

# **Effects of Pricing Strategies on Consumers' Booking Intention for Green Hotels**

A dissertation submitted to  
Auckland University of Technology  
in partial fulfilment of the requirements for the degree  
of  
Master of International Hospitality Management (MIHM)

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2018  
School of Hospitality and Tourism

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## **Attestation of Authorship**

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed\_\_\_\_\_

Date\_\_\_\_\_2018/07/19\_\_\_\_\_



## **Acknowledgement**

I would like to take this opportunity to thank all of those who have supported me with my study and those who provided guidance and suggestions for me during the process of writing this dissertation.

First and foremost, I have to thank my research supervisors, Associate Professor Peter Beomcheol Kim and Dr Jungkeun Kim. From developing the research questions to the final submission of this dissertation, this paper would have never been accomplished without their assistance and dedicated involvement in every step throughout the process.

I would also like to thank all the staff at Auckland University of Technology, who provided help to me. Thank you to all the lecturers who taught me during the MIHM programme. All lectures I participated in during this one and a half years were so inspiring and of great help to my future study.

Last but not least, none of this could have happened without my family. I would like to express the sincerest gratitude to my dear parents, who gave me their unconditional love and encouragement.

## **Abstract**

The purpose of this dissertation is to explore how different pricing strategies influence customers' booking intention for green hotels. This research constructed different levels of price and precision, along with perceived quality and sacrifice to examine their impacts on consumers' behavioural intention. Specifically, this research investigates how booking intention for a green hotel is influenced by perceptions of quality and sacrifice, and whether their perceptions are related to the impact of pricing strategies. Research hypotheses are developed based on theory in the areas of green marketing, conventional marketing and product pricing.

Experimental design is used as a methodological approach to test the hypotheses and online survey is used as an instrument to collect data. A total of three hundred and seventy-two respondents from the United State of America through panel company Amazon Mechanical Turk participated in this research. Two studies were conducted to test the hypotheses. One hundred and three responses were collected for Study 1 with two scenarios, high price luxury hotels and low price budget hotels. Two hundred and sixty-nine samples were recruited for Study 2 with a 2 (high price vs. low price) x 2 (rounded price vs. precise price) between subjects experimental design to further explore the impact of pricing strategies.

The findings of this study indicate that the relative preference for the premium priced green hotel over the conventional priced non-green hotel option is stronger in the high price level and with rounded price. Customer's booking intention for green or non-green hotels is significantly influenced by their perceived quality and sacrifice of the hotel price. The impact of price level and price precision can be explained by their perceived sacrifice. Customers' willingness to pay extra for green initiatives is significantly influenced by their perceived quality of the hotel. Overall, the findings extend the current understanding of green consumption behaviour and helps to broaden knowledge about customers' attitudes toward eco-friendly hotels.

## **Chapter 1. Introduction**

### **1.1 Background of the Research**

Hospitality is one of the fastest growing industries that brings enormous economic gains to many countries and regions of the world. However, the benefits are often accompanied by negative impacts like higher pressure on the natural environment. Energy consumption and waste emission are significant issues in the hospitality industry. Nowadays, environmental protection is always a hot topic, thus more and more people and companies have devoted themselves to environmental sustainability. Consumer awareness of energy consumption and environmental issues has been constantly growing in recent years so that the environmental image of an organisation has become a major influence on consumers' purchase intention (Y. Kim & Han, 2010; Kuminoff, Zhang, & Rudi, 2010; Laroche, Bergeron, & Barbaro-Forleo, 2001). Therefore, it is important for hotel firms to understand customers' attitudes because they are becoming more sophisticated about how they interpret brand images that feature sustainability (Wong, 2010).

To better understand customer attitude, hotel firms need to improve the implementation of green marketing strategies in response to the problems. The green marketing concept emerged in the late 1980s. Since then, the "green hotel" label has been used to attract potential customers (Chan, 2013). Green marketing is defined as an organisation making efforts to produce, promote, price and sell products that have no negative impact on the natural environment (Pride & Ferrell, 2004). Welford (2013) defined it as adapting the entire management process in a sustainable way to address the needs of customers and society for environmental protection. For hotel firms, they can gain competitiveness and benefits by improving their public image and connection with the local society from implementing green marketing strategies (Jauhari & Manaktola, 2007).

It is important for hotel companies to perform good implementation for green attributes, yet it is not necessary to promote the attributes directly to the customer (Robinot & Giannelloni, 2010). Sometimes, environmental initiatives can be negatively perceived by customers because of uncertainty and lack of awareness about green practices, which causes guests feeling inconvenienced (Lee, Jai, & Xu Li, 2016). Robinot and Giannelloni (2010) stated that environmental attributes are integral factors of service rather than differentiating factors. Generally, results from multiple studies have shown that green attributes have positive contributions to overall customer satisfaction (Bojanic, 1996; Lee et al., 2016; Robinot & Giannelloni, 2010; Tilikidou & Delistavrou, 2015).

One phenomenon that reflects customer's attitudes toward green hotels is their willingness to pay extra (Kuminoff et al., 2010). The findings from Griffin, Shea, and Weaver's (1997) research indicated that low price is one of the elements that discriminated mid-priced hotels from luxury hotels, which means that price can be perceived differently by customers in different market segments. Hotel firms usually choose between price or quality to be their competitive advantage (Balachander & Srinivasan, 1994). One of the natures of the service industry is its intangibility and it is necessary for companies to use strategies to maximise revenue (Bojanic, 1996). Keeping the prices lower is important to the segment of hotels targeting high price sensitive customers (Bojanic, 1996). When consumers are evaluating a product, price has two roles: as an indicator of sacrifice or an indicator of quality (Bornemann & Homburg, 2011). Therefore, the green initiative is manipulated as one of the attributes to differentiate two hotels with different prices across luxury and budget segments in this research. The positive relationship between price level and perception of sacrifice and quality has been discussed and verified by previous studies in other fields (Völckner & Hofmann, 2007). The current study focuses on the relationship between pricing strategies including price level and price precision, perceived quality and sacrifice, and booking intention, as well as willingness to pay more for a green hotel.

## **1.2 Problem Statement and Objectives of the Study**

Running a sustainable business can achieve the purpose of saving operating costs by saving on electricity, water bills and cleaning materials, forging a connection with the customer and enhancing organisational reputation. Despite a bundle of benefits from going green, many hotel companies still remain uncertain about whether to develop green initiatives or not because it requires a large amount of initial investment and the returns are rather intangible (Kang, Stein, Heo, & Lee, 2012). Therefore, to have a clear understanding about consumers' attitudes toward green hotels, some research gaps need to be filled. The goal of the current study is to fill these gaps and expand the understanding about green hotel marketing.

**Gap 1:** Numerous studies have stated the significant relationship between customers' price perception and behavioural intention (Haddad, Hallak, & Assaker, 2015; Malc, Mumel, & Pisnik, 2016; Munnukka, 2008). In the context of the current research, behavioural intention refers to hotel customers' willingness to stay at a green hotel, or willingness to pay more for a green hotel. However, hardly any studies have analysed how price is perceived by customers in the green hotel context. More and more consumers

are showing an interest in being eco-friendly when choosing a hotel (Lee et al., 2016). With the high market demand for green products and green services, sales should be expected to increase. However, as some literature identifies, there is an inconsistency between customers' perceived willingness and actual purchasing behaviour (Y.-S. Chen & Chang, 2013; Rex & Baumann, 2007). Although many studies indicate that consumers are willing to pay more to stay in a green hotel, some findings are inconclusive. The divergence between consumers' willingness to pay more for environmentally friendly products and factors affecting their unwillingness was not fully explained (Laroche et al., 2001). Thus, further research is needed to explore the determinants that might affect customers' booking intention.

As Munnukka (2008) suggested, a customer's price perception is strongly related to their perception of quality and sacrifice. In order to increase consumers' perceptions of value, marketing practitioners usually raise the quality or reduce the product's price (Yoon, Oh, Song, Kim, & Kim, 2014). Price or quality of green products was suggested to address the problem of customers' unwillingness to pay more or behavioural intention toward green products. The issue related to how green hotels price is perceived by customers remains unclear. Based on the model proposed by Zeithaml (1988), customers' perceptions of quality and sacrifice are considered as determinants on their purchase decision. Therefore, this research fills the research gap by studying this effect, especially in green hotels.

**Gap 2:** Previous research has studied the effect of consumer subjective factors, like demographic, knowledge or attitude on booking intentions (Chan, 2013; H. Han, Hsu, & Lee, 2009; Laroche et al., 2001). Lockyer (2005) suggests that the impact of price perception on consumer behavioural intention or attitude can be different based on segmentation. Within a market or individual segments, considering the price difference, responses can vary among participants. Therefore, price level is positively related to perceived quality (Yoon et al., 2014) and perceived sacrifice (Bornemann & Homburg, 2011). The divergence of customer attitude could be explained by different price sensitivity and perception across different segmentation. Two price levels are compared in this study: low price budget segment and high price luxury segment. Customers in the luxury segment are less price sensitive, thus price is perceived as an indicator of quality and willingness to pay extra to be environmentally sustainable. On the contrary, for the budget segment, price is predicted to be an indicator of cost and customers demonstrate less willingness to pay more for sustainable services (Bornemann & Homburg, 2011).

Some researchers indicate that consumers are only willing to pay the price of conventional hotels (Kim & Han, 2010), while other researchers state that they are willing to pay extra for a room in a green hotel (Kuminoff et al., 2010). Price is considered to be a very important dimension for hotel selection (Lockyer, 2005). By using different levels of price, this research discriminates budget and luxury market segments because it is as yet unknown whether customer booking intention for green hotels varies across different market segments in hospitality.

**Gap 3:** Numerous literature indicates that consumers' judgment of price magnitude is an important determinant of their purchase decision. Thomas, Simon, and Kadiyali (2009) raised the question about how the roundness or precision of prices influences magnitude judgments and possibly affects behavioural intention. Schindler (2001) suggests that precise price like 99-ending demonstrate a low-price or product on sale image to the customer. Thomas et al. (2009) also proved that precise prices are perceived to be cheaper than rounded prices. Therefore, how the green hotel price is perceived differently by customers can be affected by different precision of price. Although the price precision effect has already been studied in the marketing literature, for green marketing in the hospitality industry, the effect of price precision on booking intention has not been analysed before, which leaves a research gap in the literature. Other than level of price, price precision is considered as another factor that might affect customers' booking intention toward green hotels and willingness to pay extra.

In view of the inconsistency and gaps in the literature, the purpose of this research is to explore how the price of green hotels is perceived by different customers and how customer's booking intention towards green hotels is influenced by different levels of price and different precision of price. To study the causal relationship between constructs, experiments are conducted. As a result, the accomplishment of this research fills previous research gaps. This leads to the following objectives:

1. To find out if customers' different perception of quality and sacrifice is related to different price level and price precision
2. To find out how different levels of price influence a customer's booking intention for green hotels
3. To find out how different precisions of price influence a customer's booking intention for green hotels

4. To examine how a customer's price perception of perceived quality and sacrifice influences his/her booking intention for green hotels

### **1.3 Significance of the Dissertation**

This research attempts to empirically investigate the influence of the two related attributes of pricing strategy, price level and price precision. The findings of this research could extend the current understanding of green consumption behaviour in the hospitality industry, and customers' attitudes toward environmentally sustainable hotels. It provides understandings about a customer's price perception of green hotels, while previous studies did not determine how price is perceived by customers and what factors influence their green consumption behaviour (Chan, 2013; H. Han, Hsu, & Lee, 2009; Laroche et al., 2001).

The research is significant because it fills the research gap in green marketing literature about booking intention based on different market segmentation in green hotels, while the same phenomenon has been studied in other areas (Y. J. Han, Nunes, & Drèze, 2010; Yang, Zhang, & Mattila, 2016). It discriminates luxury and budget segments by incorporating different levels of price to address the problem of inconsistent opinion about willingness to pay more (Y. Kim & Han, 2010; Laroche et al., 2001). This research highlights the importance of pricing strategies. Compared to existing studies in other fields (Coulter, 2007; Schindler, 2001; Schindler & Kibarian, 2001; Thomas et al., 2009), it provides empirical findings about price precision specifically in the green hotel context in predicting booking intention. It also provides insights and potential directions for future studies on customers' price perception and how it is associated with booking intentions.

