

# Millennials' environmental awareness, price sensitivity and willingness to pay for Green Hotels

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## Joo-Ee Gan

Monash University, Malaysia  
[gan.jooee@monash.edu](mailto:gan.jooee@monash.edu)

## Seo Nuli

Shangri-La's Rasa Sentosa Resort & Spa, Singapore

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## Abstract

This study analyse the Malaysian millennials' willingness to pay for green hotels. Through a survey with millennials as market segment, the exploratory study sought to examine the respondents' level of environmental awareness and price sensitivity. The findings suggest that environmental awareness was an important influencing factor in a respondent's willingness to pay for green hotels. However, the Malaysian millennials' demand for green hotel must be put in the context of their relatively low environmental awareness. Approximately half of the respondents were neither certain about the attributes of a green hotel, nor aware of green certification of hotels. Further, many respondents could not differentiate between a green hotel and a non-green hotel and could not be certain if the hotels they stayed in were green hotels. Moreover, price sensitivity was a major determinant for the purchase of green hotel where Malaysian millennials were concerned. The main implication of the study is managerial, in that the findings facilitate effective pricing, which is an essential aspect of a green hotel's marketing strategy.

## Keywords:

Environmental awareness; green certification; green hotels; millennials; price sensitivity

## 1 Introduction

Green practices or environmental friendly measures are increasingly adopted by hoteliers in varying degrees. Self-interest is one of the motivations for going green, and the green practices tend to enhance branding (Melissen et al., 2015) and improve revenue or lead to cost saving (Graci & Dodds, 2008; Miller & Washington, 2008). There are also hoteliers whose commitment to green practices stem from their philosophy (Jamaludin & Yusof, 2013). Importantly, the green movement in the hotel industry is gaining momentum, and increasingly, green certification is an essential aspect of a hotel's corporate image (Kasim et al., 2014; Okumus, Altinay & Chathoth, 2010). In Southeast Asia, the formulation of the ASEAN Green Hotel Standard (ASEAN Secretariat, 2016) is indicative of the growing importance of green movement in the region. In Malaysia, sustainability and biodiversity are central to the country's Economic Transformation Programme (ETP), whereby two major entry point projects (EPP) for tourism are to establish Malaysia as a mega biodiversity hub (EPP 4) and the development of eco-nature integrated resorts (EPP 5) (ETP, 2014). The hotel sector in Malaysia has begun to go green, and the leader in this field is The Frangipani Langkawi Resort & Spa that has won many awards from government and non-governmental bodies for its innovative green practices (Kasim et al., 2014; Jamaludin & Yusof, 2013).

With Malaysian millennials as samples, the study examined their willingness to pay for green hotels and the factors that influence such willingness to pay. The literature shows that female guests (Chang et al., 2015; Han, Lee & Sheu, 2011), middle-age guests (Kim, Palakurthi & Hancer, 2012), guests who consider themselves to be eco-conscious (Chang et al., 2015; Ham & Han, 2013), and guests who travel for leisure are more willing to pay for green hotels (Kubickova et al., 2014; Kang et al., 2012). However, most of the studies were conducted in mature economies with more adopters of sustainable practices. By contrast, there were fewer studies that examine guests' willingness to pay for green hotels in Malaysia. Moreover, the existing studies focus on the extent of demand for green hotels (Eslaminosratabadi, 2013; Ng, 2011; Kasim, 2004), or the green practices implemented in Malaysian hotels (Kasim et al., 2014; Jamaludin & Yusof, 2013), with less emphasis on the guests' environmental awareness.

This paper addresses the gap in the literature through the study of Malaysian millennials' environmental awareness and price sensitivity as factors influencing the willingness to pay. The significance of the study lies in its market segmentation approach, wherein the Malaysian millennials are analyzed for their demand for green hotels, thus addressing the lack of literature on this area. The main implication of the study is managerial, in that the findings facilitate effective pricing, which is an essential aspect of a green hotel's marketing strategy.

## **2 Literature Review**

### **2.1 Green hotels**

The essence of a green hotel is its commitment towards environmental protection. Thus its design and operation are intended to reduce energy consumption, improve water saving and ensure effective waste management. Characteristically, a green hotel adopts the three Rs, namely, recycle, reduce and reuse; and also, the two Es, i.e. energy and efficiency (Hu et al., 2010). The ASEAN Green Hotel Standard (ASEAN Secretariat, 2016: p. 3) defines a green hotel simply as “a hotel which is environmentally-friendly and adopts energy conservation measures.” Such broad definition is preferable in view that green practices in a hotel are multi-faceted, implemented in varying degrees and involve various departments and many stakeholders—from the engineering department, housekeeping department, front office department to the facilities department.

