



## An investigation on green attitudes and demographics: Understanding the intention of international tourists in Malaysia to pay a premium for green hotels

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### Abstract

Lodging industry is one of the most crucial segments that consume a large amount of non-renewable resources. The extant literature shows that a large number of hotels are conducting green performances to offset the shift in customers' buying behaviour from conventional hotels towards green hotels. Thus, an empirical investigation on hotel customers' demographic as well as eco-friendly attitudes and intentions can help hotel operators better predict green buying behaviour of their potential/current customers. In this regard, the author conducts a series of multiple regression analyses in order to find any relationships between green attitudes and the intention to pay a premium for green hotels in Malaysia. A total of usable responses were used for data analysis. In general, findings reveal that except for seriousness of environmental problems (SEP), all other green attitudes, applied in this study, have a significant impact on the intention to pay a premium for green hotels. In addition, results of ANOVA indicate a variety of differences in intention to pay a premium for green hotels across different demographic characteristics. Finally, findings of this study not only affirm the Theory of Reasoned Action (TRA) by Ajzen (1975), but also provide managerial implications for hoteliers, marketers, and tourism ministries for better sustainability, segmentation, positioning, and resource allocation.

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### Introduction

In recent years, the concept of sustainability has received a noteworthy attention among academia, industries, and practitioners both in developed and developing countries (Banerjee,

Iyer, & Kashyap, 2003; National Round Table on Environment and Economy (NRTEE), 1999; Ottman, 1994). Findings of Athens Laboratory of Research in green marketing indicate that more than 92% of consumers have positive

attitudes towards green activities and towards businesses who participate in green activities (Han Hsu, Lee, & Sheu, 2011). Earlier research indicates accelerating rates of consumers' shift in awareness, intention and demand towards green products and services, unveiling their intention to pay premium prices for green products and services (e.g. Calantone, Vickery, & Dröge, 2003; Dodds, Graci, & Holmes, 2010; Laroche, Bergeron, & Barbaro-Forleo, 2001; Manaktola & Jauhari, 2007; Mendleson & Polonsky, 1995; Vandermerwe & Oliff, 1990).

Concerns pertaining to a series of recent environmental issues such as depletion of the ozone layer, global warming, water contamination and increase of solid wastes have motivated people to show green or eco-friendly attitudes in their daily habits (Laroche *et al.*, 2001). Despite this shift however, there still remains a big gap between a change in the attitude of individuals, and their actual and routine green intentions (Erdogan, 2003; Erdogan & Baris, 2007, Han *et al.*, 2011).

In spite of the debate on Tokyo Protocol and perceived difficulties of becoming eco-friendly, businesses have already started to incorporate a more sustainable approach to their conventional operating activities, product development, and corporate structure operating in order to respond appropriately to the emerging green needs of consumers (Dief & Font, 2010; Drumwright, 1994; Ottman, 1994; Pujari, Wright, & Peattie, 2003; Sharma, 2000; Walley & Whitehead, 1994). While at one point sustainable development was seen as an expense and second to other goals of a corporation, it is now being perceived as important objective for companies and it can also provide a competitive advantage over rivals (Manaktola & Jauhari, 2007; Pujari, 2004).

Recent years have witnessed an incremental increase in the reporting of prescriptive research in the field of sustainable development with regards to production processes, R&D, and development of new products and services (e.g. Azzone & Noci, 1996; Conway & Steward, 1998; Foster & Green, 2004; Pujari *et al.*, 2003). Anecdotal evidence, popular periodicals, and different case-studies frequently disclose a variety of

new products and/or services which have either been successful or have failed to capture the markets attention with their environmental focus. Some successful green projects have been namely, Body Shop's cosmetic goods, ARCO's reproduced gasoline, and P&G's Lenor fabric softener. On the other hand, some of the new green products that have failed include, the first electric car made by General Motors 'EV-1', Whirlpool's CFC-free fridges and 'Earthlight' florescent bulbs made by Philips (Ottman, 1998).

Though sustainable development has taken place in several companies explicitly, most of these eco-innovation activities have made paradoxical market-success. Sustainable development has still been mostly under auspices of governmental and/or public eco-friendly legislation and policies (Hall & Vredenburg, 2003). Conducting large-scale, market-driven, empirical studies can reduce the risk of being unsuccessful in sustainable development, help better formulate green marketing strategies based on demographic profiles timely and proactively, and facilitate the recognition of crucial attitudinal factors which drive current/potential customers' intention to pay a premium for green hotels.

In this study, 'pay a premium' is additional price in terms of percentage which hotel customers are willing to pay for a green hotel instead of a non-green hotel of the same type and quality. In other words, in the present study, price of staying in whatever different 'conventional hotel' (e.g. 2-star, 3-star, 4-star, etc.) that different customers might be typically willing to pay for has the role of a hook in hotel customers' mind from which 'premium price' is measured.

Although numerous studies have addressed the importance of understanding the customer's demand in relation to green consumption, only a few studies have empirically addressed the readiness of hotel customers for green hotels. The relationship between the customers' green attitudinal factors and their actual intention to pay a premium for green hotels remains to be largely uncovered (e.g. Han *et al.*, 2011). Therefore, the main objective of this research is to conduct

a large-scale and market-focused study in the Malaysian lodging industry as it is a popular destination for tourists from all over the world. In the present study, the impact of international customers' green attitudes on the intention to pay more for green hotels is addressed in Malaysia, providing significant managerial and academic contributions. Specifically, findings of this study explicitly provide feedback to the ministry of tourism, as well as marketers working in the Malaysian lodging industry.