From a practical perspective, this research can provide information for hotel companies and practitioners in proposing better green pricing, improving green services and products for their customers and generating better marketing strategies, hence improving organisational performance.

### **1.4 Overview of the Dissertation**

This dissertation consists of five chapters. Chapter 1 introduces the background information of the research and problem statement. Then it summarises the main objectives of the study and briefly talks about the potential contributions. Some definitions of key terms used in this study are also identified in this chapter.

Chapter 2 reviews the literature related to the topic and outlines the research model construction. It discusses the concept of green hotels along with customers' attitudes towards it and follows with a discussion of consumers' green consumption behaviour and customers' price perception. Then it conceptualises the independent variables and dependent variables in this research, which are levels of price, precision of price, price perception, booking intention and willingness to pay more for green hotels. This chapter ends with the development of the hypotheses.

Chapter 3 explains the philosophical approach of this study. This study used experimental design as the research methodology, which is assumed as a positivist perspective and an objectivist epistemology. The current study has chosen questionnaire as the research method to collect data. Research design and procedure, measurement of the study constructs, sampling issues, data collection and analysis techniques are presented in this chapter as well. Lastly, some ethical considerations are addressed.

Chapter 4 presents the results of the collected data to address the research questions. The results for Study 1 and Study 2 are presented separately in the same structure. First, the respondents' demographic profiles are outlined with frequency analysis and descriptive statistics, followed by reporting of the results of a series of techniques to test the hypotheses including crosstabs, logistic regression and ANOVA.

Chapter 5 presents a summary of the whole research findings and provides theoretical and practical implications based on the findings. Some limitations of this research are pointed out and directions for future studies are given. Finally, an overall conclusion of the whole dissertation is presented at end.



## **Chapter 2. Literature Review**

This chapter contains discussion of different literature in the context of green hotels. First, in order to provide background information and justification for the research, it begins with introducing literature related to the development of the green hotel concept. Then it reviews different studies regarding customers' attitudes and consumption behaviour as well as price perceptions toward green hotels. It also identifies the research gap to be filled for the current study. In the literature, pricing strategies including price level and price precision as important factors that influence customers' behavioural intention, and the relationship between constructs in past research are analysed and conceptualised as well. The hypotheses for this research are proposed in this chapter.

### **2.1 Green Hotels**

The operation of hotels and the development of the industry largely depend on a continuous supply of local natural resources and environments, which have the potential to be directly threatened by over exploitation because of the resource-intensiveness of the hotel industry (Bohdanowicz, 2005). The primary purpose of hotel operation is to supply comfortable and hospitable services to guests (Y. Kim & Han, 2010). Hotel operations are considered to cause great environmental damage due to, for example, emissions of carbon dioxide and other air pollutants, the energy used to generate electricity, heating or cooling systems, water consumption, waste generation and disposal (Bohdanowicz, 2005; Y. Kim & Han, 2010). These activities to supply warm and hospitable services for their guests are usually inevitable and necessary. Growing public concern regarding the environmental protection issues has stimulated hoteliers' green marketing, which can be defined as the consideration of consumer and societal environmental requirements in a profitable and sustainable manner by designing, promoting and distributing products and services that have adverse effects on the natural environment (Chan, 2013). Researchers and practitioners both agree that the contribution of green hotels would meet the demand of pro-environmental travellers, reduce public concerns about the current tourism practices, eliminate the negative influences on the environment, and carry out government regulations about environmental sustainability (H. Han et al., 2009; Y. Kim & Han, 2010).

The term 'green' also refers to eco-friendly, pro-environment, environmentally sustainable, environmentally friendly, and environmentally oriented (H. Han et al., 2009). The definition of a green hotel is vague and there is no strict or fixed definition. The "Green" Hotels Association (2017) defined green hotels as 'environmentally friendly

properties whose managers were eager to institute programmes that save water, save energy and reduce solid waste—while saving money—to help protect our one and only earth’. Overall, a green hotel should demonstrate the following initiatives that can be used to assess whether a hotel is green or environmentally friendly: executing sustainable management, always actively following environmental friendly guidelines, implementing a variety of ecological environment protection measures, establishing and improving green practices, and committing to improve the environment by showing green labels (Y. Kim & Han, 2010). Most standards claim that green hotels are based on the operational aspects rather than the hardware aspects, because the practices that a hotel can carry out from hardware facilities is rather limited. Conversely, there are no limitations in terms of achievement from operations (Tsai, Wu, & Wang, 2014). The outcome of investing in green initiatives is tangible as well (Kang et al., 2012).

## **2.2 Consumers’ Attitude Toward Green Marketing**

A survey conducted by TripAdvisor reveals that many more travellers are engaging in environmental protection nowadays (TripAdvisor, 2012). The survey shows 57% of travellers said that they often make green travel decisions when choosing aspects such as hotels, restaurants and transportation means. It follows that there is a certain part of consumers considered as ethical consumers in the market who are willing to carry out their social responsibility while choosing travel service products (Tilikidou & Delistavrou, 2015). If travellers’ preferences are focused on environmentally friendly products and services, it is essential for hotels to understand what customers want when developing their marketing strategies (Millar, Mayer, & Baloglu, 2012).

Besides efforts made to protect the environment, there are other main motivations for hotels’ green marketing. From the hotelier’s perspective, the first is the economic aspect such as cost savings, achieving competitive advantage and customer satisfaction. Addressing the public’s environmental concerns has become a major consideration in hotels’ marketing decision-making (Y. Kim & Han, 2010). Some international hotel brands, such as Shangri-La Hotels and Resorts, and InterContinental Hotels Group, have implemented sophisticated green practices. For example, most of their properties are certified with ISO 14001, which is an environmental management standard that provides tools for organisations to manage their environmental responsibilities (ISO Organisation, 2015). By implementing green marketing programmes as strategic initiatives in hospitality, business operations can improve profitability, because activities such as waste recycling and energy conservation can lead to reductions in operational expenses

(Bohdanowicz, 2005). Second, regulations governing fines, penalties and publicity are also major concerns for hoteliers. Third, hotels want to enhance their positive image through implementing green marketing strategies (Graci & Dodds, 2008; Ham & Choi, 2012). A positive image not only establishes the environmentally friendly image of the hotel brand and advertises their commitment to social responsibility, but also attracts more eco-minded travellers to stay in the hotels, ultimately establishing and consolidating customer loyalty (Chan, 2013). Overall, green attributes may contribute to organisational performance by saving operating costs or by indirect ways such as enhancing organisational reputation. Therefore, it is important for hotel firms to understand customers' attitudes because they are becoming more sophisticated about how they interpret a brand image that features sustainability (Wong, 2010).

Although some literature shows that the use of green products/services and customers' concerns about environmental problems are generally increasing, market share of eco-labelled products does not always reflect the same pattern (Rex & Baumann, 2007). The literature reveals inconsistency between customers' expressed intentions towards green products and actual consumption behaviour, which might be due to the weakness of green strategy implementation. Insufficient marketing incentives may be one of the attributes of this phenomenon (Rex & Baumann, 2007). Hotels cannot just rely on existing green consumers to increase their market share. A wider range of customer segments is needed to achieve greener consumption (Rex & Baumann, 2007). Robinot and Giannelloni (2010) even stated that green attributes will not contribute to satisfaction significantly if customers are confused about what the hotels' green practices are. Customers will have positive responses toward green practices only if they are able to identify them (Lee et al., 2016). Sometimes, misleading information may reduce their trust of the green services or products (Chen & Chang, 2013). Green products or services provided by hotels that are convenient to use are usually more acceptable to consumers and thereby contribute to customer satisfaction (Laroche et al., 2001). However, several previous studies regarding the above issues were either biased in their sampling processes or the sample size was restricted to be representative of the industry (Robinot & Giannelloni, 2010; Rosenbaum & Wong, 2015). Thus, considering the questions raised above, customers' attitudes towards hotel's green practices require further exploration.

From the consumer perspective, Wang, Han, Kuang, & Hu (2018) state that young consumers are usually attracted to promotions, discounts and special offers on green products, which leads to reduction of purchase costs. However, generally, green products

cost more than the non-green alternatives. The benefits of green products are usually intangible in the short term. As green products are more expensive compared to non-green alternatives, consumers' perceptions of value might be lower which leads to lower purchase intention (Iyer, Davari, & Paswan, 2016). In the hospitality industry, how price-related strategies affect mass consumer perception towards green hotels still remains a research gap, which creates a challenge on how to attract more eco-friendly customers.

### **2.3 Consumers' Green Consumption Behaviour**

In the context of CSR (Corporation Social Responsibility), it is important to understand what elements might affect customers' willingness to participate in such practices (Mattila & Hanks, 2012), especially for hotels when implementing green marketing strategies. Green consumption behaviour has a variety of antecedents (Pagiaslis & Krontalis, 2014). Scholars suggest that individuals' environmental concern is positively related to their willingness to pay for going green. Furthermore, consumers' subjective knowledge about environment-related behaviours, and beliefs also have direct and indirect effects on intention to behave sustainably (Pagiaslis & Krontalis, 2014).

Consumers' green consumption behaviour can be explained by status consumption. The definition of status consumption has expanded over the years. O'Cass and McEwen (2004) defined it as consumers' desire to gain prominence from purchasing status-laden products, while Truong et al. (2008) stated that status relates to consumers' internal motivation (self-esteem and self-respect) or external motivation (Eastman & Eastman, 2011). Some psychology research has suggested that status is related to social responsiveness (Graziano, Habashi, Sheese, & Tobin, 2007). As Mattila and Hanks (2012) stated, status-seeking consumers perform prosocial behaviours, with higher intentions especially when the cause is a significant one.

Belk (1988) argued that sometimes when consumers purchase certain products, they are not just purchasing the product itself but also the symbolic value, which represents a shared positive meaning of consumption (Rintamäki, Kuusela, & Mitronen, 2007). This positive meaning can either be attached to the service and product or be communicated during the consumption process. When consumers buy a product for its symbolic value, choices that explicitly signal their social identities will be made (Yang et al., 2016). In hotel operations, symbolic value can be perceived as embracing social responsibility, such as making a contribution to society and the natural environment (Hwang & Kandampully, 2015).

Furthermore, consumer's green consumption behaviour can also be explained by the Theory of Planned Behaviour (TPB). TPB was used to predict and explain individuals' attitudes and direction to behave in a particular situation (Ajzen, 1985). There are numerous studies that have proposed and adopted Ajzen's (1985) Theory of Planned Behaviour to explain hotel customers' behavioural intentions to stay at a green hotel (H. Han, Hsu, & Sheu, 2010; Kim & Han, 2010; Shaw, Shiu, & Clarke, 2000). Researchers stated that travellers who have experience of green hotels might form a positive attitude and social norms towards green hotels, thus leading to green consumption behaviours (Shaw et al., 2000). However, there is some criticism about TPB due to the inconsistency of behavioural intention and actual consumption behaviour in the environmental sustainability context (Bergin-Seers & Mair, 2009; Rex & Baumann, 2007). The lack of evidence that consumers' positive attitude towards green hotels has transformed into actual bookings leads to the purpose of the current research, which is to identify eco-friendly travellers' perceptions of green hotels and their booking intentions.

While the research by Laroche et al. (2001) shows that some customers expressed their strong intentions to pay premium prices for green hotels, another study by Kim and Han (2010) took a different approach to this topic. Kim and Han's (2010) research shows that customers only want to pay conventional prices for green hotels. Other studies have shown different customer behaviours towards the price of green services or green products. In previous studies (Laroche et al., 2001), the divergence between consumers' willingness and unwillingness to pay more for eco-friendly products also remained unclear. Some people believed that hotel companies are responsible for paying extra for green activities (Kang et al., 2012). Some researchers suggested that hotel customers' willingness to pay extra hotel prices for green services or an environmentally sustainable hotel is based on their price perception and evaluation of green hotel prices compared to regular hotel prices (Y. Kim & Han, 2010). Previous research has diverse opinions on consumers' willingness to pay for environmental sustainability, which leaves a research gap requiring further study on this topic.