Many factors motivate a hotel to go green. Chief among them is the sustainability movement in the tourism industry that gives the green status a competitive edge, especially in terms of the enhanced brand image from green certification, awards and labels (Melissen et al., 2015). According to Yunhi and Heesup (2010), going green is a means for a hotel to engage with environmental conscious guests. Such guests place importance on a hotel’s green practices and do not mind the (commonly perceived) inconveniences that come with towel reuse, limited range of toiletries, minimalist décor, etc.

Further, green hotels benefit from lower operation costs. For example, Butler’s (2008) study found that where a hotel has adopted green energy saving strategies, it could save between 30% to 50% of its energy cost, which was the equivalent of revenue gained from raising its Average Daily Rate (ADR) by \$1.80 - \$3.00. A green hotel could also expect to lower its carbon emission by 35% and lower its water consumption by 40% (Butler, 2008). Similarly, Miller and Washington’s (2008) study found that a hotel that adopted green practices could reduce water and sewerage cost by 25% to 30%. Jamaludin and Yusof’s (2013) study on green hotels in Malaysia found that the Frangipani Resort & Spa, Langkawi island (the best eco-friendly hotel in the country) has been able to reduce water consumption per room.

### **2.2 Green practices**

There is a broad spectrum of green practices that a hotel can adopt. Ideally, a green hotel should implement waste separation and recycle, encourage waste reduction, improve water efficiency, monitor water quality, use green products, encourage green procurement, introduce energy savings techniques, implement air quality management, noise pollution control, solid waste management, waste water treatment and management, and toxic and chemical substance management (ASEAN Secretariat, 2016). There is also a social dimension to green hotels. The ASEAN Green Hotel Standard encourages the use of local products for a hotel operation, for example, locally produced food and handicraft. This means engaging the local community as the supplier and indirectly improving their livelihoods (ASEAN Secretariat, 2016: p. 7).

One way to implement green measures effectively is to build a hotel with green technology. For example, a hotel that adheres to the US Green Building Council's LEED (Leadership in Energy and Environmental Design) is constructed for eco-friendly operation and maintenance (Hu et al., 2010). A hotel may also be refurbished or retrofitted with new technology to introduce green practices. Among the features of green hotels are low-stream shower heads and faucets that conserve water, urinal sensor flush valve, motion detector lighting, solar panel, rain water harvesting, etc. Additionally, a hotel can use equipment (e.g., dishwasher, food steamer, combination oven) with good 'Energy Star' or performance equivalent (LEED, 2017).

Apart from LEED verification for green buildings, there are other certifications that a green hotel may apply. The International Organization for Standardization's ISO 14000 families of standards for environmental management (ISO, n.d.) is another green certification that a hotel may be accredited. Specific to the hotel and tourism industry, the Green Globe certification assesses the sustainability performance of travel and tourism businesses and their supply chain partners (Green Globe, 2017). The Green Globe Standard adopts a more holistic view of sustainability, with criteria that expand beyond green practices and sustainable management to assess a hotel's contribution to the socio-economic well-being of the local community and the preservation of their cultural heritage (Green Globe, 2017). TripAdvisor's GreenLeaders Programme grants green status (bronze, silver, gold, and platinum) to applicant hotels, depending on the extent of their green practices. A hotel listed as a GreenLeader may display the badge on its listing page and set out the property's green practices (TripAdvisor, 2017). In short, there are various green certification programmes that a property can undergo in order to proclaim itself a green hotel.

### **2.3 Barriers to implementing green practices**

Green practices among hotels have yet to become the norm in Malaysia, although the government does encourage environmentally responsible practices in the hotel sector. For example, the Prime Minister's Hibiscus Award recognizes private sector companies for their outstanding environmental friendly practices, and there exists an award category for 'hotels & resort' (PMHA, 2015). An outstanding example of waste management initiative among Malaysian hotels is the wetland water recycling and purification system instituted by Frangipani Langkawi Hotel Resort and Spa (Kasim et al., 2014). Nevertheless, as Kasim (2004) pointed out, environmental friendly measures may require additional investment and organization change – for example, the installation of timer switches and thermostatic radiator valves, occupancy and daylight sensors or the adoption of a building management system to control heating, ventilation and air conditioning. This leads to the issue of whether it pays to be environmentally responsible.

