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Hotel Guests' Preferences for Green Hotel Attributes

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Abstract
The primary purpose of this study was to identify a list of green attributes guests would prefer to have in the guest room of a hotel. Using results from a mixture of qualitative and quantitative questions in a survey of attendees of a hotel developer's conference, a list is presented. The green attributes include such items as recycling bins in the guest room, and energy saving lighting. Some attributes, however, such as refillable soap and shampoo dispensers, were not received favorably. Future environmental challenges the industry will face, along with defining a green hotel, are also presented.

Keywords: Green hotel, environmentally friendly, green marketing, hotel selection

Introduction

Travel and tourism in the United States generates billions of dollars in economic activity and is expected to grow substantially by 2017 (World Travel & Tourism Council [WTTC], 2007). The potential impacts of such growth on the environment, along with factors such as global climate change, have become particularly hot topics within the travel and tourism arena today. Hotels in particular have recently received much attention, with awareness of the negative impact that they may have on the environment, growing (Kasim, 2004). Negative impacts include the extensive amount of laundry that hotels do on a daily basis, the use of disposable products, heated swimming pools, and the use of strong cleaning products by housekeeping departments (Gustin & Weaver, 1996). To address these impacts, hotels have voluntarily begun to change their practices. This not only benefits the environment, but also the hotel. By promoting the environmental practices they incorporate into their business, hotels will receive great positive publicity, and they stand to save money too (Gustin & Weaver, 1996).

The increased environmental awareness is poised to have a significant impact on hotel selection. Forty three million U. S. travelers have expressed their concern for the environment (Vora, 2007), which means that travelers will begin to pay attention to hotels that have environmental policies in place. The types of environmental policies hotels have, or the steps they have taken to reduce their impact on the environment, may become factors for travelers when selecting which hotels to stay in. Hotel selection, with a heavy emphasis on hotel attributes and guest room attributes, is a prominent research topic in the travel and tourism literature (Lockyer, 2005). The role those attributes may play in a travelers mind are also a well-studied phenomenon (Dolnicar & Otter, 2003). The primary area of study has been on the importance of specific attributes in relation to hotel selection, with secondary areas focusing on loyalty, customer satisfaction as well as service quality (Dolnicar & Otter, 2003). Despite the plethora of research about hotel attributes, however, the scope of research that analyzes the demand for environmental attributes is very limited (Kasim, 2004). As a result, it is relatively unclear what specific attributes the hotel guest might prefer.

Hotels that voluntarily provide environmentally friendly attributes are oftentimes referred to as either green hotels or environmentally friendly hotels. Some hotels may have many environmental attributes in place, while others may have just a few. The question then becomes, which hotel is truly a green, or environmentally friendly hotel? Because hotels may take different steps to reduce their environmental impact, providing a general definition that encompasses all green hotels is difficult. Therefore, the purpose of this study, exploratory in nature, is twofold. Firstly, using qualitative research methods, the researchers will attempt to create a universal description of a green hotel. The second purpose addresses the paucity of research about what

specific attributes a guest might prefer by identifying a list of environmentally friendly attributes a guest may or may not prefer to have in the guest room of an environmentally friendly hotel.

It is important for hotel managers to understand the needs and wants of their guests and what specific factors they look for when selecting a hotel (Lockyer, 2002). This is especially important for those hoteliers that wish to attract new travelers, or tap into a niche market, i.e. the environmentally friendly traveler. The results will provide hoteliers with information about which attributes they could or should promote in order to attract travelers that are concerned about the environment. Hoteliers will not only gain demographic characteristics of these potential guests, but also which specific environmentally friendly hotel attributes they care about. In addition, it is essential for hoteliers to understand what message they are sending to hotel guests when the hoteliers identify their property as a green property. A universal description of a green hotel, effectively communicated to the hospitality industry and to hotel guests, will make this process easier for hoteliers.