#### **2.4 Customers' Price Perceptions – Perceived Quality and Sacrifice**

Perception refers to the process when people interpret the information to form a specific and meaningful picture of certain things (Munnukka, 2008). As for price perception, it is believed that it could not only be an indicator of sacrifice, but also be the evaluation of a product's quality (Bornemann & Homburg, 2011; Munnukka, 2008). The influence of

price perception on customers' purchasing behaviour is prominent (Bojanic, 1996). Pricing strategy is related to where a hotel positions itself compared to its competitors in the market and has financial implications for long term competitiveness (Al-Shakhsheer, Habiballah, Al-Ababneh, & Al-Sabi, 2018). It has significant impact on customers' price perception about fairness, which is important because it shapes their consumption behaviour and purchase intentions (Kareem Abdul, 2017).

When it comes to the different roles of price, sacrifice and quality are two of the most significant factors for customers to consider when choosing hotels; thus, these aspects are important to all types of companies (Backman & Shinenew, 1994; Dick & Basu, 1994). Different marketing studies have shown that variability in service performance increases customer uncertainty. Price is usually a benchmark for measuring service quality and a major clue to customer expectations of service performance because potential customers can obtain information about prices more easily than they can about quality (Bojanic, 1996). Gronau & Brohlburg (2011) found evidence that price is the underlying criterion of choosing a hotel room among Cyprus travellers, while the majority of the customers are willing to pay premium price for an environmentally sustainable hotel because green hotels are perceived to be of better quality. In Bornemann and Homburg's (2011) words, consumers are more likely to evaluate quality from price when they lack the ability or motivation to process product information systematically. As a result, customers' assessments of service quality will affect and determine their price perception.

Price includes the attributes of monetary (objective) price and non-monetary (perceived) price (Zeithaml, 1988). From a consumer's perspective, price can be either how much money (monetary) or other resources such as time, energy or effort (non-monetary) they sacrifice to obtain the product or service. In behavioural research, when price is perceived as sacrifice, it will be negatively indicated as a perception of what is given to achieve the benefits related to the product, as opposed to what is perceived as quality will be positively indicated as a perception of the actual virtue of the product (Bornemann & Homburg, 2011). It has been verified by previous studies that the relationship between price level and perception of sacrifice and quality is significant (Griffin et al., 1997; Völckner & Hofmann, 2007). Therefore, the effect of different levels of price across luxury and budget segments are investigated in the current research.

## **2.5 Influence of Price Level (Luxury vs. Budget)**

Today, specific brands of goods have differentiated characteristics for certain segments of customers. For example, a woman who carries a Gucci handbag might not have the same social status as another woman who carries a Coach handbag, since Coach is known for ‘affordable luxury’ (Y. J. Han et al., 2010). Depending on different market segments of customers, such as buyers who prefer luxury hotels or those with limited budgets, price can be perceived differently. Need for status (NFS) has always been identified as a significant motivation for luxury consumption. Generally, NFS (or status consumption) refers to how consumers promote their social status by purchasing luxury products (Yang, Zhang, & Mattila, 2016). However, not all consumers are status seekers who are keen on signalling their wealthy identities. Status refers to ‘a form of power that consists of respect, consideration and envy from others’ as well as ‘satisfaction from other’s reactions’ (Eastman, Goldsmith, & Flynn, 1999). Previous research has suggested that NFS can affect customers’ decision making and purchasing intention (Y. J. Han et al., 2010).

In the case of hotels, price can also be perceived differently for each market segment. Each consumer’s NFS can be considered individual distinction or personal nature (Eastman & Eastman, 2011). It has been verified by previous studies that the relationship between price level and perception of sacrifice and quality is significant (Griffin et al., 1997; Völckner & Hofmann, 2007), even though some related literature has mentioned the influence of demographic aspects (such as age, gender, income and education background) on consumers’ price perception and the possible impact on their consumption behaviour. Demographic characteristics are often used for market segmentation (Lockyer, 2005; Namkung & Jang, 2017); however, Munnukka's (2008) research results suggest that demographic variables do not significantly affect customers’ price sensitivity in each segment and thus cannot be used to predict customers’ price sensitivity levels. Therefore, rather than duplicating previous research, the current research does not focus on the effect of demographic aspects. Instead, level of hotel price is used as a segmentation criterion and constructed as one of the independent variables to investigate the effect on behavioural intention and explain different perceptions about quality and sacrifice.

Price is perceived to be a very important dimension for hotel selection (Lockyer, 2005). By using different levels of price, this research discriminates budget and luxury market segments. This research further explores customer price perceptions towards green products and services by measuring perception of quality and sacrifice and testifying if it

has an effect on behavioural intention to explain the impact of pricing strategies. To achieve the research objectives and fill the research gaps, this research extends the previous research by verifying the link between price level and price perception specifically in the area of green marketing and the hospitality industry. This leads to the following hypotheses:

**Hypothesis 1a:** Customers' perceived quality is significantly related to level of price.

**Hypothesis 1b:** Customers' perceived sacrifice is significantly related to level of price.

Purchase intention refers to a customer's plan or desire to purchase a company's products or services, to recommend and express positive comments about products or services, and to pay premium prices for products or services (H. Han et al., 2009; Namkung & Jang, 2007). Behavioural intention is a core component of the theory of planned behaviour, which, according to Ajzen (1985), is an indication of the possibility of an individual to perform a certain behaviour, and it is the direct premise of this behaviour. The association between behavioural intention and actual consumption behaviour might not be perfect, but intention can still be used to predict consumer behaviour (Ajzen, 1985). In the context of the current research, behavioural intention refers to hotel customers' willingness to visit a green hotel, to pay more for the green hotel, or to maintain a positive word-of-mouth (WOM) behaviour.

Customers' booking intention for green or non-green hotels across different market segments has not been identified in previous literature. This research investigates the impact of price level on consumers' booking intention for green hotels. For the luxury segment, consumers are less price sensitive and perceive the price to be an indicator of quality rather than sacrifice. Thus, I proposed that potential customers show more willingness to book the premium price green hotel in the high price level. This leads to the following hypothesis:

**Hypothesis 2:** The relative preference for the premium price green hotel over the conventional price non-green hotel option will be stronger at high price levels.

## **2.6 Influence of Price Precision (Rounded vs. Precise)**

When it comes to studying product pricing, the research by Thomas et al. (2009) provides empirical evidence for the price precision effect. Previous studies have stated that precise price is evaluated to be smaller than rounded prices, even when the rounded price is



actually smaller than the precise price (Thomas et al., 2009). Schindler (2001) suggested that the price with “99” ending may convey the image that a product is on sale, which means that prices that are more precise are usually perceived to be cheaper than the rounded price. Multiple studies stated that using precise price implies a favourable impression to customers and communicates a low-price image (Schindler, 2001; Schindler & Kibarian, 2001; Thomas et al., 2009).

Although a similar effect has been studied in other industries, how price precision affects a consumer’s price perception for green hotels has not been examined before. Previous research reveals the perceptions of different price endings as a tactic in psychological pricing (Cakici, Kosar, & Ozturk, 2017), which means that different precisions of price indicate different images about perception of quality or whether the product is discounted. Thus, other than level of price, price precision is hypothesised as another factor that might affect customers’ price perception toward green hotels. Due to this effect, hotel price precision or roundedness is constructed as one of the independent variables to explore its relationship with customer’s price perception in order to address the research gap. As a result, the following hypotheses are proposed:

**Hypothesis 3a:** Customers’ perceived quality is significantly related to precision of price.

**Hypothesis 3b:** Customers’ perceived sacrifice is significantly related to precision of price.

Coulter (2007) suggests that the price precision or roundedness influence the value or price amount related to the observed price, which as a result, may impact consumers’ purchase intentions. Manning and Sprott (2009) also verified that price endings influence consumers’ purchase intentions. According to Gabor and Granger (1979), consumers also showed more intention to buy products with 9-ending prices compared to 0-ending prices. However, there is limited evidence in the context of green marketing or in the hospitality industry about the impact of price precision on consumers’ booking intention. Prior studies are constantly addressing issues about society’s attitudes towards green products and developing better adoption of green practices, yet limited research has emphasised the importance of green products’ pricing strategy. It lacks literature on how customers interpret rounded and precise price on green hotels.

This research investigates the impact of price precision on consumers’ booking intention for green hotels. For precise priced hotels, consumers perceived the price to be discounted or smaller than rounded priced hotels, hence portraying a low-price image. As a result,

consumers are more sensitive about the precise hotel price, which performs as an indicator of sacrifice. Thus, I proposed that potential customers show more willingness to book the premium price green hotel when the price is more rounded. This leads to the following hypothesis:

**Hypothesis 4:** The relative preference for the premium price green hotel over the conventional price non-green hotel option will be stronger when the price is more rounded.

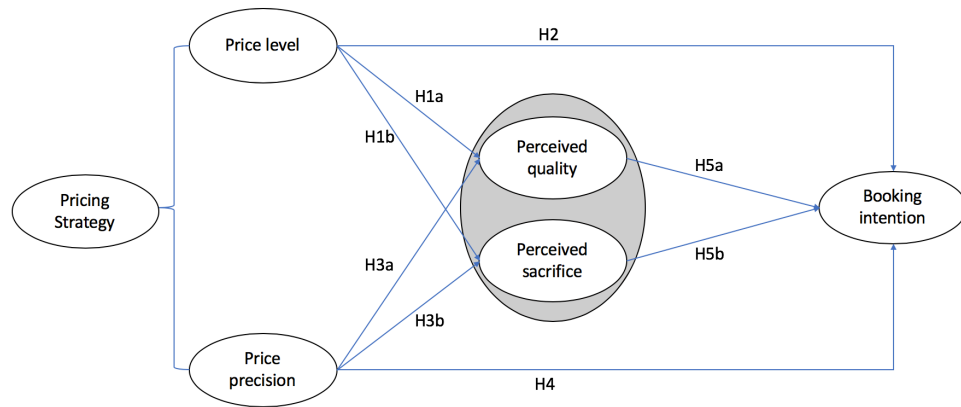
## **2.7 Influence of Perceived Quality, Sacrifice**

Laroche et al. (2001) suggested that variables such as prices, brand image, advertisements or product quality could affect consumers' booking behaviour concerning green products. The most convincing evidence supporting the increase in environmentally friendly consumer behaviour is that increasing numbers of consumers are willing to pay more for green products and services. However, the issue related to customers' price perceptions of green practices requires further study because of the controversial opinions of different studies. In some literature, evidence shows a significant relationship exists between customers' price perceptions and their purchase intentions. The research by Munnukka (2008) shows that there is a significant relationship between price perception and intention to purchase mobile communication services. It also reveals how intention is greatly influenced by customers' price perceptions among different customers.

Customers' perception of how price is perceived as quality and sacrifice is measured in this study. The research by C. Chen, Xie, and Wang (2017) conceptualised that price has a critical mood-changing function. C. Chen et al. (2017) suggested that when the observed price is lower than the reference price (in other words, when price is perceived as a quality indicator), it acts as mood-lifting cue and has a positive effect in shaping consumers' behavioural intentions. Thus, it leads to higher intention to book a room. Customers in the luxury segment, being less price sensitive, perceive price as an indicator of quality. For the budget segment, price is predicted to be an indicator of cost (Bornemann & Homburg, 2011). How price is perceived by customers in the green hotel context has not been analysed before. In this study, the green initiative is manipulated as a differentiating attribute to study customers' booking intentions for green hotels. Based on the model proposed by Zeithaml (1988), customers' perceived quality and sacrifice are considered as determinants of their purchase decision. As a result, the hypotheses are proposed as follows:

**Hypothesis 5a:** Customers' booking intention for green or non-green hotels will be significantly influenced by their perceived quality.

**Hypothesis 5b:** Customers' booking intention for green or non-green hotels will be significantly influenced by their perceived sacrifice.