In addition to a greater understanding of consumers' attitudinal and intentional factors, researchers' findings have also revealed that better understanding of demographic factors and personal characteristics of consumers, in relation to green consumption, help marketers embark on better segmentation strategies (Banerjee & McKeage, 1994; Han *et al.*, 2011; Laroche *et al.*, 2001; McIntyre, Meloche, & Lewis, 1993; Roberts, 1996). It is hoped that this study can help hoteliers gain a better understanding of their customers' personal characteristics and profiles which could result in advantageous strategies. Overall, this research provides a significant insight into the actual readiness and intentions of customers towards green.

To answer these concerns, this paper addresses the following key research questions:

Q1: How do customers' green attitudinal factors, namely seriousness of the environmental problems (SEP), inconvenience of being green (INBG), importance of being green (IMBG), and the responsibility level of corporations towards green (RLCG)) relate to their actual intentions of paying premium prices for green hotels?

Q2: Which components of the green attitudes are the best predictors of and have the greatest impact on customers' intention to pay more for green hotels?

Q3: Do customers' demographic influence their intention to pay a premium for green hotels? If so, how do these intentions vary across different demographics (gender, age, monthly income level, and education levels)?

In the next sections, all the aforementioned questions will be examined in depth by formulating a number of hypotheses.

## **Lodging industry and sustainable development – A background**

### *Green hotels*

A Green hotel is an eco-friendly property in which programs, operations, and practices (e.g., optimization of consumption, saving of water and energy, solid waste reduction, etc.) are implemented to protect the environment and our green planet (Green Hotel Association (GHA), 2008). In other words, policies, operations, practices and equipment at a green hotel are employed efficiently in order to leave a minimum negative impact on the environment.

The negative effect of hotels on the environment is far greater than that of any other building with the same size (Rada, 1996). According to the National Agency for the Protection of the Environment and for Technical Services (APAT) in 2002, about 75% of all environmental effects that hotels have on the environment are related to extra consumption of water, energy and disposable (non-durable) goods, which results in air, soil, and water pollution. Although the lodging properties and hotels might not have direct negative impact on the environment, they use global resources drastically. As such, the excessive consumption of natural resources by hotels should be managed more effectively (Kirk, 1995). The success of the tourism industry lies solely on the desirability of the destination. In order to remain in business it is in the best interest of hoteliers to develop more sustainable approaches to business so as to maintain desirability of their destination (Han *et al.*, 2011). Unfortunately, a lot of conventional hotels and lodging properties endanger tourist attractions due to especial operations and functions. Consequently, conventional hotels, which are the most significant consumers of water, energy, and non-durable natural resources, are in danger of losing their reputation amongst their customers in the long run (Bohdanowicz, 2006; Ton, 1996).

Consequently, the shift from implementing conventional practices to green-oriented ones by some hotels is not only to fulfill emerging and increasing changes in customers' attitudes, intentions, and demand towards green hotels (Bohdanowicz, 2006; Erdogan & Baris, 2007; Ton, 1996; Vandermerwe & Oliff, 1990; Wolfe & Shankelin, 2001), but to also gain a competitive edge as a more sustainable business (Menash, 2004; Penny, 2007). Hence, it is now being recognized that green hotels have a competitive advantage that their non-green counterparts in the lodging industry do not (Han, Hsu, & Lee, 2009; Laroche *et al.*, 2001; Manaktola & Jauhari, 2007; Wolfe & Shankelin, 2001).

According to World Tourism Organization (UNWTO, 2011) statistics, international arrivals by the year 2020 will be expected to reach 1.6 billion. In this assessment the top three crowded tourist regions are expected to be Europe, East Asia and Pacific, and Americas by 717 million, 397 million, and 282 million tourists, respectively. Considering this upsurge pace, hoteliers need to identify and predict their customers' eco-friendly movement in order to fulfill their needs timely and properly.

#### *Do green attitudes result in customers' intention to pay a premium for green hotels?*

Recent years have witnessed an increase in travelers' awareness towards global warming, air pollution and depletion of non-renewable resources, driving them to search and even pay a premium for green hotels (Han *et al.*, 2011; Laroche *et al.*, 2001; Lee *et al.*, 2010). In order to address this awareness, the current paper has put in place the theory of reasoned Action (TRA) developed by Fishbein & Ajzen (1975). TRA suggests that behavioral intentions of an individual towards a behavioral action depend on his/her primary attitudes towards the consequence of that specific behavior (Fishbein & Ajzen, 1975). As a result, studying attitudes and behavioral intentions of consumers is a crucial basis from which consumers' actual behaviors can be forecasted.

In the extant literature of green marketing and consumer behavior, to date, findings of a number of researchers indicated positive and direct relationships between consumers' green

attitudes and their intentions towards green consumption (e.g. Kalafatis, Pollard, East, & Tsogas, 1999; Laroche *et al.*, 2001; Roberts, 1996). Unfortunately, presence of many paradoxical findings necessitates more research for green attitudes and intentions in different parts of the world. In a study conducted in India by Manaktola & Jauhari (2007), customers showed great attitudes to stay at green hotels compared to conventional hotels, but these attitudes did not result in customers' actual intention to pay more for green hotels. Therefore, considering the current/potential consumers' attitudes and intentions associated to green consumption should be a great priority in the lodging industry globally (Han *et al.*, 2009, 2011; Lee, Hsu, Han, & Kim, 2010).