Literature Review

Hotel Selection

Hotel selection and attributes that are important to travelers has been extensively researched using a variety of methods (Dolnicar, 2002). Past research has focused on the importance of attributes in selecting a hotel (Ananth, DeMicco, Moreo, & Howey, 1992; Callan & Bowman, 2000; Clow, Garretson, & Kurtz, 1994; Cobanoglu, Corbaci, Moreo, & Ekinci, 2003; Dolnicar, 2002; Griffen, Shea & Weaver, 1996; Lewis, 1984a; Lewis, 1985; Lockyer, 2002; Lockyer, 2005; McCleary, Weaver & Hutchinson, 1993; Saleh & Ryan, 1992; Schaefer, Selum & Margavio, 1995; Tsaur & Tzend, 1995; Weaver & Oh, 1993), determining attributes (Cadotte & Turgeon, 1988; Dube & Renaghan, 1999; Lewis, 1984a; Lewis, 1984b; Shanahan & Hyman, 2006), how attributes affect service quality (Callan & Bowman, 2000; Hartline & Jones, 1996; Saleh & Ryan, 1991), how attributes affect customer satisfaction (Barsky & Labagh, 1992; Gunderson, Heide & Olsson, 1996), loyalty building (Bowen & Shoemaker, 1998), evaluation (Tsaur & Tzeng, 1995; Wind, Green, Shifflet & Scarbrough, 1985), gender differences in hotel selection (McCleary, Weaver & Lan, 1994) and the value of attributes for intermediaries that make travel arrangements (Dube & Renaghan, 2000).

A meta-analysis of hotel attributes conducted by Dolnicar & Otter (2003) confirmed, after reviewing 21 studies related to hotel attributes, cleanliness as the top priority, followed by hotel location. In total, 173 attributes were identified that were related to image, price/value, the hotel itself, and service (Lockyer, 2005). None of those attributes, however, were related to environmental attributes of a hotel.

Although there is a plethora of research available about hotel selection, there is very little emphasis on how hotel selection might be affected by environmentally friendly guest room attributes, or if travelers even place importance on them. A study conducted by Virginia Polytechnic Institute and State University (Virginia Tech) and Lodging Hospitality (Watkins, 1994), indicated that frequent travelers would stay in hotels with environmental strategies, but they would not be willing to pay a premium for those rooms. The study reported that some environmentally friendly hotel attributes that travelers may consider when selecting a green hotel included, but were not limited to: recycling bins, energy-efficient lighting, using recycled paper for promotional materials, changing sheets only when requested, and turning of lights in unoccupied guest rooms (Watkins, 1994). Despite the fact that travelers in the survey said they were likely to stay in hotels that provided such attributes, and despite the fact that a large portion of the travelers considered themselves environmentally conscious consumers, they did not necessarily consider themselves environmentally conscious travelers (Watkins, 1994). In other words, their beliefs were not necessarily followed up by their actions when traveling.

Kasim (2004) studied tourists to Penang Island, Malaysia and found that tourists were knowledgeable and cared about the environment but they did not consider a hotel's environmental strategy as a foundation for their hotel choice. That is not to say that they would not approve of room attributes that were environmentally friendly. Tourists were willing to accept rooms with water saving features, recycling bins, fire-safety features, energy saving features, and information on local ecotourism attractions (Kasim, 2004).

Environmentally Friendly Hotels

Green hotels, also called eco-friendly hotels, ecologically friendly hotels, or environmentally friendly hotels, are defined a variety of ways. According to the Green Hotel Association, green hotels are "environmentally-friendly properties whose managers are eager to institute programs that save water, save energy and reduce solid waste—while saving money—to help protect our one and only earth" (2007). While this definition encompasses general ways hotels may reduce their impact, it is a very ambiguous definition. Kasim (2004) incorporates socio-economic factors into the definition: "the hotel operates in a responsible

manner towards its employees, the local community, the local culture, and the surrounding ecology" (p. 10). Simply put by Watkins (1994), green hotels are those that "show concern for the environment" (p. 70). One may question, however, what exactly is meant by "responsible manner". The term green hotel, which is the phrase most often used today, has "evolved to embrace all areas of sustainability and corporate social responsibility," according to the International Tourism Partnership [ITP] (2007, p. 1). The ITP, a program designed to help travel and tourism businesses develop responsible business practices, sums it up well when it says that hotels must incorporate green thinking and decision making into all levels of the operation in order to be properly green. While all of these definitions encompass the spirit of what a green hotel is, the definitions are very diverse.

There are many steps a hotel can take to reduce its impact on the environment, which adds to the difficulty of specifically defining a green hotel. One hotel may have very established recycling programs and linen re-use programs, while another has also taken extensive steps to reduce energy consumption by installing more efficient thermostats in every hotel guest room. One might ask which hotel is eco-friendly. Both are taking conscious steps to reduce energy consumption and save resources. To combat this issue, certification programs have developed levels of "greenness" (e.g. Green Globe and Ecotel). A hotel that only participates in recycling would be at the very basic level, while those hotels taking more extensive steps would be at higher levels.

Although specifically defining a green hotel is difficult, even with certification programs, managers and employees that decide to green their hotels share common philosophies and goals. The environment is an integral part of their organization and mission. They do it to protect the environment for future generations. Going green, as the ITP (2007) says, "helps hotels focus on sustainability and achieve goals for better environmental management".