*Figure 1: Theoretical framework*

## **Chapter 3. Methodology**

This section presents the research methodology used throughout the study. First, this section outlines the guiding research paradigm. Then it explains the research method and why this method is appropriate for this study, followed by a description of research design and procedures. The next section discusses pilot test in this study. Then, the data collection process and data analysis techniques are presented.

### **3.1 Research Paradigm**

In marketing research, a philosophical view helps researchers to make decisions about methodological issues (Creswell, 2009). Crotty (1998) provided a framework consisting of four crucial elements of the research process: epistemology, theoretical paradigm, methodology and research methods. Epistemology is the philosophical foundation of knowledge and decides what kinds of knowledge are possible. The epistemology understanding adopted by researchers will influence the theoretical paradigm and reflects in the methodology and research methods as well. The epistemology adopted by this research is objectivism, which means that we can discover objective truth because truth is separate from an individual's consciousness and can be measured.

Theoretical paradigm can be interpreted as “worldview”, which determines what we see as researchers. It involves all the assumptions we make about knowledge and how research should be carried out. The theoretical paradigm adopted by this research is the positivist paradigm. Positivists see the world as objective and results of the research will not be affected by the researcher (Polit & Beck, 2004). With the positivist paradigm, this research obtained knowledge by using deductive processes and quantitative approaches. The research emphasises specific concepts to verify the researcher's assumptions and seek generalisations of knowledge. This study uses experimental design as a methodological approach, which is recognised as a feasible method of examining causal relationships (Fong, Law, Tang, & Yap, 2016), and a questionnaire survey as an instrument to address the research questions and test hypotheses.

### **3.2 Research Objectives and Method**

The objective of the research is to test the hypotheses and investigate the relationship between constructs by manipulating the independent variables and measuring dependent variables (i.e. price level, price precision, price perception and booking intention). Based on the discussion of previous literature regarding the importance of consumer's price

perceptions on their consumption behaviour, there are multiple factors (level of price, precision of price, price perception) that influence an individual's purchasing behaviour. However, the reasons for containing these constructs to study the causal relationships is because depending on different market segments of customers (luxury vs. budget), price can be perceived differently and has always been identified as a motivation for luxury consumption.

To answer the research question, an experimental design is chosen as a methodological approach. Researchers in the hospitality sector have generally been encouraged to use experimental designs to study causal relationships and conduct preference-based analyses (Kuhfeld, Tobias, & Garratt, 1994) because an experimental design can lower the extent of external variables' effects on research variables (Fong et al., 2016), which is frequently used in marketing research. In the current research, experimental design is utilised to reach causal and conclusive results about how price level and price precision influence purchase intentions towards green hotels and how perceived quality and sacrifice influence customers' booking intentions and willingness to pay more for green hotels. There are different scenarios designed in order to investigate the two different price levels: high price luxury hotels and low price budget hotels. And there are also scenarios manipulated to test the impact of price precision.

An online questionnaire is used as the primary instrument to collect data. The questionnaire consists of three sections. First of all, the participants are randomly given a manipulated travel condition. Next the second section is some follow-up questions about the given condition for participants to answer. Lastly, participants' demographic profile is collected. For this research, two studies are conducted to test the hypotheses.

### **3.3 Research Design and Procedures**

#### **Study 1**

In Study 1, participants were randomly assigned to one of two (high price level vs. low price level) between-subjects experimental conditions. According to this research design, the sample was evenly divided into two groups. The first section of the survey started by briefly introducing to the participants the tasks and asking them to give adequate attention to the given conditions and the follow-up questions. For ethical purposes, participants were informed that by taking the survey they were giving consent to be part of the research. Please refer to Appendix A for the participant information sheet.

The scenarios were employed by using the structure of a study by J. Kim, Hyde, Kim, Lee, and Kim (2018). Some details were modified and manipulated to adapt to the current research questions. Participants were asked to imagine that they are planning a trip to New York, USA to gather with their friends and needed to book one standard double room in a downtown hotel for four nights next week for themselves. They were given options of two hotels based on the random assignment of the experimental conditions (luxury vs. budget), one was green hotel with premium price and the other one was a non-green hotel with conventional price. The descriptions of the two hotels were different in terms of customer ratings, bed size, hotel amenities (e.g. express check-in, facilities, entertainment), room amenities (e.g. TV, beddings, coffee maker) and most importantly, green initiatives (e.g. using LED lights, solar panels, water recycling). Hotel A was presented as an environmentally sustainable hotel while Hotel B had no green initiatives at all. The overall quality of Hotel A was relatively higher with a better customer rating, more amenities in hotel and room, and a higher price. On the contrary, Hotel B had a slightly lower customer rating, less amenities and a cheaper price. For the high price group, Hotel A was \$350 and Hotel B was \$300. For the low price group, Hotel A was \$130 and Hotel B was \$80. The different prices of hotels for the two groups were determined by using the reference price on OTA (e.g. Expedia, Agoda, Ctrip) in the same range in New York. The price difference of Hotel A and B was both \$50 in two groups. All the above information was presented in table form in the survey.

After displaying descriptions of both hotels, participants were asked to go to the next page. There they were given some follow-up questions to state their opinions about the two hotels in previous section. First, they were asked to choose one of two hotels (e.g. which hotel would you be likely to choose? Hotel A vs. Hotel B) based on the experimental condition, followed by a question of an impression of the two hotels (e.g. Tell us your impressions of the hotel A/B you just saw) to state their attitudes. A three-item, seven-point semantic differential scale was applied in the design of the questions to determine the level of potential customers' impression about the two hotels presented (bad: good, unpleasant: pleasant, unfavourable: favourable), which is adapted from research by Sahin (2013). Then they were asked about the perception of price (e.g. The hotel I have chosen has a very high price; the hotel I have chosen appears to be better quality; the hotel I have chosen has better value). The scale to measure perceived quality and sacrifice was adapted from Dodds, Monroe, and Grewal's (1991) research and used a seven-point Likert scale (strongly disagree: strongly agree). Next, a question about the perceived environmental sustainability of the two hotels was asked for a manipulation check (e.g. Which hotel do

you perceive to demonstrate better practice of environmental sustainability? Definitely hotel A: Definitely hotel B). Finally, participants were asked about their willingness to pay more for green practice (e.g. I would pay more to stay at the hotel that is making efforts to be environmentally sustainable), which was drawn from research by Kang et al. (2012). It was measured by using a seven-point Likert scale (strongly disagree: strongly agree).

To evaluate the quality of the data collected, the survey recorded how long a participant spent on the scenario and questions page. However, this section was displayed to the participants. This section would be able to measure the participants' involvement and increase the reliability of the results. Lastly, participants were asked to provide their demographic profiles in the questionnaire. The purpose of the demographic section in this survey aimed to identify participants' background information and evaluate the interaction of variables. The demographic aspects involved in this research were age, gender, current employment situation, annual income, race, educational background and primary purpose of hotel stays. For details about the survey, please refer to Appendix B.

## **Study 2**

One limitation of Study 1 was the overall presentation of hotel quality. The perception of quality and sacrifice did not relatively distinguish between high and low level of price, and so it was with participants' attitudes toward Hotel A and B. In addition, since participants' decisions could be influenced by the overall quality and precision of price, it was necessary to replicate the first study while changing some of the hotels' attributes and manipulating the price precise level.

In Study 2, participants were randomly assigned to one of 2 (precise price vs. rounded price) x 2 (high price level vs. low price level) between-subjects experimental conditions. According to this research design, the sample was evenly divided into four groups. The first section of the survey was the same as Study 1. It started by briefly introducing to the participants the tasks and asked them to give adequate attention to the given conditions and the follow-up questions. For ethical purposes, participants were informed that by taking the survey they are giving consent to be part of the research.

Consistent with Study 1, participants were also asked to imagine that they are planning a trip to New York, USA to gather with their friends and needed to book one standard double room in a downtown hotel for four nights next week for themselves. In this study,

I added two more conditions, in which I manipulated the precision of hotel price while the other attributes stayed the same. They were also given options of two hotels based on the random assignment of the experimental conditions, one was a green hotel with premium price and the other one was a non-green hotel with conventional price. The descriptions of the two hotels were slightly modified according to the results of Study 1. Some of the attributes were deleted or modified while manipulating the price precise level. The hotel attributes were different between the two choices including their customer ratings, hotel amenities, room amenities, parking availability, distance from airport, late check-out availability and most importantly, green initiatives (e.g. using LED lights, solar panels, water recycling). Hotel A was still presented as an environmentally sustainable hotel while Hotel B had no green initiatives at all. The overall quality of Hotel A was relatively higher with a better customer rating, more amenities in hotel and room, and a higher price. In addition, it offered free parking, late check-out availability and was closer to the airport. On the contrary, Hotel B had slightly lower customer rating, less amenities and a cheaper price. It only offered discounted off-site parking, had no late check-out and was further from the airport. The prices for four scenarios were: (1) \$350 vs. \$300; (2) \$349.90 vs. \$299.90; (3) \$130 vs. \$80; (4) \$129.90 vs. \$79.90. Scenarios (2) and (4) were added for Study 2 to test the effect of price precision. All the above information was presented in table form in the survey.

After displaying the scenarios, the next section of seven follow-up questions was maintained consistent with Study 1, followed by an additional manipulation check for the measurement of the dependent variables by asking the participant three questions. The first one asked them the importance of environmental factors (e.g. To what extent is the environmental friendliness of hotel as an important factor in your decision about which hotel to book and stay? Not at all important: Very important). The second question asked about their previous hotel booking and staying experience (e.g. Have you booked any hotel online within the previous 24 months; Have you stayed in any hotel within the previous 24 months?) The third one asked about their price sensitivity (e.g. I usually buy things when they are on sale; I buy the lowest priced products that will suit my needs; when it comes to choosing products for me, I rely heavily on price. Strongly disagree: Strongly agree).

Apart from recording how long a participant spends on the scenario and questions page, an attention check question was also included to ensure data quality in Study 2. This question helped the researcher to learn about whether the participants had read the given



instructions carefully. The question asked about participant's colour preference. However, if the participants had read the instruction carefully, they would skip the question and proceed to the next section.

Lastly, participants were asked to provide their demographic profiles in the questionnaire. The demographic aspects involved in this research remain the same as in Study 1, which included age, gender, current employment situation, annual income, race, educational background and primary purpose of hotel stays.

*Table 1: Summary of Studies 1 & 2*

	<b>Study 1</b>	<b>Study 2</b>
<b>Sample size</b>	N=103	N=269
<b>Conditions</b>	1) \$350 vs. \$300 2) \$130 vs. \$80	1) \$350 vs. \$300 2) \$349.90 vs. \$299.90 3) \$130 vs. \$80 4) \$129.90 vs. \$79.90
<b>Independent variable(s)</b>	Price level (High vs. Low)	Price level (High vs. Low) Price precision (Rounded vs. Precise)
<b>Dependent variables</b>		Booking intention Attitude towards green hotels Willingness to pay more
<b>Hypotheses tested</b>	H1a, H1b, H2	H1a, H1b, H2, H3a, H3b, H4, H5a, H5b

### 3.4 Pilot Test

The questionnaire was pilot-tested on five master's students of hospitality from Auckland University of Technology to test the validity and reliability of the instrument and improve the research design prior to the distribution. A preliminary pilot study is necessary for quantitative research to avoid time and money being wasted on a deficient study (Haralambos & Holborn, 2000). No major problem was found from the pilot test, only a few minor changes being made to the follow-up questions and scenario descriptions. For example, the question of "Tell us your impression about the hotel you just saw" was separated into two questions of "Tell us your impression about Hotel A you just saw" and "Tell us your impression about Hotel B you just saw" to make it more specific. The customer rating for low price hotels was modified from "4.7 of 5" to "3.5 of 5" for Hotel

A, and “4.3 of 5” to “3.1 of 5” for Hotel B, in order to match the overall quality of the low price hotels.