#### *Seriousness of Environmental Problems (SEP)*

A large number of consumers are now becoming aware of the severity of environmental problems. Earlier research shows that this perceived severity has been one of the most important predictors of consumers' actual intentions and behaviors towards green activities (Kalafatis *et al.*, 1999; Laroche *et al.*, 2001).

Based on the review of western literature, Garcia-Mira *et al.* (2005) suggest that one of the main attitudinal factors influencing green behavior is consumers' perception about the 'seriousness of environmental problems'. In addition, Laroche *et al.* (2001) identified 'severity of environmental issues' as an important component of green attitudes that motivates consumers to pay a premium for green products. In the context of hospitality, recent research by Kim and Han (2010) shows that customers' environmental concerns stimulate them to pay a premium for green hotels.

In contrast to the findings of the two preceding researchers (Kalafatis *et al.*, 1999; Laroche *et al.*, 2001), findings of a study conducted by Lee (2008) reveals that, among seven green attitudes utilized in his study, 'perceived seriousness of environmental issues' ranked as the 6th important predictors of green consumption in Hong Kong. Moreover, a recent study by Han *et al.* (2011) reports that there is no association between severity of

environmental problems and customers' intention to pay a premium for green hotels in the United States. In other words, 'perceived seriousness of environmental problems' might not always be a good predictor for green consumptions as it might change across the varying demographic and different and geographic segments.

A study by Banerjee and McKeage (1994) indicates that individuals who are conscious of the environmental problems agreed that the environment suffers greatly from many serious problems, and its condition is worsening day by day. The research also indicates that there are individuals who believe that the environment will take care of itself even without human being green activities and interference. It concluded that perceived seriousness of environmental problems might or might not lead to consumers' actual green behaviors. The inconclusive findings in other parts of the world beg to question the correlation between SEP and green intentions in Malaysia. Thus, the following hypothesis is developed based on previous research and the author's proposition:

Hypothesis 1: A higher degree of perception about SEP among international customers in Malaysia positively influences their intention to pay a premium for green hotels.

#### *Inconvenience of Being Green (INBG)*

Another influencing factor on consumers' green attitudes is the consumers perception of the inconvenience of being green (e.g. Dalton *et al.*, 2008; Han *et al.*, 2011; Kim & Han, 2010; Laroche *et al.*, 2001; Manaktola & Jauhari, 2007). This attitudinal factor is expressed as the consumers' perceived inconvenience caused by taking action in a green way (e.g., recycling may be seen as too much trouble) (Han *et al.*, 2011; Laroche *et al.*, 2001). The negative perception of green activities by consumers (e.g. recycling) is an important factor that inhibits their green activities (McCarty & Shrum, 1994).

Findings of research by Laroche *et al.* (2001) on the willingness of consumers to pay a premium price for green products indicate that these consumers did not perceive being green

and taking green favorable actions as inconvenient practices. Consequently, the findings also affirmed that those people who are not willing to pay more for green products perceived green activities as an inconvenience. Furthermore, Laroche *et al.* (2001) concluded that perceived inconvenience as the first and most significant predictor of consumers' green intentions. Contradictorily, a recent research by Han *et al.* (2011) reports that INBG is not a good predictor of hotel customers' eco-friendly intention to pay a premium for green hotels.

To examine any probable relationships between INBG and hotel customers' intention to pay a premium for green hotels in the context of Malaysia, the following hypothesis is formulated:

Hypothesis 2: A higher degree of convenience among international customers of hotels in Malaysia positively influences their intention to pay a premium for green hotels.

Hypothesis 2 is developed in a positive tone. If the hypothesis is proved to be correct by output results, there is a significant negative relationship, between INBG and intention to pay a premium for green hotels (The more the customers perceived green activities as an inconvenience, the less green intentions they had).

#### *Importance of Being Green (IMBG)*

As an early research in the field of green consumer behavior, Antil (1978) defined the perceived importance of being green as a judgment of individuals in relation to their power and effectiveness to lessen environmental problems. In another early research, in the same field, Webster (1975) also highlighted this factor to be one of ten top independent variables as predictor, affecting the dependent variable concerned with consumers' green intentions. Therefore, when consumers perceive their green activities as effective, they are also more willing to be concerned for the environment and to act in favorable green fashions (Roberts, 1996). In another research, Laroche *et al.* (2001) considered the importance of being environmentally friendly as one of the

significant predictors of consumers' intention to pay more for green products. Roberts (1996) demonstrated that consumers' belief about the effectiveness of their activities in the reduction of environmental issues is the best predictor for ecologically identifying intentions and behaviors of consumers. Recent research reported that IMBG is a statistically significant predictor of the intention to pay a premium for green hotels (Han *et al.*, 2011; Kim & Han, 2010; Lee *et al.*, 2010).

In contrast to the above (e.g. Han *et al.*, 2011; Kim & Han, 2010; Laroche *et al.*, 2001; Lee *et al.*, 2010; Roberts, 1996), research by McCarty and Shrum (1994) indicate that the importance of effectiveness of green attitude does not necessarily translate into the consumers' actual behavior for recycling. As such, McCarty and Shrum (1994) conclude that perceived inconvenience of recycling is more likely to have an impact on their recycling behavior than the perceived importance of recycling.

To either verify or contradict the above mentioned findings, the following hypothesis is formulated to examine whether IMBG among hotel customers in Malaysia results in the intention to pay a premium for green hotels.

Hypothesis 3: A higher degree of IMBG among international customers of hotels in Malaysia positively influences their intention to pay a premium for green hotels.