An important barrier to the construction or operation of a green hotel is the lack of capital. Kasim et al. (2014) acknowledge that the size of a hotel does determine its waste management capability. For example, a small or medium sized hotel that lacks capital may not be able to afford infrastructural features such as waste separation areas or

designated space for the deposit of harmful waste (Chan, 2011). The size of a hotel also influences its willingness to adopt environmental friendly measures that require investments. A large hotel has greater public visibility and is more likely to face pressure to implement waste management. By contrast, a smaller hotel faces less public scrutiny and has less capital to undertake waste management investments. A similar conclusion was reached by Okumus et al. (2010) and Erdagon and Baris (2007).

Other barriers to the implementation of green practices in hotels include the lack of environmental awareness, particularly among small rural operators (Daldeniz & Hampton, 2013; Lee, 2010). Apart from the lack of capital, the lack of time and human resource also impact on a hotel's ability to sustain green practices (Hu et al., 2010).

## **2.4 Willingness to pay for green hotels**

The literature in this area showed conflicting findings. To begin with, some studies revealed that guests were unwilling to pay for green hotels or compromise on the amenities associated with going green (Can et al., 2014; Howison & Cronauer, 2012; Manaktola & Jauhari, 2007; Kasim, 2004). Can et al. (2014) study found that the green rating/certification system was not a major factor that influences tourists' choice of accommodation? This was even though two-third of the respondents evinced a moderate or high level of concern for the environment.

Similarly, Kasim (2004) study on Penang Island, Malaysia found that the majority of tourists did not rank eco-friendly as a criterion in the choice of their accommodation. According to Howison and Cronauer (2012), the majority of guests still prefer individually packed toiletries despite the awareness that cleanser dispensers can significantly reduce waste. In Manaktola and Jauhari (2007) study, only 22% of the respondents would look for information concerning a hotel's green practices and consider a hotel's green status before making their bookings.

However, some studies showed that guests were willing to pay more for green hotels. Improved environmental awareness is arguable an important factor that contributes to a greater willingness to pay for green hotels. This is evident from a comparison between Kasim (2004) study and Ng (2011) study, both of which concern green hotels in Penang Island and guests' decision-making. Whereas Kasim (2004) found that environmental responsibility was not a major factor that influenced guests' choice of hotels, Ng (2011) study conducted seven years later found that guests' decision-making was influenced by a hotel's green practices. The comparison between these two studies shows that guests' attitudes towards green hotels do change over time, arguably with increased environmental awareness. Indeed, studies show that guests who consider themselves to be environmentally conscious are more likely to pay for green products and services. Kang et al. (2012) study in the US found a positive relationship between customers' environmental consciousness and their intention to pay more for hotels' green initiatives. Later studies by Ham and Han (2013) and Chang et al. (2015) also point to similar results.

Unfortunately, some studies have revealed the problem of indifference towards green practices among guests. According to Kubickova et al. (2014) study, 30.8% of the respondents did not know whether the hotels they stayed in could be considered green hotels. Such indifference means that a hotel's green status is insignificant to a guest's decision-making. Thus, Peiro-Signes et al. (2014) study in Spain showed that five-star hotels do not necessarily gain distinctive differentiation from green certification. Whereas for three-star hotels, the guests' price sensitivity overridden environmental concerns. The study found that only four-star hotels in the sample could gain a marketing advantage from green certification. Arguably, Peiro-Signes et al. (2014) study show that where environmental concerns do not play a role in guests' decision-making, such a process is highly influenced by pricing.

The level of education and the level of income also affect guests' willingness to pay for green hotels. Radwan, Jones and Minoli (2012) study in Wales, United Kingdom found that respondents of higher educational background evinced greater willingness to pay for green hotels. Similarly, Eslaminosratabadi (2013) quantitative study on the intention of international tourists in Malaysia showed that foreign tourists were influenced by the green practices of hotels and that consumers with higher academic and income background were willing to pay a premium for green hotels. The presumption would be that respondents with a higher level of education and a higher level of income possess greater environmental awareness, which explained their greater willingness to pay for green hotels.