### **3.5 Data Collection**

The study sample was reached online through an online survey company – Amazon Mechanical Turk – to recruit survey participants. The company sent out an online survey invitation to their panel members. In this research, panel data was recruited to investigate the research problem. By that means the respondents would be selected randomly to avoid the bias of choosing from available sources and to increase reliability. The respondents were evenly distributed into each scenario. Data was collected until it reached an adequate sample size in each cell for appropriate analysis. Regarding appropriate sample size, Hair, Black, Babin and Anderson (2009) suggested that the sample size of a multivariate analysis should be at least 20 respondents in each unit and that it would probably be wise to have more. Therefore, in the current study, at least 50 respondents in each scenario were collected. A total of 372 respondents was collected in the two studies. Each participant was randomly assigned to one manipulated scenario in the between-subjects experimental design. In each scenario there were two choices of hotels, one was a premium price green hotel and the other one was a regular price non-green hotel. Two studies were conducted for this research.

### **3.6 Data Analysis**

Statistical Package for Social Sciences (SPSS) was used for data analysis. Multiple statistical analysis procedures were operated to analyse the data. Firstly, after making sure there were no errors and missing data in the file, some preliminary frequency distribution analyses were used to distribute the demographic characteristics of the participants. Then, a series of descriptive statistics on variables was used to test the assumptions. It included the mean, standard deviation and range of scores, which can be used to check if the assumption was violated in individual tests (Pallant, 2016).

To explore the effect of independent variables between groups (high price vs. low price; rounded price vs. precise price), some chi-square tests were carried out. Chi-square test is one of the non-parametric statistics techniques, which do not have rigorous requirements or make assumptions about the population the sample is drawn from (Pallant, 2016). A non-parametric technique is ideal for data measured with categorical and ordinal scales, and therefore, suitable for the current research. For two categorical variables, a chi-square test for independence would be applied for analysis.

Analysis of variance (ANOVA) was used in this study in order to compare mean scores and test the significance of relationships between high price vs. low price groups and rounded price vs. precise price groups. One-way ANOVA includes one independent variable while two-way ANOVA includes two independent variables (Pallant, 2016).

In addition, logistic regression was used to test hypotheses in this research. Logistic regression analyses the influence of a series of predictors on a dependent variable (Pallant, 2016). It allows us to predict the outcomes with two or even more categories. For the case of the current research, logistic regression was carried out by taking the hotel choice of A or B as the dependent variable, and level of price, precision of price as independent variables. First, I dummy-coded the variable of hotel choice into category 0 (Hotel A) and 1 (Hotel B) as a dummy variable, by which I could use it as prediction of hotels chosen. The dummy variable is used to predict the probability that an observation falls into one of two categories of dependent variables based on one or more independent variables that can be either continuous or categorical.

## **Chapter 4. Results**

### **4.1 Study 1**

In Study 1, 103 participants in the USA participated in the experiment through the online panel company Amazon Mechanical Turk. Participants were randomly assigned to one of the two (high price level vs. low price level) between-subjects experimental conditions.

Firstly, out of the 103 participants, there was no missing data. All of the participants had given valid answers to the questions. In this research, the survey had collected the background information of each participant, such as their age, gender, ethnicity, educational qualification, annual income, employment status, previous hotel working experience and their main purpose for staying in a hotel. Frequency distribution analysis techniques were used to display the demographic characteristics of the participants. The majority of participants were below age forty. Almost 40% of participants were from the age group of 30 to 39, followed by approximately 30% of participants from the twenties. Others were forty years old or older. The general gender distribution across all participants showed that almost 40% were female consumers and over 60% were male consumers. Almost 90% of participants were either employed or self-employed. The distribution of participants in each level of annual income was relatively even, which mostly ranged around 10% to 20% in each group. Regarding educational background, more than 40% of participants had at least a Bachelor's degree qualification. Finally, about 75% of participants mainly stayed in hotels for leisure purposes and the rest stayed for business or some other purpose.

Table 2 presents the detailed frequency analysis for participants' demographic characteristics in Study 1. The row shows demographic variables, while the column shows the total numbers and percentages in the brackets for each demographic category.

Table 2: Respondents' demographic profile for Study 1

<i>Characteristics</i>	<i>n (%) [N=103]</i>
<u>Age</u>	
20-29	32 (31.1)
30-39	41 (39.8)
40-49	19 (18.4)
50-59	7 (6.8)
60 and Over	4 (3.9)
<u>Gender</u>	
Male	63 (61.2)
Female	40 (38.8)
<u>Employment status</u>	
Employed	74 (71.8)
Self-employed	16 (15.5)
Unemployed	10 (9.7)
Others	3 (2.9)
<u>Annual Income</u>	
Zero income	1 (1.0)
Less than \$10,000	11 (10.7)
\$10,001-\$20,000	10 (9.7)
\$20,001-\$30,000	17 (16.5)
\$30,001-\$40,000	15 (14.6)
\$40,001-\$60,000	22 (21.4)
\$60,001-\$80,000	13 (12.6)
\$80,001 or more	14 (13.6)
<u>Ethnicity</u>	
European	60 (58.3)
Pacific Peoples	1 (1.0)
Asian	10 (9.7)
Middle Eastern/Latin American/African	6 (5.8)
Other Ethnicity	26 (25.2)
<u>Educational Background</u>	
High school graduate	19 (18.4)
Some college/technical training	26 (25.2)
Associate's degree	8 (7.8)
Bachelor's degree	38 (36.9)
Master's degree	11 (10.7)
PhD	1 (1.0)
<u>Main Purpose of hotel stay</u>	
Business	23 (22.3)
Leisure	75 (72.8)
Other	5 (4.9)

Then, I used the descriptive statistics and independent-samples t-test to check if the manipulation of the two hotels' environmental sustainability was successful. An independent-samples t-test is used when comparing the mean score on continuous variables for two different groups of participants (Pallant, 2016). In this study, the manipulation was successful because Hotel A perceived to demonstrate better practice of environmental sustainability which had less than the neutral value of '4' out of a 7-point scale ( $M=2.17$ ,  $SD=1.681$ ,  $t(103)=-1.308$ ,  $p=.044$ ). After excluding the data that failed in the manipulation check, we had a new number of samples: 83 respondents.



*Figure 2: Participants' choice comparing high and low price levels for Study 1*

As shown in Figure 2, the green hotel (i.e. Hotel A) was chosen by 74.4% (=32/43) of potential customers in the higher price level, while it accounted for 55.0% (=22/40) in the lower price level. As expected, in Hypothesis 2 the relative preference for the green hotel over the non-green hotel option was stronger in the high price level; therefore, Hypothesis 2 was supported. According to the SPSS Cross-tabulations and the Chi-square test, by taking the participants of choice between Hotels A or B as well as the level of price into consideration, it was observed that in the scale of high price level, Hotel A had a much higher value than Hotel B; in the scale of low price level, Hotel A also had a relatively higher value. The Chi-square value was 3.438 with significant value larger than 0.05 ( $p=.064$ ) but less than 0.10, indicating that the spread of differences was marginally statistically significant. Since the variables of price level and hotel choices were both categorical variables, the Chi-square test was considered the most ideal to investigate the relationship between the two categorical variables.

*Table 3: One-way ANOVA-hotel choices for Study1*

Attitude towards	Conditions	Mean	SD	df	F	Sig.
Green hotel	High price	6.59	0.96	1	2.571	0.113
	Low price	6.29	0.69			
Non-green hotel	High price	5.35	1.37	1	1.592	0.211
	Low price	4.99	1.19			

Next, I ran a one-way analysis of variance (ANOVA) to empirically test the hypothesis. Table 3 presents the corresponding results. When we compared participants' attitudes toward Hotel A and B at both high and low price levels, the mean score showed that their average perceived attitude for Hotel A (green hotel) was slightly better than Hotel B (non-green hotel). However, according to the results of the ANOVA test, it was found that participants' attitudes towards the two hotels were not statistically significant at a level of 0.05, where the  $p$  value was 0.113 for Hotel A and 0.211 for Hotel B – both larger than 0.05. The results did not provide enough evidence to support that there was a statistically significant association between the two variables of different levels of price and potential customers' attitudes between green and non-green hotels.

*Table 4: One-way ANOVA-perceived quality and sacrifice for Study 1*

Perception of	Conditions	Mean	SD	df	F	Sig.
Quality	High price	5.33	1.78	1	1.860	0.176
	Low price	4.75	2.06			
Sacrifice	High price	5.09	1.76	1	6.351	0.014
	Low price	4.05	2.01			

Regarding the perception of price, as Table 4 presents, customers' perceived quality of the hotel they have chosen had a relatively high mean score in both high and low price level groups. The relationship between perceived quality and price level was not significant, so Hypothesis 1a was not supported. On the contrary, the results showed a statistically significant covariate regarding customers' perceived sacrifice of the chosen hotel. The different perception of sacrifice of hotel price is significantly related to price level; thus, Hypotheses 1b was supported. Furthermore, the results of the ANOVA test showed that participants' willingness to pay more to be environmentally sustainable was not statistically significantly different between the different price levels.

## 4.2 Study 2

One limitation of Study 1 was the description of hotel quality. The perception of quality and sacrifice was not distinguished enough between high and low levels of price, and the same situation applied to participants' attitudes toward Hotels A and B. Also, since participant's decisions could be influenced by the overall quality and precision of price, it was necessary to replicate Study 1 while changing some hotels' attributes and manipulating the price precise level. Participants were randomly assigned to one of 2 (precise price vs. rounded price) x 2 (high price level vs. low price level) between-subjects experimental conditions.

In Study 2, 269 participants in the USA participated in the study. All of the participants had given valid answers to the questions. The majority of participants were in the age group of 20 to 29, followed by approximately 35% of participants from the thirties. Others were forty years old or older. The general gender distribution across all participants showed that about 40% were female consumers and almost 60% were male consumers. About 90% of participants were either employed or self-employed. The distribution of participants in each level of annual income was relatively even, which mostly ranged around 10% to 20% in each group. Only a few people had zero income. Regarding the educational background, approximately 60% of participants had at least a Bachelor's degree qualification. Finally, about 60% of participants mainly stayed in hotels for leisure purposes and the rest stayed for business or some other purposes.

Table 5 presents the detailed frequency analysis for participants' demographic characteristics in Study 2.



Table 5: Respondents' demographic profile for Study 2

<i>Characteristics (N=269)</i>	<i>n (%) [N=269]</i>
<u>Age</u>	
<i>Below 20</i>	<i>1 (0.4)</i>
<i>20-29</i>	<i>109 (40.7)</i>
<i>30-39</i>	<i>96 (35.8)</i>
<i>40-49</i>	<i>32 (11.9)</i>
<i>50-59</i>	<i>17 (6.3)</i>
<i>60 and Over</i>	<i>13 (4.9)</i>
<u>Gender</u>	
<i>Male</i>	<i>160 (59.5)</i>
<i>Female</i>	<i>108 (40.1)</i>
<u>Employment status</u>	
<i>Employed</i>	<i>186 (69.1)</i>
<i>Self-employed</i>	<i>57 (21.2)</i>
<i>Unemployed</i>	<i>23 (8.6)</i>
<i>Others</i>	<i>3 (1.1)</i>
<u>Annual Income</u>	
<i>Less than \$10,000</i>	<i>30 (11.2)</i>
<i>\$10,001-\$20,000</i>	<i>47 (17.5)</i>
<i>\$20,001-\$30,000</i>	<i>51 (19.0)</i>
<i>\$30,001-\$40,000</i>	<i>36 (13.4)</i>
<i>\$40,001-\$60,000</i>	<i>41 (15.2)</i>
<i>\$60,001-\$80,000</i>	<i>30 (11.2)</i>
<i>\$80,001 or more</i>	<i>32 (11.9)</i>
<u>Ethnicity</u>	
<i>White/Caucasian</i>	<i>159 (59.1)</i>
<i>African American</i>	<i>22 (8.2)</i>
<i>Hispanic</i>	<i>12 (4.5)</i>
<i>Asian</i>	<i>68 (25.3)</i>
<i>Native American</i>	<i>5 (1.9)</i>
<i>Other Ethnicity</i>	<i>3 (1.1)</i>
<u>Educational Background</u>	
<i>High school graduate</i>	<i>25 (9.3)</i>
<i>Some college/technical training</i>	<i>57 (21.2)</i>
<i>Associate's degree</i>	<i>20 (7.4)</i>
<i>Bachelor's degree</i>	<i>122 (45.4)</i>
<i>Master's degree</i>	<i>42 (15.6)</i>
<u>Main Purpose of hotel stay</u>	
<i>Business</i>	<i>91 (33.8)</i>
<i>Leisure</i>	<i>160 (59.5)</i>
<i>Other</i>	<i>18 (6.7)</i>

Figures 3 and 4 show that the green hotel (i.e. Hotel A) was chosen by 77.3% (=102/132) of potential customers in the higher price level, while it accounted for 65.0% (=89/137) in the lower price level. Also, the green hotel (i.e. Hotel A) was chosen by 78.7% (=107/136) of potential customers in the rounded price, while it accounted for 63.2% (=84/133) in the precise price. The results show that the preference for the premium price green hotel was stronger in the high price level and when the price was presented as rounded. Therefore, Hypotheses 2 and 4 were both supported.