#### *Responsibility Levels of Corporations towards Green (RLCG)*

An early research by Webster (1975) shows that socially conscious individuals express themselves as responsible to act in a green fashion because they had perceived their action as effective in reducing environmental problems. On the other hand, a study by Wiener and Sukhdial (1990) indicates that low level of individuals' consciousness concerned with environmental problems is the main factor stopping them from taking actual steps. These individuals believed that protection of the environment is not their responsibility but the responsibility of the government and businesses. Finally, Wiener and Sukhdial (1990) concluded that perceived responsibility towards environmental issues has an influence

on consumers' intentions and behavior in a green fashion.

The result of a research by Laroche *et al.* (2001) concluded that individuals who are willing to pay a premium for green goods perceived that business corporations are acting responsibly about the environmental problems. In addition, results of a few studies with regards to RLCG show the importance of the role it plays in driving hotel customers to pay a premium for green hotels (Kim & Han 2010; Lee *et al.*, 2010). Conversely, individuals who are not willing to pay the premium price perceived that green favorable actions of businesses corporations and government are not effective with regards to the environment. Findings of a recent research by Han *et al.* (2011) inferred that the responsibility level of business firms had the greatest impact on green intentions of hotel customers, stating that an increase in RLCG enhanced customers' intention to pay a premium for green hotels.

To verify or contradict the above mentioned findings, the following hypothesis is formulated to examine whether higher degree of RLCG, among hotel customers in Malaysia, results in a consequent increase in their intention to pay more for green hotels.

Hypothesis 4: A higher degree of RLCG among international customers of hotels in Malaysia positively influences their intention to pay a premium for green hotels.

#### **The case of Malaysia**

The hospitality and tourism industry, consisting of hotels and lodging properties has been the largest industry in the world for almost 20 years (Chung & Parker, 2010). It is crucial for hoteliers and marketers within the lodging industry to better understand and measure attitudinal and demographic profiles of customers through explicit and empirical, not prescriptive, findings (Han *et al.*, 2011). Hence, examining the readiness of hotel customers to go green in different regions seems compulsory. It not only validates earlier research and provides implications for management in the lodging industry of a specific region, but also provides hotel managements of other countries with an

extended and more credible feed-back on the willingness of customers to pay premiums.

As for Malaysia, according to Tourism Malaysia (2010), accommodation was a major contributor in 2009 and 2010. Around 31.1% and 31% of all the tourists' expenditure was for the accommodation segment in 2009 and 2010 respectively. In addition, Malaysia received RM 53367.7 billion and RM 56492.5 billion in 2009 and 2010 respectively, representing a growth rate of 5.9% from 2009 to 2010. Statistics also indicate the growth rate 7.7% with regards to tourist receipts from 2008 (RM 49561.2 billion) to 2009.

In terms of tourist arrivals, Tourism Malaysia (2010) shows an impressive growth in recent years. Malaysia hosted 16431055 in 2005 which increased to 24577196 in 2010, showing a growth rate of 49.6% during a period of five years. More recently in 2010, Malaysia ranked 9th globally in terms of tourist arrivals, consisting 2.9 % share of global arrivals. The average length of stay of tourists in hotels was 6.7 nights in 2009 compared to 6.4 nights in 2008 indicating a 0.3 unit growth in accommodation usage by tourists. Statistics also show an increase rate in length of tourists' stay in Malaysia, stimulating management strategies contingent on consumer's green needs. Finally, the average occupancy rates (AOR) of hotels in Malaysia showed a growth rate of 1.3% from 2009 to 2010.

Recently, according to Tan (2010), five more hotels were awarded Green Hotel 2010, bringing the number of the green hotels in Malaysia to 10 only. These five hotels are Renaissance Kuala Lumpur Hotel, The Andaman Langkawi in Kedah, Mines Wellness Hotel in Selangor, Shangri-La's Rasa Ria Resort in Tuaran, and Shangri-La's Tanjung Aru Resort & Spa in Kota Kinabalu. In 2008, five recipients of the Green Hotel Award retained their position as green hotels including The Frangipani Langkawi Resort and Spa, Shangri-La's Rasa Sayang Resort and Spa in Penang, Nexus Resort Karambunai in Sabah, Hotel Melia Kuala Lumpur, and Shangri-La Hotel Kuala Lumpur.

These few number of green hotels in Malaysia show that while the tourism and hospitality industry have been addressed in Malaysia (e.g. Kasim, 2004), their negative impacts on the environment have not yet received enough attention. Consequently, conducting an empirical and comprehensive research seemed to be compulsory since hoteliers are still hesitant to go green. The current research helps enhance knowledge of hoteliers about their consumers' green attitudes and intentions towards green hotels. Specifically, this research provides some direct implications for better understanding the demographic profiles and readiness of hotel customers to pay more for green hotels, reflecting better targeting and segmentation for marketers in the field.

### **Methodology**

#### *Operationalisation, questionnaire and scale*

The type of methodology utilised in this study is based on hierarchical regressions. This type of research is used to examine relationships between components of consumers' green attitudes and their intention to pay more for green hotels). Analysis of variance (ANOVA) is also employed to investigate how customers' eco-friendly intentions to pay a premium for green hotels differ across gender, age, education, and household monthly income.

The paper based self-administered questionnaire was designed in three sections. The first section provided survey respondents with a precise description of what a green hotel is. The second part of the survey questionnaire contained Multi-item themes to conceptualize respondents' green attitudes on a daily basis (namely: seriousness of environmental problems, Inconvenience of being green, Importance of being green, and responsibility level of corporations towards green and intention to pay a premium for green hotel). This section was designed by closely following previous studies (Han *et al.*, 2011; Laroche *et al.*, 2001; Mathieson, 1991; Maxham and Netemeyer, 2002; McCarty and Shrum, 1994; Zeithaml *et al.*, 1996) to formulate a list of statements, each contextualized for the green hotel context and tested on 7-point Likert scales (1=strongly disagree, 7=strongly agree).