By contrast, the demographic attributes of gender and age seem to be inconclusive where willingness to pay for green hotels is concerned. While some studies found that females show a greater willingness to pay for green hotels (Chang et al., 2015; Kim et al., 2012; Han et al., 2011), Kang et al. (2012) study seem to suggest that males are more likely to pay a premium for green hotels. In addition, Kim et al. (2012) found that middle-aged guests showed more willingness to pay for green hotels; however other studies suggest that age was not a statistically significant factor (Kang et al., 2012; Han et al., 2011). Similarly, Dimara, Maganari, and Skuras (2017) found that age was not a significant predictor of consumer willingness to support green initiatives in hotels. However, the study found that young consumers were more willing to participate in a towel re-use programme.

Overall, these studies point to the followings: (i) there are conflicting results insofar as hotel guests' willingness to pay for green practices are concerned; (ii) environmental awareness plays an important role in influencing the guests' decision to pay for green hotels; (iii) demographic attributes such as the level of education and the level of income influence the guests' willingness to pay for green hotels; and (iv) it is inconclusive whether demographic attributes of gender and age influence the guests' willingness to pay for green hotels.

## **2.5 Millennials and environmental awareness**

The research seeks to examine whether the millennials, as a market segment, evince greater willingness to pay for green hotels. Millennials are also known as Generation Y, which currently fall within the age group of 20-35 years-old (The Guardian, 2016). As a market segment, millennials have displayed distinct characteristics that distinguish them from Generation X, which range between 36-54 years-old. For example, millennials value 'experience' and consider travels to be a central aspect of their lives. Millennials are digital savvy and search for bargain deals when planning travels. Research conducted by the Singapore Tourism Board (2017) reveals that millennials are educated consumers who have the know-how to conduct extensive research before making purchases. Millennials attach great importance to individuality and self-expression, and often a source for information through social media, with strong reliance on word-of-mouth information from reviewers and bloggers. Bowen and Baloglu (2015) also found that millennials consider social media to be a credible source of information as regards travel products.

According to Santos, Veiga, and Aguas (2016), millennials consider themselves as travellers rather than tourists. Thus, they prefer tourism segments that offer authentic experiences. Buffa (2015) study suggests that the majority (40%) of the young tourists were willing to pay a premium of up to 10% on holiday prices in order to support local communities and the cause of environmental preservation. As a segment of consumers, millennials distance themselves from mass tourism, and show interest in environmentally-oriented activities (such as ecotourism), appreciate the educational aspect of tourism and value authentic experiences, with less emphasis on luxury.

These studies concern the millennials' attitudes towards travels and their preferences in terms of tourism destinations and activities. In terms of the millennials' hotel preferences, HVS (2017) states that millennials have less spending power compared to Generation X. Thus, they tend to look for accommodation that offers value for money. HVS's (2017) research on Malaysia shows that value for money, life-style branded products, quality of service and experience are factors that attract millennials in accommodation choices. However, the study has not focused on the millennials' attitude towards green hotels. And thus far, most studies have shown that age is not a predictor of the willingness to pay for green hotels (Dimara et al., 2017; Kang et al., 2012; Han et al., 2011).

## **3 Methodology**

The purpose of this study is to examine the Malaysian millennials' willingness to pay for green hotels. In connection, the study seeks to explore the extent of environmental awareness among Malaysian millennials, and the effect that environmental awareness has on their willingness to pay for green hotels. The research questions are therefore as follows:

- i. To what extent does environmental awareness influence Malaysian millennials' willingness to pay for green hotels?
- ii. To what extent does price sensitivity influence the Malaysian millennials' willingness to pay for green hotels?

This study was conducted through a survey questionnaire with prime emphasis on age as the first demographic attribute of the respondents. Additionally, a potential respondent was required to indicate the usual nature of his travel (business, leisure or other reasons), and the usual type of hotel accommodation that he normally opted for (budget, medium or luxury). However, the race was not a demographic attribute that the questionnaire required, as the researchers were concerned that analysis along this attribute might lead to negative racial stereotyping. By contrast, nationality was an important demographic attribute as the study focused on the accommodation decision-making of Malaysian travellers. In this regard, it was immaterial whether the room purchases were made domestically or abroad. The study was not devised as quantitative research for the testing of hypotheses through the Statistical Package for the Social Sciences (SPSS). This was because data collection was exploratory and facilitative of further qualitative studies that investigate guests' accommodation choices in the context of demographic attributes. In this regard, the analysis of the findings would assist the researchers in the selection of case study locale and the preparation of questions to guide semi-structured interviews.