Figure 3: Participants' choice comparing high and low price levels for Study 2

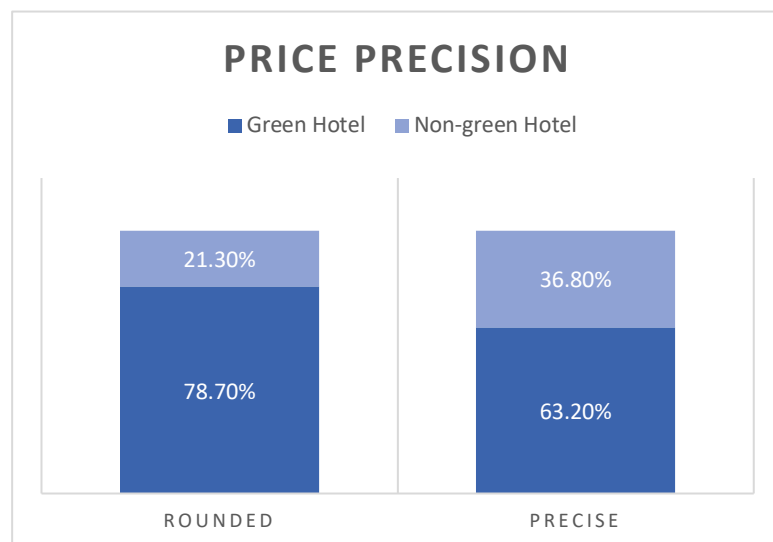


Figure 4: Participants' choice comparing rounded and precise price for Study 2

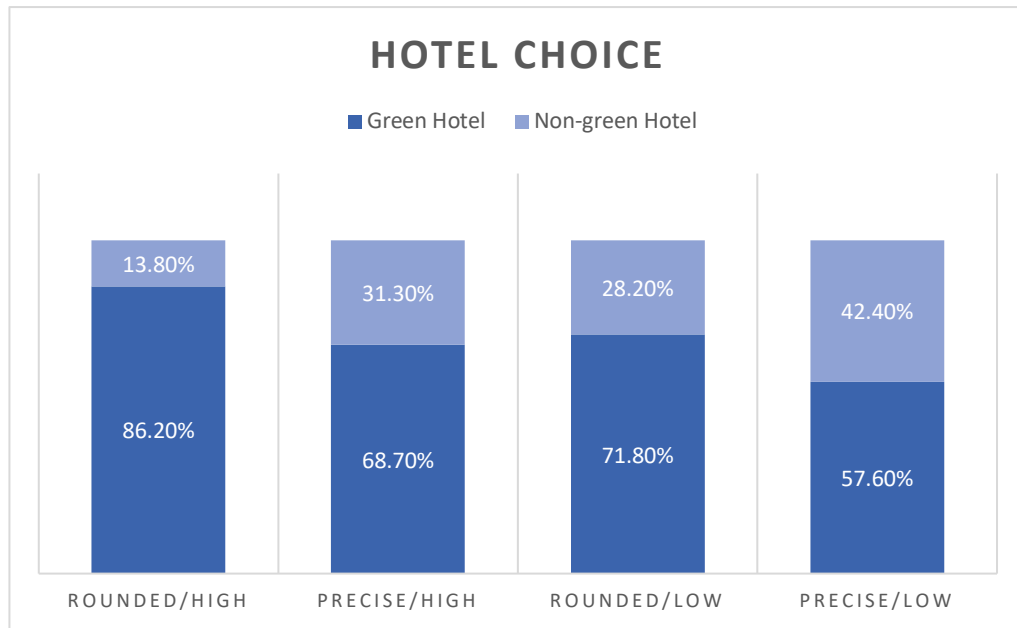


Figure 5: Participants' choice comparing all conditions for Study 2

Table 6: Chi-square test by price level and price precision for Study 2

Conditions	Chi-square value	Green Hotel	Non-green Hotel	Total (N)	Sig.
High price	5.751	102	30	132	0.016
Low price	3.054	89	48	137	0.081
<b>Price level total</b>	<b>7.865</b>	<b>191</b>	<b>78</b>	<b>269</b>	<b>0.005</b>
Rounded price	4.149	107	29	136	0.042
Precise price	1.754	84	49	133	0.185
<b>Price precision total</b>	<b>4.947</b>	<b>191</b>	<b>78</b>	<b>269</b>	<b>0.026</b>

According to results of the Chi-square test shown in Table 6, by taking the participants' choices between Hotels A or B as well as the level of price into consideration, with precision of price as the sub group, it was observed that in the scale of high price level, Hotel A had a higher value than Hotel B, and in the scale of low price level, Hotel A also had the higher value. The Chi-square value for the high price group was 5.751 with significant value less than 0.05 ( $p=.016$ ) indicating that the spread of differences within the group was statistically significant at a level of 0.05. The Chi-square value for the low price group was 3.054 with significant value larger than 0.05 ( $p=.081$ ) indicating that the spread of differences within the group was not statistically significant. The Chi-square value for the total was 7.865 with significant value less than 0.05 ( $p=.005$ ) indicating that the spread of differences within the group was statistically significant. Since the variables of price level and hotel choices were both categorical variables, the Chi-square test was considered the best fit to discover the relationship between constructs based on this type of data.

Next, I used the Chi-square test again, by taking the participants' choice of Hotels A or B and precision of price into consideration, price level as the sub group, and the results indicated that in the scale of rounded price, Hotel A had a higher value than Hotel B, and in the scale of precise price, Hotel A also had the higher value. The Chi-square value for the rounded price group was 4.149 with significant value less than 0.05 ( $p=.042$ ) indicating that the spread of differences within the group was statistically significant. The Chi-square value for the precise price group was 1.754 with significant value larger than 0.05 ( $p=.185$ ) indicating that the spread of differences within the group was not statistically significant. The Chi-square value for the total was 4.947 with significant value less than 0.05 ( $p=.026$ ) indicating that the spread of differences within the group was statistically significant.

*Table 7: Logistic regression for Study 2*

		Factors	B	Exp (B)	Sig.	Cox & Snell R Square	Nagelkerke R Square
Choices of green or non-green hotel	Price level		-.685	.504	0.017	.050	.072
	Price precision		-.837	.433	0.004		

Logistic regression was used to test the hypotheses as well. In Table 7, it is observed that the value for Cox & Snell R square and Nagelkerke R Square are 0.050 and 0.072, which are all less than 0.5. From the variables in the equation, it was found that the estimations of coefficient for price level and price precision were statistically significant, where the corresponding  $p$  value equaling to 0.017 and 0.004 were all less than 0.05. The estimation of coefficient for price level and price precision were -0.685 and -0.837 correspondingly, which were all less than 0.5 indicating that people in the low price group have less intention to choose the green hotel; people in precise price group have less intention to choose Hotel A. The opposite of the situation described above was also true. The logistic regression verifies that price level and price precision both have a significant impact on booking intention. Thus, Hypotheses 2 and 4 were both supported.

After that, the Test of Between-Subjects Effects was conducted to study participants' attitudes toward both hotels they saw. The reason to choose two-way ANOVA is it compares the mean differences between groups that have been split into two independent variables. The primary purpose of a two-way ANOVA is to understand if there is an interaction between the two independent variables on the dependent variable. The variables of price level and price precision were both independent categorical variables.

According to the descriptive statistic, the high price group had a relatively larger mean score than the low price group on attitude toward Hotel A. When I used average attitude rating for Hotel A as the dependent variable, the significant values for independent variables of price level, price precision and general price were 0.084, 0.450 and 0.474, respectively, all larger than 0.05 indicating that the effect of price was not statistically significant on participants' attitude toward Hotel A. In the case of Hotel B, the significant value for price level was 0.009, which was less than 0.05 indicating that the effect of price level was statistically significant on participants' attitude toward Hotel B.

I calculated the difference in values of attitude toward Hotels A and B, by taking it as the dependent variable, and the significant value for price level, price precision and general price were 0.381, 0.746 and 0.444, respectively, which were all larger than 0.05 indicating that the effects of price level, price precision and interaction effect were not statistically significant on participants' attitude toward the hotels they saw.

Next, I attempted to provide additional evidence for the hypotheses. When using participant's willingness to pay more for a green hotel as the dependent variable for the Test of Between-Subjects Effects, it was found that the significant values for price level, price precision, and overall price were 0.091, 0.827 and 0.557, respectively, all larger than 0.05 indicating that the effect of two independent variables and the interaction effect were not statistically significant on participants' willingness to pay more for a green hotel.

*Table 8: One-way ANOVA-perceived quality and sacrifice for Study 2*

	Perception of	Conditions	Mean	SD	df	F	Sig.
Between high & low price groups	Quality	High	5.90	1.413	1	6.264	0.013
		Low	5.42	1.701			
	Sacrifice	High	5.28	1.510	1	8.429	0.004
		Low	4.66	1.972			
Between rounded & precise	Quality	Rounded	5.79	1.446	1	2.045	0.154
		Precise	5.52	1.704			
	Sacrifice	Rounded	5.25	1.600	1	7.289	0.007
		Precise	4.67	1.918			

Furthermore, we also ran the test of one-way ANOVA between the rounded price group and the precise price group to study its influence on multiple dependent variables including attitude toward hotels shown to the participants, their perception of price as quality and sacrifice. According to the results presented in Table 8, it was found that for

price perception, the difference for perception of sacrifice was statistically significant at 0.05, where the  $p$  value was 0.007 less than 0.05. Meanwhile the perception of quality was not statistically significantly different between the rounded and precise price group. Regarding the results of one-way ANOVA between the high price group and low price group, the difference for perception of quality and sacrifice were both statistically significant, where the  $p$  values were 0.013 and 0.004, respectively. Therefore, Hypotheses 1a, 1b and 3b were supported by the results but Hypothesis 3a was not supported.

*Table 9: Test of Between-Subjects Effects (Booking intention) for Study 2*

	Perception of	Mean Square	df	F	Sig.
Choices of green	Quality	0.973	6	6.808	0.000
or non-green	Sacrifice	0.513	6	3.594	0.002

To study the effect of price perception as quality and sacrifice, we also used ANOVA with repeated measures. Table 9 presents the results of the Test of Between-Subjects Effects on booking intentions. By taking the rating of quality and sacrifice as factors and hotel choices as the dependent variable, the results showed that the R squared was 0.404, close to 0.5, indicating that the model was well conducted. Based on these results, it was observed that the effect of perceived quality and sacrifice were statistically significant indicating that the difference for booking intentions were all statistically significant. Thus, Hypotheses 5a and 5b were supported by the results.

*Table 10: Test of Between-Subjects Effects (Willingness to pay more) for Study 2*

	Perception of	Mean	df	F	Sig.
Willingness to	Quality	16.050	6	5.408	0.000
pay more for	Sacrifice	2.655	6	0.895	0.500

Moreover, taking the perception of quality and sacrifice as factors and willingness to pay more for A green hotel as the dependent variable showed that the R squared was 0.319, close to 0.5, which indicated that the model was well conducted. Based on the results of Tests of Between-Subjects Effects on willingness to pay more in Table 10, it was found that the effect of perceived quality was statistically significantly different for participants' willingness to pay more. As a result, it provided additional evidence for Hypothesis 5a.