Finally, eight items were retained for green attitudes through this process as for independent variables (See Table 2). In addition, three statements were used to measure the dependent variable, intention to pay a premium for green hotels. These items still fall within the continuum of 'actual intention' to pay more for green hotels, intending to measure the overall intention of hotel customers towards green hotels with lower bound of uncertainty ('I am willing to pay premium for green hotels, but some factors might hold me back') and upper bound of certainty ('I will pay premium with certainty') (See Table 3). Since some of the statements are measured with negative tone with regards to green attitudes, the author accordingly reverse-coded the Likert data in the SPSS software after data collection.

The last section of the survey consisted of questions about demographic information such as gender, age, monthly income, and education level. All measurement items were preceded and pretested with industry professionals and hotel customers for refining any probable mistakes in process of designing and adapting the survey items. The results of the pilot study pretested on a group of 20 professionals indicated that items for each study construct had an adequate level of reliability and validity.

#### *Sample and data collection*

Since the goal of conducting this study is to examine the effect of hotel customers' green attitudes on their actual intention to pay a premium for green hotels, data was collected from international tourists either coming to or leaving Malaysia, and whether they selected to stay in green hotels or conventional ones. In other words, as opposed to actual green behaviour, actual green intention is one step back and more concerned with customers' general green intentions towards purchasing green products/services no matter they have already spent their budget. Since there were only 10 green hotels throughout of Malaysia at the time of data collection, the study was conducted to measure the actual intention of the hotel customers which would be a strong antecedent of their actual green behaviour for towards green hotels in the future.

Respondents of questionnaires in this study were international tourists who came to Malaysia for leisure or any other purpose and stayed at hotels or similar lodging properties. According to Hair, *et al.* (2006), the sample size, depending on the number of independent and explanatory power variables varies from 20 to 1000. Considering the number of independent variables and explanatory power, the sample size of 300 is sufficient for applying multiple regression analysis and examining the hypotheses for this study.

350 questionnaires had been distributed in Kuala Lumpur International Airport (KLIA) in year 2011. Convenience sampling was used for this study in KLIA because effective, accurate, and timely data and feedback could be obtained conveniently from international tourists who had stayed in hotels as they were resting in the departure hall. Respondents had free time to answer the questions carefully while waiting to board. Sample participants were international hotel guests, and they varied in terms of gender, age, income levels and education levels. The questionnaires were handed out to respondents and were collected once completed. Of the 350 questionnaires distributed 300 were useable and suitably completed. This shows that the return rate is approximately 85%. Table 1 shows a summary of respondents' demographic backgrounds.

#### **Results**

##### *Green attitudes of hotel customers in Malaysia*

Adequate attention should be given to the reliability and validity of the components of the study before testing any hypotheses. In addition to pre-testing the content and meticulously following previous studies with regards to measuring items prior to collecting data (e.g. Han *et al.*, 2011; Laroch *et al.*, 2001; Maxham & Netemeyer, 2002; Roberts, 1996), an exploratory factor analysis was performed on independent variables while data were collected. Table 2 shows the results of the reliability and factor analysis (validity). All the main variables used in this study had Alpha score of greater than satisfactory margin (0.70), which are within the acceptable range (Churchill, 1979).

The result showed three factors with eigenvalues greater than 1, accounting for



**Table 1.** Summary statistics of the sample (n=300)

	Frequency (%)
<b>Gender</b>	
Male	165 (55.0)
Female	135 (45.0)
<b>Age</b>	
Below 30 years	130 (43.3)
31-59 years	134 (44.7)
60 years and above	36 (12.0)
<b>Monthly income</b>	
Less than USD 2000	108 (36.0)
USD 2001 – USD 3500	64 (21.4)
USD 3501 – USD 5000	52 (17.3)
USD 5001 – USD 8000	49 (16.3)
Above USD 8000	27 (9.0)
<b>Education level</b>	
High school diploma or less	64 (21.3)
College graduate	122 (40.6)
Master degree	68 (22.7)
PhD./Professional	20 (6.7)
Others	26 (8.7)

**Table 2.** Factor analysis of the independent variables

Factor name (% of variance explained)	Variables loading on factor	Selected sources	Variable loading	Mean (SD)
1-SEP (reverse-coded) (31.85%; reliability=.82)	There is no need for conservation in our country due to enough water, trees, and natural resources.	(Laroche <i>et al.</i> , 2001; Banerjee and McKeage, 1994; McCarty and Shrum, 1994)	0.856	5.44 (1.49)
	There is no need to worry about current environmental problems since earth has a closed loop and everything return to its normal status eventually.		0.849	5.53 (1.36)
2- INBG (reverse-coded) (27.15%; reliability=.85)	It's too much trouble to recycle.	(Case studies, Han <i>et al.</i> , 2011; McCarty and Shrum, 1994; and Zeithaml, <i>et al.</i> , 1996)	0.872	4.43 (1.68)
	Recycling garbage to two categories of recyclables and non-recyclable is difficult.		0.868	4.32 (1.76)
3- IMBG (23.61%; reliability=.83)	Recycling things will eventually reduce pollution.	(Case studies, Han <i>et al.</i> , 2011; and McCarty and Shrum, 1994)	0.847	5.64 (1.21)
	Recycling is important to protect out natural resources.		0.851	5.99 (1.17)
4- RLCG (17.39%; reliability=.77)	Hotels and tourist-related companies are worried about environmental problems.	Case studies and Maxham and Netemeyer, 2002)	0.818	4.43 (1.46)
	Companies that produce packages for food, beverage and so on are concerned about the environment.		0.814	4.32 (1.60)