The survey questionnaire was circulated online, via emails and other social media platforms, with Malaysians as the intended sample population. A potential respondent would receive an invitation to participate in the study with a brief introduction on the purpose of the questionnaire. Data collection was therefore conducted through convenience sampling, whereby the respondents consisted of people who were within the easy reach of the researcher (Kumar, 2014). Convenience sampling through social media dissemination was chosen on the assumption that millennials are more easily reachable through social media platforms. This is because millennials are digital savvy and tend to give credence to social media as a source of information (Bowen & Baloglu, 2015).

A total of 204 samples were collected, whereas 31 samples were discarded to avoid biasness (Creswell, 2014). First, a sample was discarded where the respondent was a non-Malaysian. Although the questionnaire specifically stated that the survey was intended for Malaysian respondents, inadvertent responses from non-Malaysian respondents did occur. Second, a sample was discarded where the responses were blatantly contradictory or where they indicate the lack of forethought in the answering of the questions. For example, where a respondent indicated that he/she was not willing to pay more to stay in a green hotel but proceeded to answer questions on the price premium (upward price differential) that he/she was willing to pay for green practices, such sample was discarded as contradictory.

By focusing on the Malaysian millennials, the study sought to examine whether this market segment showed a greater willingness to pay for green hotels. In connection,



the study sought to ascertain the level of environmental awareness among the respondents. In this regard, a respondent was asked the following questions:

- i. Whether the respondent considers himself/herself to be environmentally conscious.
- ii. Whether the respondent has stayed in a green hotel before.
- iii. Whether the respondent knows the distinction between a green hotel and a non-green hotel.
- iv. Whether the respondent is aware of the existence of 'green certification' of hotel.
- v. Whether the respondent knew that the hotel he/she stayed in was a green hotel.

Further questions were posed concerning the price sensitivity of the respondents. In particular, the study sought to determine whether the respondents who evinced the willingness to pay for green hotels would maintain the same stance where the price premium payable for green status gradually increased. In this regard, the gradation of price premium was 5% successively, beginning from '1%-5%' to 'exceeding 20%' is the highest level.

Responses were recorded via Google form as the validity of the responses ascertainable through the survey time-log and the respondents' email addresses. The latter would facilitate verification of a respondent's identity, for ascertaining the presence of duplications or non-genuine responses (if there were grounds for such suspicion). Since the survey questionnaire assigned email address as a required field, all respondents could be contacted for verification. Data collected were initially tabulated through the statistical toolkit available on Google form, for further analysis to address the research questions.

## **4 Findings**

### **4.1 Demography**

Of the 204 samples, 119 were females while 85 were males. The overwhelming majority of the respondents (189) were aged 20 – 25 years-old. Only 15 of the respondents were between 25 – 30 years-old. There were no respondents older than 30 years-old. Most of the respondents received tertiary education (99.5%), the remaining 0.5% of the respondents completed secondary education. The demography of the respondents suggested that the majority were young, educated middle-class adults at the early stages of their working life, with enough to high disposable income. Since all the respondents were below 30 years-old, they would be considered Generation Y or millennials, as those currently aged between 20 – 35 years-old are known (The Guardian, 2016). Most of the respondents could be said to be at the early stages of their careers or businesses (for the self-employed). This was because 86% of the respondents earned

between RM2,000 to RM5,000 per month. Eleven percent (11%) of the respondents had a monthly income that exceeded RM5,000. Only 3% of the respondents earned less than RM2,000 per month.

The income levels of the respondents were reflected like their room purchases. Most respondents (60.8%) indicated a preference for mid-priced hotels while 25.5% preferred luxury hotels. Only a small percentage of respondents (13.7%) would choose budget hotels. The choice for mid-priced hotels, as opposed to luxury hotels, is consistent with existing studies which found that millennials currently lag behind Generation X in disposal income (HVS, 2017) and value experiences rather than luxury and comfort (Buffa, 2015). As regards the purpose of travel, the majority of the respondents travel for leisure (87.7%) while 10.8% of the respondents travel for business. A negligible minority of the respondents (1.5%) travel for other reasons.