## **Chapter 5. Discussion**

### **5.1 Summary of Key Findings**

In order to test the research hypotheses, two experimental studies were conducted. Based on previous research, I proposed that customers' booking intention for green hotels could be significantly influenced by two important factors: level of price and precision of price. It was predicted that the relative preference for the premium priced green hotel over the conventional priced non-green hotel option would be stronger in high price level and when the price was more rounded. I also proposed that customers' perceived quality and sacrifice of the hotels would have a significant impact on their booking intention.

To test Hypotheses 1a and 1b, both Study 1 and Study 2 measured participants' perception of quality and sacrifice of the chosen hotels. In Study 1, among perception of quality and sacrifice, the results show that only customers' perceptions of sacrifice are significantly related to level of price. In Study 2, customers' perceived sacrifice and quality are both strongly related to level of price. Both Hypotheses 1a and 1b got supported by the collected data. In terms of Hypotheses 3a and 3b, only perceived sacrifice is strongly related to precision of price. Different perceptions of quality cannot be the explanation for effect of price precision. Thus, Hypothesis 3a was not supported while Hypothesis 3b was supported by the results.

Two experimental studies both provided supporting evidence for Hypothesis 2. Study 1 aimed to investigate the effect of price level (high price luxury hotel vs. low price budget hotel) on customers' booking intention for green hotels. The findings showed that more participants preferred the premium priced green hotel rather than the regular priced non-green hotel in the high price group (\$350 vs. \$300), which verified Hypothesis 2 and indicates that the relationship was marginally significant. In Study 2, I replicated the scenarios in Study 1 while modifying the attributes of the two hotels presented in the scenarios since the attitudes toward the two price levels were not significantly different. The findings of Study 2 showed a similar pattern of participants' preference and the relationship was statistically significant. Overall, the two experiments showed consistent results and verified that across luxury and budget segments, the effect of hotel price level does significantly influence customers' booking intention. The relative preference for the premium price eco-friendly hotels option is stronger in the luxury segment compared to the budget segment. Hypothesis 2 was supported by the results.

In Study 2, the experiment manipulated price precision to test its effect on booking intention. The findings showed that participants' preference for the premium price sustainable hotel was stronger when the price is more rounded in both luxury and budget segments. This result reflected the pattern as the hypothesis suggested. The relationship between effect of price precision and booking intention was significant and Hypothesis 4 was supported by the collected data.

In terms of Hypotheses 5a and 5b, Study 2 showed that participants' choices between green or non-green hotels were strongly affected by the perceived quality and sacrifice. Therefore, both Hypotheses 5a and 5b were supported by the Study 2 findings. Customers' willingness to pay more for a green hotel was significantly influenced by the perceived quality, which provided additional evidence to support Hypothesis 5a.

Overall, it can be concluded that as an independent variable, price level had significant influence on customers' booking intention when given a choice of green or non-green hotels. The impact of price precision was also proven in this study. Consumers' relative preference for eco-friendly hotels over traditional hotels were stronger in the luxury segment and with rounded price. Customers' booking intention was significantly influenced by perceived quality and sacrifice. Customers' willingness to pay more for being environmentally sustainable was strongly affected by perceived quality. The impact of perceived sacrifice can be explained by both price level and price precision and the impact of perceived quality can be explained by price level.



*Table 11: Summary of key findings from Studies 1 & 2*

	<b>Study 1</b>	<b>Study 2</b>
<b>H1a</b>	Not supported. Customers' perceived quality is not significantly related to different levels of price.	Supported. Customers' perceived quality is significantly related to different levels of price.
<b>H1b</b>	Supported. Customers' perceived sacrifice is significantly related to different levels of price.	Supported. Customer's perceived sacrifice is significantly related to different levels of price.
<b>H2</b>	Supported. The relative preference for the premium priced green hotel over the conventional priced non-green hotel option is stronger in the high price level and the relationship is marginally significant.	Supported. The relative preference for the premium priced green hotel over the conventional priced non-green hotel option is stronger in the high price level, and the relationship is statistically significant.
<b>H3a</b>	/	Not supported. Customers' perceived quality is not significantly related to different precision of price.
<b>H3b</b>	/	Supported. Customers' perceived sacrifice is significantly related to different precision of price.
<b>H4</b>	/	Supported. The relative preference for the premium priced green hotel over the conventional priced non-green hotel option is stronger when the price is rounded, and the relationship is statistically significant.
<b>H5a</b>	/	Supported. Customers' booking intention for a green or non-green hotel is significantly influenced by their perceived quality. The effect of perceived quality was statistically significant for participants' willingness to pay more for a green hotel.

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<b>H5b</b> /	Supported.  Customers' booking intention for a green or non-green hotel is influenced by their perceived sacrifice.  The effect of perceived sacrifice was not statistically significant for participants' willingness to pay more for a green hotel.
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## 5.2 Theoretical Implications

This dissertation has several theoretical contributions. First, the findings of this research could extend the current understanding of green consumption behaviour in the hospitality industry and customers' attitudes toward environmentally sustainable hotels.

Secondly, the main purpose of this dissertation was to explore the effects of price level and price precision on customers' booking intention for green or non-green hotels. It aimed to provide a practical explanation for different perceptions of quality and sacrifice and how they affected booking intention and consumers' willingness to pay more for green practices. One of the most important theoretical contributions of this study is an understanding of customers' price perceptions in the green hotel context. This makes an important contribution because, while previous studies have explored overall perception about green consumption, they did not determine how price was perceived by customers and what factors influenced their consumption behaviour (Chan, 2013; H. Han et al., 2009; Laroche et al., 2001).

Another important theoretical contribution of this study is to understand customer's booking intentions based on different market segmentations in green hotels. The same phenomenon has been studied in other areas (Y. J. Han et al., 2010; Yang et al., 2016) but it lacks research into green hotel marketing. By conducting manipulated experimental studies, this research explored pricing strategies across luxury and budget green hotels. It incorporated different levels of price to fill the research gap remaining in the existing literature and addresses the problem of inconsistent opinion about willingness to pay more for green initiatives (Y. Kim & Han, 2010; Laroche et al., 2001).

It also extended previous studies by exploring additional factors that affect behavioural intention. Prior research has focused on how customers' subjective factors cause the inconsistency of willingness to pay extra for a room in a green hotel (Chan, 2013; H. Han,

Hsu, & Lee, 2009; Laroche et al., 2001), while this research highlighted the importance of pricing strategies. It provides evidence of consumers' perception of different price endings in the context of green hotels. The price precision effect has spread to investigation on judgements of green product price and green consumption behaviour in the hospitality industry. Compared to existing studies in other fields (Coulter, 2007; Schindler, 2001; Schindler & Kibarian, 2001; Thomas et al., 2009), it provides empirical findings about the impact of pricing strategies including different price levels and price precision specifically in the green hotel context in predicting booking intention.

Lastly, this study could also contribute to the knowledge of price perception and different roles of price perceived as quality and sacrifice by comparing premium and low pricing strategies across different market segments. It proves that price perception has a significant impact on customers' preference to be environmentally sustainable. It shows that perceived quality and sacrifice as dual indicators of price corresponds to Bornemann and Homburg's (2011) research and Yoon et al.'s (2014) research of how price level is related to perceived quality. The findings about price perception impacting on behavioural intention has reflected the suggestion of previous literature (Bojanic, 1996; Munnukka, 2008; Völckner & Hofmann, 2007; Zeithaml, 1988). It contributes to green marketing and hospitality literature by extending the scope and providing results consistent with those of prior research in other fields.

### **5.3 Practical Implications**

This dissertation has several practical and managerial contributions. Based on the research findings and the above conclusions, several recommendations can be made to hotel practitioners. First, most importantly, it helps to further understand customer's attitude toward eco-friendly hotels, which helps hotel companies to make decisions about marketing strategy implementation. Currently hoteliers retain uncertain opinions about green marketing because of the huge initial investment. The results provide insight for hotel companies' environmentally friendly development from the viewpoint of customers. The findings could help marketing practitioners to formulate strategies, especially in promotional and pricing issues related to green products and services in hotels.

Secondly, marketing managers must be careful about the pricing strategies they use to sell their products and services, because consumers' perceptions are strongly affected by different pricing strategies. By using different levels of price, the luxury hotel reflects a premium image while the budget hotel reveals a low-cost image. Therefore, segmentation is important because different products or services need to be tailored to specific

customers. From a practical perspective, using different pricing strategies identifies specific groups of customers for hoteliers. The finding shows the trend that more hotel customers are willing to pay a premium price for a green hotel, especially when the hotel is perceived to be high quality. It suggests that hoteliers should improve service quality while promoting environmental sustainable attributes, which helps hotel firms to boost their organisational reputation in the market. The findings could be of interest to luxury hotel companies. Luxury green hotels can improve service quality for it to be a differentiating criterion in order to attract more pro-environment customers and improve customer satisfaction. Knowing that customers maintain positive attitudes to pay extra for green initiatives, helps consolidate hotel companies' determination to implement green strategies. The findings could also be of interest to budget hotel companies. For customers with high price sensitivity (i.e. customers in the budget segment), it would be more effective when managers use price reduction as a competitive advantage to attract travellers' bookings and increased market share.

Thirdly, the impact of different price precision extends our understanding of how consumers perceive and make inferences from price information. It helps to understand the psychological influences of price precision on consumers using perceived quality and sacrifice. This study provides implications for marketing managers about promotional issues, especially for green products and services, and brings out pricing strategies that hoteliers can adopt in green marketing. Hotel firms can use different precision of pricing to address consumers' different perceptions about monetary sacrifice. The findings have practical implications for managers as the results indicate that rounded hotel prices increase consumers' booking intentions and attracts them to be more environmentally sustainable.

Lastly, this research has important implications for green marketing. Previous studies have shown that travellers are engaging more in environmental protection, while this study provides a better picture of how to meet consumer's environmental requirements in a profitable way. It would be beneficial for society because it responds to government's legal requirements for CSR and adapts society to be operated in a sustainable way.

#### **5.4 Limitations and Direction for Future Studies**

This research has some limitations and suggestions for future studies. In this study, a significant effect was found of pricing strategies across different segments of environmental sustainable hotels with high and low price, and of perceived quality and

sacrifice on customers' booking intention. However, the relationship between price precision effect and perceived quality has not been verified. Numerous studies have proven a similar effect to that we proposed in the hypothesis in other fields. Further study is needed to determine if this effect has a significant impact on green hotel booking intention.

For future studies, researchers may attempt to replicate the experiment but eliminate or manipulate the green initiatives more precisely in the conditions. By that means, results can be compared with the current study and provide more empirical evidence for green marketing strategies implementation.

Current research used the scenario-based questionnaire survey to collect data. For future studies, researchers may collect information from actual consumers with previous green hotel booking experience to increase generalisability. In addition, this study collected data through the online panel company, Amazon Mechanical Turk, and collected US participants only. It is encouraged that replicate studies be carried out in different locations to enhance the generalisability of findings.

## **5.5 Conclusion**

This dissertation provides insight into the literature on green hotels in terms of the development of the concept, customers' attitudes and pro-environment consumption behaviour. It conceptualised and investigated the pricing strategies in terms of price level and price precision on booking intention. Customers' perceived quality and sacrifice were measured in this study in order to understand their perceptions of eco-friendly hotels and provide meaningful implications. In a highly competitive market, it is important and necessary to understand market demand and knowledge of what kinds of decisions need to be made, because environmental issues will always be a crucial topic for both practitioners and academic researchers.

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## **Appendix A: Participant Information Sheet**

### **Date Information Sheet Produced:**

2018/04/20

### **Project Title**

Effects of Pricing Strategies on Consumers' Booking Intention for Green Hotels

### **An Invitation**

Hello! I am Bonny (Manwai Ng), a master student currently studying international hospitality management at Auckland University of Technology in New Zealand. The purpose of my research is to learn about potential customers' price perceptions toward green (environmentally-friendly) hotels and how they affect their intention on booking. I would like to invite you to participate in my research.