82.61% variance (KMO Statistic 0.52, Barlett statistic 828.7, significance 0.000). The KMO value was greater than 0.5 which showed that all underlying factors had reached the satisfactory level of 0.5. The relatively low level of KMO value for independent variables in this study is because there are only two items designed for measuring each variable and it is

still consistent with relatively small number of items (Norusis, 1990). In addition to results from the KMO value, results of Sig-value derived from Bartlett's test of sphericity were used to test the validity of factors. Sig-value of the variables was zero which represents strong relationships among variables used in this research; therefore,

results taken from KMO and Bartlett's test of sphericity ensured the minimum standard required to pass in order to proceed for any further analyses.

*Intention to pay a premium for green hotels*

An exploratory factor analysis was performed on the dependent variable, which is the intention to pay a premium for green hotels among hotel customers in Malaysia. The result is tabulated in Table 3 (K-M-O Statistic 0.65, Bartlett statistic 285.9, significance 0.000). The reliability of intention to pay a premium for green hotels was measured by using the test of Cronbach's alpha (0.78), ensuring that the dependent variable is reliable for any further analyses.

*Impact of green attitude on intention to pay more for green hotels: discussion of regression results*

In this study, hierarchical regression analysis was used (Cohen & Cohen, 1983), and the result is tabulated in Table 4 in order to specify regression models. Since factor analyses are conducted with required tolerance values under varimax method, no problem occurred with regards to multicollinearity in the regression

analysis (Hair *et al.*, 1995). For the intention to pay a premium for green hotels model, perceived seriousness of environmental problems (SEP) was inserted first (Model 1 in Table 4); however, SEP was not found to be significant ( $p < 0.181$ ).

In model 2, inconvenience of being green (INBG) was added ( $p < 0.036$ ) to SEP, showing an increment of 1.5% in R<sup>2</sup>. As for model 3 and model 4, other factors namely importance of being green (IMBG) ( $p < 0.007$ ) and perceived responsibility of corporations towards green (RLCG) ( $p < 0.000$ ) were added one at a time, showing an increment in R<sup>2</sup> of 2.3% and 9.5%, respectively. Findings of the F-test on R changes revealed that successive factors added to the models improved prediction for intention to pay a premium for green hotels significantly. SEP was not found to be a significant influence in any of these models, indicating although that SEP may be critical, it is not influential enough to result in hotel customers' intention to pay a premium for green hotels. Therefore, Hypothesis 1, stating that a higher degree of seriousness of environmental problems among international customers of hotels in Malaysia positively

**Table 3.** Factor analysis of the dependent variable

Factor name	Variables loading on factor	Selected sources	Variable loading	Mean (SD)
Intention to pay premium for green hotels (reliability=.78)	I will pay premium with certainty	Case studies,	0.872	4.44 (1.25)
	Paying premium for green hotels is rational	Han et al (2011), Laroche et al (2001), and Zeithaml et al (1996)	0.836	5.08 (1.26)
	I am willing to pay premium for green hotels, but some other factors might hold me back		0.995	5.19 (1.49)

**Table 4.** Intention to pay premium for green hotels: Results from regression analysis

Factors	Model 1	Model 2	Model 3	Model 4	Hypotheses
SEP	0.077 (0.181)	0.049 (0.405)	0.034 (0.558)	0.075 (0.183)	H1: Not supported
INBG		0.124* (0.036)	0.128* (0.029)	0.115* (0.040)	H2: Supported
IMBG			0.154** (0.007)	0.123* (0.024)	H3: Supported
RLCG				0.311** (0.000)	H4: Supported
R <sup>2</sup>	0.006	0.021	0.044	0.139	
Adjusted R <sup>2</sup>	0.003	0.014	0.034	0.127	
% Increment in R <sup>2</sup>	-	1.5	2.3	9.5	
F	1.798 (0.181)	3.127* (0.045)	4.547** (0.004)	11.886** (0.000)	
N	300	300	300	300	

Note: Numbers in parentheses show significance value: \*\*  $p < 0.01$ , \*  $p < 0.05$

influences their intention to pay a premium for green hotels, was not supported in this study.

Hypothesis 2, stating that a higher degree of convenience among international customers of hotels in Malaysia positively influences their intention to pay a premium for green hotels, was supported. This implies significant association of INBG and intention to pay a premium for green hotels ( $p < 0.040$ ); however, this significance is far less than IMBG's and RLCG's association to intention to pay a premium for green hotels. This suggests that marketers operating in the lodging industry should educate individuals on the benefits of going green through environmental exhibition, brochures, seminars, etc.

Hypothesis 3, stating that a higher degree of IMBG among international customers of hotels in Malaysia positively influences their intention to pay a premium for green hotels, was also supported. This showed that the intention to pay a premium for green hotels is significantly explained by the importance of being green. As long as consumers perceive their green activities to be effective in reducing current environmental issues, they will have the intention to pay a premium for green hotels and participate in green initiatives.

Hypothesis 4, stating that a higher degree of RLCG among international customers of hotels in Malaysia positively influences their intention to pay a premium for green hotels, was also supported in this study. The author suggests that establishing a positive image in the minds of customers in Malaysia would significantly increase the intention to pay a premium. The more hotel customers perceive hotels and lodging properties to be environmentally responsible towards environmental problems, the more they are willing to pay a premium for their green efforts.