#### **4.2 Demography and the willingness to pay for green hotels**

An overwhelming majority of the respondents (180 people or 88.2%) indicated their willingness to pay for green hotels. This finding reflects studies that found the millennials to be environmentally conscious and care for local culture and communities (Leposa & Moseder, 2016; Buffa, 2015). Adopting a gendered approach, it was found that of the respondents who indicated their willingness to pay for green hotels, 101 respondents were females, and 79 respondents were males. This would suggest that female travellers were more willing to pay for green hotels compared to male travellers. This finding is consistent with previous studies (Chang et al., 2015; Kim et al., 2012; Han et al., 2011).

Since the study focused on the Malaysian millennials as a market segment, the data collected does not facilitate a comparison between the relative willingness to pay between the millennials and other age groups. Similarly, it was not possible to analyze the effect of educational background and income as factors that influence the willingness to pay for green hotels. Since 99.5% of the respondents had tertiary education, it was not possible to compare the results obtained for this group of respondents with other categories. The near homogenous income levels of most respondents also negated a meaningful analysis of the influence of income on the willingness to pay for green hotels.

A comprehensive analysis of demographic attributes as factors influencing the willingness to pay for green hotels can only be undertaken where a survey reaches respondents of the different generational divide. To do so, the online circulation of the survey questionnaire should be coupled with the physical distribution of the same, to reach a more diverse sample. Alternatively, convenience sampling could be complemented by purposive sampling so that a sufficient number of respondents of another age group/income level/educational background could be reached.

### 4.3 Environmental awareness and the willingness to pay for green hotels

To begin with the Malaysian millennials' self-concept on environmental awareness, 50% of the respondents considered themselves to be environmentally conscious. More than half of the respondents (114 or 55.9%) claimed that they had stayed in a green hotel before. However, about half of the respondents (51%) admitted that they were unclear about the distinction between a green hotel and a non-green hotel. Moreover, only 95 respondents (46.5%) claimed that they knew that the hotels they stayed in were green hotels. Such findings seem to reflect Kubickova et al.'s (2014) study which showed that almost one-third of the respondents did not know whether the hotels they stayed in could be said to constitute green hotels.

These findings suggest that there is still much confusion among the millennials over what constitutes a green hotel. Without a clear understanding of what is a green hotel or the characteristics of a green hotel, millennials are less likely to opt for green hotels. Indeed, the findings revealed that of the 51% (or 104) of the respondents who were unclear about the distinction between a green hotel and a non-green hotel, 96 of them indicated that they had never stayed in a green hotel before.

A means of determining the green status of a hotel is to look for its green certification. On this issue, 56.4% of the respondents stated that they were not aware of green certification for hotels. Forty nine respondents (24%) claimed that they have heard of green certification for hotels but were unsure what the process entailed. Only 19.6% of the respondents claimed that they were aware of green certification for hotels. The percentage of respondents with awareness of green certification approximates the percentage of respondents who have stayed in green hotels. This may suggest that green awareness among the millennials respondents lead to greater willingness to pay for green hotels.

Table 1: Environmental awareness among Malaysian millennial respondents

No	Instruments	Agree	Disagree
1	I am environmentally conscious.	50%	50%
2	I have stayed in a green hotel before.	55.9%	44.1%
3	I know the distinction between a green hotel and a non-green hotel.	51%	49%
4	I am aware of the existence of 'green certification' of a hotel.	43.6%	56.4%
5	I knew that the hotel I stayed in was a green hotel.	46.5%	53.5%

### 4.4 Price sensitivity and the willingness to pay for green hotels

While there were 114 respondents who claimed to have stayed in green hotels and 180 respondents who expressed the willingness to pay for green hotels; only 80 respondents (39%) indicated their willingness to pay a price premium for the green status of the hotel. This shows that not all respondents who have stayed in green hotels were willing to pay more for the properties' green status.