Your participation in the study will be voluntary and anonymous and you have the right to withdraw at any stage during completing the questionnaire. You also have the right to skip any question if you feel uncomfortable answering it. We would appreciate it if you could complete the questionnaire as accurately as possible. It will take you around 15 to 20 minutes to answer the questions. Once you submit the answers, there will be no withdrawal.

### **What is the purpose of this research?**

In the hospitality context, energy consumption is a significant issue. Green activities may contribute to organizational performance by saving operating costs or by indirect ways such as enhancing organizational reputation. Therefore, it is important for hotel firms to understand customer's attitude because they are becoming more sophisticated about how they interpret brand image that feature sustainability. However, the inconsistency between customers' perceived willingness to purchase and actual purchasing behavior requires further research to explore the determinants that might affect customers' booking intentions. Furthermore, the impact of price on consumers' intentions or attitudes can be different based on segmentation. As a result, the accomplishment of this research will fill in previous research gap.

### **How was I identified and why am I being invited to participate in this research?**

For the purpose of this research, participants of this research are potential hotel customers who have booked and/or intend to book a hotel for their future trip. All participants need to be over 18 years of age.

**How do I agree to participate in this research?**

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible. By taking the survey you are giving consent to be part of this research.

**What will happen in this research?**

This survey will be conducted through an anonymous online questionnaire. You will be given a manipulated scenario. After that, you will be asked to answer certain questions to state your opinion.

**What are the discomforts and risks?**

In this research, participants will not experience any discomfort or embarrassment.

**How will these discomforts and risks be alleviated?**

No discomfort and risks in this research.

**What are the benefits?**

This research contributes to the future research on the effect of price perception on booking intention for a green hotel by investigating customer's demographic characteristics and difference of willingness to pay more base on budget and luxury hotel segments. There would be contributions to the existing understanding of customers' attitude toward green consumption in the hospitality context. From a practical perspective, this research can provide information for hotel firms in proposing better green service and products for their customers, hence improving organizational performance. Lastly, this research also contributes to the primary researcher's completion of a Master's Degree in International Hospitality Management at AUT University.

**How will my privacy be protected?**

This survey is conducted through an online anonymous questionnaire. Participation in the online survey process will be voluntary and anonymous. No personal information or identifiable information of participants will be reported or recorded in this study. All data collection will be used for academic purposes only. The data will be safely stored in WH ethic store at AUT and accessible only to the researcher and thesis supervisors upon request. Therefore, the privacy and confidentiality of participants will be protected in this research.

**What are the costs of participating in this research?**

The online survey is expected to take approximately 20 minutes to complete.

**What opportunity do I have to consider this invitation?**

The questionnaire will be open until the end of May. It will be closed when sufficient participants get involved in this survey.

**Will I receive feedback on the results of this research?**

Participants will be informed that a summary of findings will be available on the website of New Zealand Tourism Research Institute: <http://www.nztri.org>. Participants will be informed that they are more than welcome to visit the website and view the findings.

**What do I do if I have concerns about this research?**

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Peter Kim, [pkim@aut.ac.nz](mailto:pkim@aut.ac.nz), Phone: +64 9 921 9999 ext 6105

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, [ethics@aut.ac.nz](mailto:ethics@aut.ac.nz), 921 9999 ext 6038.

**Whom do I contact for further information about this research?**

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

***Researcher Contact Details:***

Bonny (Manwai Ng), [bonnymanwaing@gmail.com](mailto:bonnymanwaing@gmail.com)

***Project Supervisor Contact Details:***

Associate Professor Peter Kim, [pkim@aut.ac.nz](mailto:pkim@aut.ac.nz)

Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*,



AUTEK Reference number *type the reference number*.

## Appendix B: Questionnaire

Imagine that you are planning a trip to Melbourne, Australia to gather with your friends and want to book one standard double room in downtown hotel for 4 nights next week for yourself. You are given options of the following two hotels.


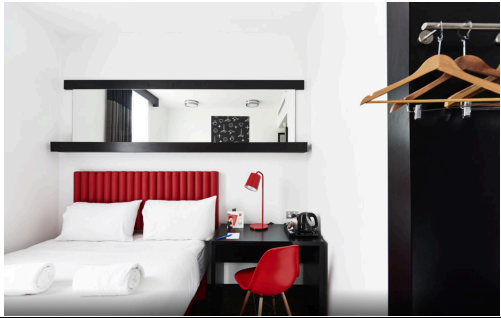
Study 1:

### Scenario 1: 350 vs 300

Hotel A		Hotel B	
			
Rating: 4.7 of 5		Rating: 4.3 of 5	
1 King Bed		1 King Bed	
Hotel Amenities		Hotel Amenities	
Express check-in Bar/lounge 24-hour front desk Fitness facilities	Business center Full-service spa Indoor pool Conference space	Express check-in Bar/lounge 24-hour front desk Fitness facilities	Business center Meeting rooms
Room Amenities		Room Amenities	
Premium TV channels Pay movies Premium bedding	Air conditioning Minibar Coffee/tea maker	LCD TV Pay movies Premium bedding	Air conditioning Minibar Coffee/tea maker
Other initiatives: Certified green hotel LED lights in hotel rooms and corridor Solar panels to heat majority use of hot water Water recycling for plant irrigation		/	
<b>Price: \$350 per night</b>		<b>Price: \$300 per night</b>	





**Scenario 2: 130 vs 80**



Hotel A		Hotel B	
			
Rating: 3.5 of 5		Rating: 3.1 of 5	
1 Queen Bed		1 Queen Bed	
Hotel Amenities		Hotel Amenities	
24-hour front desk Laundry facilities Luggage storage Elevator/lift	Parking Café Breakfast available	24-hour front desk Laundry facilities Luggage storage Elevator/lift	Offsite parking discounted rates
Room Amenities		Room Amenities	
LCD TV Daily housekeeping Private bathroom	Air conditioning Electric kettle Free toiletries	LCD TV Daily housekeeping Private bathroom	Air conditioning
Other initiatives: Certified green hotel LED lights in hotel rooms and corridor Solar panels to heat majority use of hot water Water recycling for plant irrigation		/	
<b>Price: \$130 per night</b>		<b>Price: \$80 per night</b>	

Study 2:


**Scenario 1: 350 vs 300**

	<b><u>Hotel A</u></b>	<b><u>Hotel B</u></b>
		
<b>Customer ratings</b>	4.7 of 5	4.3 of 5
<b>Hotel Amenities</b>	Bar/lounge Fitness facilities Indoor pool	Bar/lounge Fitness facilities
<b>Room Amenities</b>	Premium TV channels Premium bedding	LCD TV Premium bedding
<b>Parking</b>	Free parking	Offsite parking discount
<b>Distance of airport</b>	10.2 miles	13.8 miles
<b>Late check-out</b>	Available	Not available
<b>Other initiatives</b>	<b>Certified green hotel:</b> LED lights used in rooms Solar panels to heat water Water recycling for irrigation	
	<b>Price: \$350 per night</b>	<b>Price: \$300 per night</b>


**Scenario 2: 349.90 vs 299.90**

	<b><u>Hotel A</u></b>	<b><u>Hotel B</u></b>
		
<b>Customer ratings</b>	4.7 of 5	4.3 of 5
<b>Hotel Amenities</b>	Bar/lounge Fitness facilities Indoor pool	Bar/lounge Fitness facilities
<b>Room Amenities</b>	Premium TV channels Premium bedding	LCD TV Premium bedding
<b>Parking</b>	Free parking	Offsite parking discount
<b>Distance of airport</b>	10.2 miles	13.8 miles
<b>Late check-out</b>	Available	Not available
<b>Other initiatives</b>	<b>Certified green hotel:</b> LED lights used in rooms Solar panels to heat water Water recycling for irrigation	
	<b>Price: \$349.90 per night</b>	<b>Price: \$299.90 per night</b>

**Scenario 3: 130 vs 80**

	<b><u>Hotel A</u></b>	<b><u>Hotel B</u></b>
		
<b>Customer ratings</b>	3.5 of 5	3.1 of 5
<b>Hotel Amenities</b>	Laundry facilities Luggage storage Café	Laundry facilities Luggage storage
<b>Room Amenities</b>	TV Air conditioning Free toiletries	TV Air conditioning
<b>Parking</b>	Free parking	Offsite parking discount
<b>Distance of airport</b>	10.2 miles	13.8 miles
<b>Late check-out</b>	Available	Not available
<b>Other initiatives</b>	<b>Certified green hotel:</b> LED lights used in rooms Solar panels to heat water Water recycling for irrigation	
	<b>Price: \$130 per night</b>	<b>Price: \$80 per night</b>

**Scenario 4: 129.90 vs 79.90**

	<b><u>Hotel A</u></b>	<b><u>Hotel B</u></b>
		
<b>Customer ratings</b>	3.5 of 5	3.1 of 5
<b>Hotel Amenities</b>	Laundry facilities Luggage storage Café	Laundry facilities Luggage storage
<b>Room Amenities</b>	TV Air conditioning Free toiletries	TV Air conditioning
<b>Parking</b>	Free parking	Offsite parking discount
<b>Distance of airport</b>	10.2 miles	13.8 miles
<b>Late check-out</b>	Available	Not available
<b>Other initiatives</b>	<b>Certified green hotel:</b> LED lights used in rooms Solar panels to heat water Water recycling for irrigation	
	<b>Price: \$129.90 per night</b>	<b>Price: \$79.90 per night</b>

### **Follow-up questions:**

1. Which hotel would you be likely to choose?  
☐Hotel A  
☐Hotel B
2. Tell us your impressions about the two hotels you just saw.  

Hotel A:	Hotel B:
Bad-Good	Bad-Good
Unpleasant-Pleasant	Unpleasant-Pleasant
Unfavorable-Favorable	Unfavorable-Favorable
3. The hotel I have chosen appears to be of better quality.  
Strongly disagree-Strongly agree
4. The hotel I have chosen has very high price.  
Strongly disagree-Strongly agree
5. The hotel I have chosen has better value.  
Strongly disagree-Strongly agree
6. Which hotel do you perceive to demonstrate better practice of environmental sustainability?  
Definitely Hotel A-Definitely Hotel B
7. I would pay more to stay at the hotel that is making efforts to be environmentally sustainable.  
Strongly disagree-Strongly agree

### **Additional questions for study 2:**

8. Generally Speaking, to what extent is the environmental friendliness of hotel as an important factor in your decision about which hotel to book and stay?  
Not at all important-Very important
9. Have you booked any hotel ONLINE within the previous 24 months? Yes or No
10. Have you stayed in any hotel within the previous 24 months? Yes or No

11. Thinking about yourself, how much do you agree with the following statements?

(1) I usually buy things when they are on sale.

(2) I buy the lowest priced products that will suit my needs.

(3) When it comes to choosing products for me, I rely heavily on price.

Strongly disagree-Strongly agree

**Demographic questions:**

1. What is your age?

2. What is your gender?

☐Female

☐Male

☐Gender diverse

3. Which of the following best describes your current employment situation?

☐Employed

☐Self-employed

☐Unemployed

☐Other (Please specify)

4. What is your annual income?

☐Zero income

☐Less than \$10,000

☐\$10,001-\$20,000

☐\$20,001-\$30,000

☐\$30,001-\$40,000

☐\$40,001-\$60,000

☐\$60,001-\$80,000

☐\$80,001 or more

5. What is your ethnicity?

☐White/Caucasian

☐African American

☐Hispanic

☐Asian

☐Native American

☐Other Ethnicity

6. What is the highest degree or educational qualification you have completed?

☐Less than high school

- ☐ High school graduate
- ☐ Some college/technical training
- ☐ Associate's degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ PhD

7. Have you ever been employed by any hotel companies?

☐ Yes

☐ No

8. What was your most common primary purpose of hotel stays in the past two years?

☐ Business

☐ Leisure

☐ Others (Please specify)