner Production*, 48, 126-138.
- Zheng, X., Lee, M., Cheung, C.M.K. (2017). Examining e-loyalty cards online shopping platforms: The role of coupon proneness and value consciousness. *Internet Research*, 27(3), 709-725.

Table 1- Characteristics of the Participants (N=548)

Variables	Demographic traits	%
Gender	Male	45.3
	Female	54.7
Respondent's age	Between 18-30 years old	9.9
	Between 31-40 years old	22.8
	Between 41-50 years old	40.7
	Between 51-60 years old	19.5
	61 and above	7.1
Education	High school degree	10.4
	College degree	36
	University	40.5
	Postgraduate degree or above	13.1

Table 2. Descriptive analysis of the measures (N=548)

Variable/Adopted from	Measurement items
Perceived functional Risk (FuR) / Chang and Ko (2017)	If Luxury hotel X implements new green practices, I am concerned: FuR1: about its maintenance. FuR2: about its quality. FuR3: about its superiority to other hotels.
Perceived self-image Risk (SR) / Chang and Ko (2017)	SR1: that it would not fit in with my self-image. SR2: that it would not be approved by some people whose opinion I value. SR3: that it would not give me status.
Perceived hedonic Risk (HR) / Chang and Ko (2017)	HR1: that its aesthetic beauty may not be exactly what I pursue. HR2: that it would not offer me excitement. HR3: That it is not enjoyable.
Perceived financial Risk (FiR) / Chang and Ko (2017)	FiR1: that I really would not get my money's worth from it. FiR2: that it would be a bad way to spend my money on it. FiR3: that the financial investment in it would not be wise.
Hesitation (H) / Wong and Yeh (2009)	H1: I avoid making decision to stay in Luxury hotel X when I choose a hotel. H2: I put off making decision to stay in Luxury hotel X when I choose a hotel. H3: When choosing hotels, I prefer to leave decisions to others. H4: When I have to make a decision about hotel stays, I wait a long time before starting to think about it. H5: I don't like to take responsibility for making decisions about choosing Luxury hotel X.
Green hotel knowledge (LHK) / Chen and Peng (2012)	LHK1: Compared to average person, I am familiar with green hotels. LHK2: Compared to my friends, I am familiar with green hotels. LHK3: Compared to people who travel a lot, I am familiar with green hotels.
Intentions to not to purchase(IP)/ Hong and Cha (2013)	IP1: I would like to stay at Luxury hotel X. ² IP2: I would like to recommend my friends and family to stay at Luxury hotel X when traveling. ² IP3: If there is a luxury hotel that I want to stay at, I would like to stay at Luxury hotel X. ²

¹. In the survey, "Luxury hotel X" is the hotel respondent visited.

². Results were reverse coded

Table 3- Correlations and Descriptive Statistics

	Mean	SD	CrA	CR	AVE	FuR	HR	SR	FiR	HE	IP
FuR	5.22	1.55	.93	.93	.82	.91	.60*	.63*	.59*	.66*	.39*
HR	5.08	1.42	.83	.83	.63	.61*	.79	.66*	.68*	.65*	.61*
SR	4.52	1.64	.84	.88	.72	.62*	.67*	.85	.55*	.64*	.62*
FiR	5.20	1.47	.92	.92	.79	.60*	.70*	.56*	.89	.61*	.45*
HE	5.09	1.41	.93	.93	.76	.67*	.65*	.64*	.62*	.87	.41*
IP	4.26	1.80	.92	.93	.80	.39*	.62*	.63*	.47*	.43	.89
MV						.001	.002	.11	.08	.13	.10

*Bold numbers on the diagonal parentheses are square root of each construct's AVE value

*CrA= Cronach's Alphas; CR= Composite reliability; AVE= Average variance extracted

-FuR= Perceived functional risk; HR= Perceived hedonic risk; SR= Perceived self-image risk; FiR= Perceived financial Risk; HE= hesitation;

IP= Intentions to not to purchase; MV= Marker variable

Table 4. Hypotheses tests (H1-H5)

Path	Standard estimate(<i>t</i>)	Results
H1: Fur→ HE	.28(6.39)***	support
H2: Fir→ HE	.12(2.16)*	support
H3: HR→ HE	.32(3.99)***	support
H4: SR→ HE	.13(2.67)**	support
H5: HE→ IP	.68(11.70)***	support

- FuR= Perceived functional risk; HR= Perceived hedonic risk; SR= Perceived self-image risk; FiR= Perceived financial Risk; HE= hesitation;
IP= Intentions to not to purchase

- * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. Two group path model estimate (H6)

Path estimated	Low green hotel knowledge group	High green hotel knowledge group	($\Delta\chi^2$, $\Delta df=1$)	Moderating effect
H6a: Perceived functional risk→ Hesitation	.31***	.13	2.32	Support
H6b: Perceived financial risk→ Hesitation	.18*	.07	1.08	Not support
H6c: Perceived hedonic risk→ Hesitation	.47***	.18*	1.96	Support
H6d: Perceived self-image risk→ Hesitation	.17*	.11	1.18	Not support

[illegible]