To assess the extent of premium that a respondent was willing to pay, only the samples with the affirmative assertion of willingness to pay for green hotels were used. Thus, the following analysis was based on 80 samples only. Thirty two respondents (40%) expressed the willingness to pay a price premium of 1% - 5% for a green hotel. Nineteen respondents (23.7%) expressed the willingness to pay a price premium of 6% - 10% for a green hotel. Nine respondents (11.2%) indicated the willing to pay a price premium of 11% - 15% for a green hotel. Fourteen respondents (17.5%) evinced the willingness to pay a price premium of 16% - 20% for a green hotel. Only six respondents (7.5%) were willing to pay a price premium exceeding 20% to stay in a green hotel. These findings suggest that the respondents' willingness to stay in green hotels was subject to price sensitivity, whereby with each gradation of increase in price premium, fewer respondents maintained their initial stance of willingness to pay. As the study by HVS (2017) indicates, the millennials currently have less spending power compared to Generation X. This may account for their price sensitivity that – depending on the level of price premium – outweigh their willingness to pay for green hotels.

Table 2. Willingness to pay and price sensitivity

Instruments	Agree	Disagree
I am willing to pay for a green hotel.	88.2%	11.8%
I am willing to pay a price premium for the green hotel.	39%	61%

Table 3. Price increase and willingness to pay

The extent of price increase	Willingness to pay*
1% - 5%	40%
6% - 10%	23.7%
11% - 15%	11.2%
16% - 20%	17.5%
Above 20%	7.5%

*\*Based on 80 respondents who expressed willingness to pay.*

From the table above, environmental awareness does significantly affect a respondent's willingness to pay for a green hotel. Arguably, more respondents would be willing to pay for a green hotel if they could differentiate between a green hotel and a non-green hotel. Unfortunately, there was still a lack of knowledge concerning the features of a green hotel and the green certification process among a significant proportion of the millennials respondents. As regards the second research question, while environmental awareness increases a respondent's willingness to pay for a green hotel, it should be noted that a respondent's price sensitivity has the opposite effect of reducing his/her willingness to pay. The findings suggest that of the respondents who expressed the willingness to pay for green hotels, 40% of them were only willing to pay a price premium of 1%-5%. This means that environmental awareness is not the decisive predictor of a Malaysian millennial's willingness to pay for a green hotel.

## **5 Conclusion**

The findings suggest that environmental awareness impacts the respondents' willingness to pay for green hotels. However, a significant percentage of the respondents were not entirely clear about what constitutes a green hotel, and could not differentiate between a green hotel and a non-green hotel. It should also be noted that even among respondents who expressed the willingness to pay for green hotels, price sensitivity gradually eroded such intention. This was seen when, with each successive band of a price premium, fewer and fewer of such respondents were willing to pay for a hotel's green status. Regarding gender, the study found that female Malaysian millennials were more willing to pay for green hotels compared to male Malaysian millennials. Female Malaysian millennials were also more willing to pay a price premium to stay in green hotels.

The significance of the study is its analysis of the millennials as a market segment for green hotels in Malaysia. The gap addressed is the lack of segmentation analysis in the study of green hotels in Malaysia. The managerial implication of the findings is that, where Malaysian millennials are concerned, the price elasticity of demand must be taken into consideration. While environmental awareness can generate a greater willingness to pay for green hotels, such willingness is likely to be dampened by high price premium.

The challenge for Malaysian hoteliers is to educate the consumers (across all market segments) on the green practices adopted by their properties and the value of environmental protection, in justifying the price premium that may come with green certification. The Frangipani Langkawi Resort & Spa currently incorporates education in some aspects of its green practices (Jamaludin & Yusof, 2013). Green hotels in Malaysia may have to adopt a similar strategy to demonstrate their commitment to environmental protection visibly. At the same time, the price sensitivity of the millennials does not necessarily mean lower expectations. According to HVS (2017), Malaysian millennials look for good quality hotels at bargain prices. This means Malaysian hoteliers should strive to deliver green practices at competitive pricing without compromising service quality.

The focus on Malaysian millennials may also be construed as a limitation, in that the study was not designed to analyse other demographic attributes as factors influencing the willingness to pay for green hotels. Indeed, the near homogeneous demography of the respondents prevented a critical analysis of the impact of various demographic attributes. There is therefore ample ground for future studies where the willingness to pay for green hotels is concerned.

## **6 About the author**

Joo-Ee Gan is a Senior Lecturer at the School of Business, Monash University Malaysia.

Seo Nuli graduated from Taylor's University with a Bachelor of International Hospitality Management (Hons). She is currently working with Shangri La's Rasa Sentosa Resort & Spa, Singapore.

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