#### *Demographic components and intention to pay a premium for green hotels*

To measure differences in demographic components, (namely gender, age, income, and education) and their impact on the intention to pay a premium for green hotels,

ANOVA tests were applied and the results are shown in Table 5.

Considering the result of the test on gender in Table 5, females had slightly higher mean scores than males ( $M_{\text{female}}=4.99$ ,  $M_{\text{male}}=4.85$ ); however, no significant statistically differences were found between males and females with regards to paying higher for green hotels ( $p\text{-value} < 0.253$ ). These results are in contradiction with previous research that reported that women have more green intentions when purchasing (e.g. Banerjee and McKeage, 1994; Han *et al.*, 2011; McIntyre *et al.*, 1993).

In accordance with previous research findings, results presented in Table 6 showed significant differences in regards to intention to pay a premium for green hotels across different age groups ( $p\text{-value} < 0.005$ ) (e.g. Anderson & Cunningham, 1972; Evanschitzky & Wunderlich, 2006; Gilly & Zeithaml, 1985; Van Liere & Dunlap, 1981). These findings indicated that elderly customers had greater mean scores than middle age and young customers ( $M_{\text{over } 60}=5.21$ ,  $M_{31-60}=5.04$ ,  $M_{\text{below } 30}=4.69$ ). In addition, Duncan Post Hoc test was applied, to pass the homogeneity test of variances in order to identify differences between any pair of age groups. The results show that the intention to pay a premium for green hotels is significantly higher among age groups of 31-59 years and 60 and above than in the age group below 30 years. Therefore, the intention to pay the premium price is relatively higher for elderly people than other groups, followed closely by middle aged customers.

ANOVA results of intention to pay a premium for green hotels across income levels also showed significant differences ( $p < 0.000$ ). The mean scores of respondents from high to low, with regards to paying a premium for green hotels, were in cohesion with their appropriate income levels ( $M_{\text{over } \$8000}=5.59$ ,  $M_{\$5000-\$8000}=5.31$ ,  $M_{\$3500-\$5000}=4.87$ ,  $M_{\$2000-\$3500}=4.76$ ,  $M_{\text{below } \$2000}=4.66$ ). Passing the required level of homogeneity among variances, Duncan Post Hoc test was needed to identify significant differences between any pair of income levels. The results affirmed that the intention to pay a premium for green hotels among people with

**Table 5.** Gender difference in intention to pay premium for green hotels: Results from Independent sample T-test

Demographic components	Mean (SD)	p-value (2-tailed)
Gender		0.253
Male	4.847 (1.023)	
Female	4.990 (1.145)	

**Table 6.** Other demographic differences in intention to pay premium for green hotels: Results from ANOVA analyses

Demographic components	Mean (SD)	F-value	p-value
<b>Age</b>		5.309	0.005
Below 30 years	4.690 (1.044)		
31-59 years	5.045 (1.090)		
60 years and above	5.213 (1.048)		
<b>Monthly income</b>		6.595	0.000
Less than USD 2000	4.660 (1.111)		
USD 2001 – USD 3500	4.766 (0.995)		
USD 3501 – USD 5000	4.878 (1.010)		
USD 5001 – USD 8000	5.313 (0.939)		
Above USD 8000	5.593 (1.103)		
<b>Education level</b>		8.526	0.000
High school diploma or less	4.687 (1.085)		
College graduate	4.732 (1.028)		
Master degree	5.191 (0.929)		
PhD./Professional	5.983 (0.745)		
Others	4.744 (1.301)		

the monthly income of above USD 8000 is significantly higher than those with income levels of less than USD 3500. However, this difference is less significant between income level of above USD 8000 and USD 3500 to USD 5000. Although these findings are in line with earlier research in the field (e.g. Henion, 1972; Roberts, 1996) they contradict the recent research by Han *et al.* (2011), which indicated no differences in intention to pay a premium for green hotels across income levels.

Probable differences across education levels on intention to pay the premium price for green hotels were examined at the end. The results indicated a significant difference in intention to pay a premium for green hotels across education levels ( $p < 0.000$ ). Among different range of mean scores, holders of PhD and master degrees were found to have the highest values, respectively, followed by graduates of college and high school ( $M_{\text{PhD}} = 5.983$ ,  $M_{\text{master}} = 5.19$ ,  $M_{\text{college}} = 4.73$ ,  $M_{\text{high school or below}} = 4.68$ ). Since the test did not pass the homogeneity of variances ( $\text{sig} = 0.040 < 0.05$ ), Dunnett T3 was applied to identify differences between any pair of education levels. These results revealed that education level of PhD/Professional (mean = 5.98) was

significantly different from the other educational levels ( $p\text{-value} < 0.000$ ). In addition, the mean score of respondents with Masters Degrees was significantly higher than college degree holders ( $p\text{-value} < 0.020$ ). As a result, the intention to pay a premium for green hotels was the highest among PhD holders and Masters Qualifications, respectively. The intention is the least for holders of high school degrees followed very closely by holders of a college degree. Therefore, higher education had a direct influence on the intention to pay the premium price among international tourism arrivals into Malaysia. These findings are not in line with recent research in the lodging industry conducted by Han *et al.* (2011), which reported no differences in intention to pay a premium for green hotels across various education levels.

### Implications

Although, green marketing and consumer behaviour have been a common topic of research in developed countries, this research, to the extent of the author's knowledge, is the only comprehensive study conducted thus far in the lodging industry of Malaysia. Not only does this research have a number of direct implications for the management in the lodging industry in Malaysia, it also allows

management in other industries and countries to benefit from the indirect feedback of this research. In general, the findings of this study affirmed earlier research, demonstrating that green attitudes of customers will eventually result in their green intentions (Han *et al.*, 2011; Kalafatis *et al.*, 1999; Laroche *et al.*, 2001; Manaktola & Jauhari, 2007; Roberts, 1996). As for theoretical implication, the Theory of Reasoned Action (TRA) was tested once more and the results of this study verified the theory by showing that individuals' attitudes drive their behavioural intention which most likely lead to their actual behaviour.

This research is significant because it provides management in the lodging industry with a better understanding of underlying dimensions of their customers' green attitudes. Specifically, results of this study prepared hoteliers and owners of lodging properties to take action in accordance with the green attitudes that had the strongest impact on customers' intention to pay a premium for green hotels. In the current study, in line with previous research, regression analysis revealed that the responsibility level of corporations towards green (RLCG) plays the strongest role in predicting customers' intention to pay a premium for green hotels (e.g., Han *et al.*, 2011; Laroche, 2001; Manaktola & Jauhari, 2007; Webster 1975; Wiener & Sukhdial, 1991). The findings of this study suggest that the best way to encourage customers to pay a premium for green hotels is to enhance their perception of the hotel's responsibility towards environmental problems. Hoteliers operating in Malaysia should make individuals more aware of their green responsibilities (e.g. following international eco-friendly legislations and protocols, conserving water and energy, recycling, etc.) by participating in domestic and international exhibitions just to mention a few examples.

Additionally, results of this study found that the importance of being green (IMBG) was the second most important dimension of green attitudes followed by the inconvenience of being green (INBG). These findings suggest that steps must be taken to educate the public about the importance and convenience of green initiatives (e.g. recycling) by

demonstrating the ease of recycling and other green activities. This could translate into higher profitability for green hotels.

Despite the emphasis on the win-win logic of switching to sustainable processes, initial costs of green equipment have frightened many firms to not go green (Pujari *et al.*, 2003). This study shows that hotel customers are willing to pay a premium for green hotels because the cost effective nature of the business. Some of these cost effective factors include less energy, waste, water, fuel and pollution generated by the operations of the hotel in the long run. Research conducted by Pujari (2006) reports that there is a synergy between conventional new product development and eco-friendly new product development. The readiness of customers in this study and the emergence of more synergy than conflict between conventional and green hotels is expected to create benefits for the lodging industry. Further research into the matter, however, must be conducted to affirm this study. Managers in the lodging industry are therefore advised to proactively to make parity among environmental excellence, market success, and demographic dimensions.

Among the underlying dimensions of green attitudes, seriousness of environmental problems (SEP) was found to be an insignificant predictor of customers' intentions to pay more for green hotels. The result contradicted earlier research that reported that realizing the severity of environmental issues resulted in consumers' green intention (e.g. Laroche *et al.*, 2001; Manaktola & Jauhari, 2007). One reason for this unexpected finding might be due to differences in consumers' intentions between green services (e.g. green hotels) and green products. As a result, perhaps the ministry of tourism in Malaysia should invest less on advertising the seriousness of environmental issues. Although the mean score of consumers' perceived SEP as the highest among components of green attitude, it did not lead international customers of hotels in Malaysia to pay more for green hotels.

As for demographics, this research found no difference between males and females in their intention to pay premiums for green hotels. It seems that there is no need to segregate gender in Malaysia for better segmentation. On the other hand, other components, namely age groups, monthly income levels, and education levels were found to differ significantly in intention to pay a premium for green hotels. These findings affirm previous studies which indicate that consumer behaviour changes based on the characteristics of customers (Baker et al, 2007; Homburg & Giering, 2001; Laroche *et al.*, 2001; Roberts, 1996). The results of the current study help marketers in the lodging industry of Malaysia to better understand the current characteristics of their target segment. Marketers should put their emphasis more on middle age and elderly people rather than young customers. Wealthy customers and those who hold higher degrees are relatively better choices for initial targeting.

#### **Conclusion, limitations, and direction for future research**

This research explored the relationship between hotel customers' green attitudes and their intention to pay more for green hotels. Using hierarchical regression it was determined that consumers are more influenced by the responsibility level of corporations, importance of being green and the inconvenience of being green over the seriousness of environmental problems in the lodging industry in Malaysia. Similarly, a higher academic and income background also relate positively to the consumers intention to pay a premium.

Like other empirical research, this study has some limitations and directions for further studies. First, although managements, hoteliers, and Ministry of Tourism Malaysia can obtain sustainable development using this research, care should be taken in the generalisation of these results. More comprehensive research in Malaysia is compulsory to affirm the findings of this research. Secondly, In spite of meticulous data gathering and analyses, there might still be some bias in the data. Thirdly, the assessment of customers' nationality, type of hotels the respondents lodged in during their travel to Malaysia, as well as previous experience with

green hotels may give a better feedback to marketers in the lodging industry for greater segmentation.

As for future directions and research, other green attitudes and variables that are not included in this research might provide researchers with a broader scope. An examination of consumers' actual behaviour is recommended because this research investigated only the intention of consumers. While consumers' intention is the starting point for their actual behaviours, more meticulous research in the future will clarify the relationship between consumers' green intentions and behaviours in of travel and hospitality industry. Lastly, the author suggests future researchers to use a larger sample size to enhance validity and comprehensiveness of current research, and to make the results more generalisable.

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