Methods

Data was collected from attendees of a hotel developer's conference that took place in Las Vegas, Nevada in March 2008. The theme of the conference was the greening of the hospitality industry. Panel sessions throughout the conference, which lasted two days, incorporated discussions about the costs of greening a property, return on investment, case studies of current green hotels, and obtaining financing for a green hotel development.

The self-administered survey incorporated a combination of qualitative and quantitative questions over four sections. The first section included two qualitative questions, with the first question being: "what three words come to mind when you think of a green hotel". Because defining an environmentally friendly hotel can be very subjective, and has been a challenge in the hotel industry, this question was raised so that a possible universal definition of a "green" hotel could be created. The second question, "what are the top two environmental issues that the hospitality industry will face in the next five years" was asked in order to understand what challenges the hotel industry should prepare for as they move forward with their hotel operations. Using open ended questions in this section enabled the respondents to think freely about their answers as opposed to having them agree or disagree with pre-determined definitions for future environmental issues.

The second section of the survey asked respondents to rate, using a 7-point Likert type scale, how strongly they agreed or disagreed (1 = strongly disagree, 7 = strongly agree), with the following statement: "I would like to have the following environmentally friendly attributes in a hotel room". The "following environmentally friendly attributes" included those defined by Gustin and Weaver (1996), the International Tourism Partnership, and CERES' Best Practice Survey. The twelve environmentally friendly attributes were Use of Energy Saving Light Bulbs in the sleeping area of the room, Use of Energy Saving Light Bulbs in the guest bathroom, Use of Low Flow Toilets in the room, Use of Low Flow Faucets in the room, Use of Low Flow Showerheads in the room, Refillable Soap Dispensers instead of bars of soap, Refillable Shampoo Dispensers instead of individual bottles, A towel Re-Use program, Sheets Changed only if requested (for stays up to three nights), Recycling Bins in the guest room, Occupancy Sensors used to control lighting in the room, and Key Cards that turn power to the room on and off.

Section three of the survey included demographic questions such as gender, age, education level (Some College, Undergraduate Degree, Graduate Degree, Post Graduate Degree, Other), as well as occupation. Because a variety of attendees were expected at the conference, the researchers believed it difficult to develop a list that would accurately incorporate every occupation. Therefore, to determine occupation, participants were

simply asked, using an open-ended question, "what is your occupation?" Finally, participants were also asked how many nights they spent, approximately, in hotels in 2007.

The final section asked participants which environmentally friendly activities they currently perform at home, i.e. recycle cans and bottles, or use low flow water fixtures. Seven environmentally choices were given where participants were asked to check all that apply. In addition, an "anything else" open-ended response category was provided. The seven choices were Recycle Cans & Bottles, Recycle Paper and Cardboard, Use Energy Saving Light Bulbs, Use Low Flow Water Fixtures, Use Cloth Grocery Bags, Re-Use Plastic Bags, and Buy Organic Groceries.

Data Analysis

Analysis of the two open ended questions "what three words come to mind when you think of a green hotel?" and "what are the top two environmental issues that the hospitality industry will face in the next five years?" began with compiling a list of all responses. Once the list was complete, the same words and phrases, or similar words and phrases, were grouped together. For example, in assessing the responses to the green hotel question, the word Environment was grouped with Environment Friendly, Environmentally Friendly, as well as Eco-Friendly. With the consolidated list, the researchers were able to count how many time each word or phrase what mentioned.

The Statistical Package for Social Sciences (SPSS, Version 16.0) was used for all quantitative data analysis. In addition to means and frequencies for each environmentally friendly hotel room attribute, as well as demographic descriptive statistics, differences in preferences were analyzed based on gender, age, education, and number of nights spent in a hotel, using Multivariate Analysis of Variance (MANOVA). MANOVA is a technique used to test the differences between group means. The group means are actually converted to vectors, which are then compared to one another as they relate to the dependent variable. The dependent variables, continuous in nature, are the 12 environmental attributes used in the study (Energy Saving Light Bulbs in the Sleeping Area, Energy Saving Light Bulbs in the Guest Bathroom, Low Flow Toilets, Low Flow Faucets, Low Flow Showerheads, Refillable Soap Dispensers, Refillable Shampoo Dispensers, Towel Re-Use, Sheets Changed, Recycling Bins, Occupancy Sensors, and Key Cards to Turn Power to the Room On an Off). The independent variables, categorical in nature, were Gender, Age, Education, and Number of Nights spent in a hotel in 2007.

Assumptions were tested before initial analysis began. Although there were outliers, they were deemed likely responses and therefore included in the statistical procedures. The statistic used to test variance-covariance across groups is Box's M. This assumption of equal variance-covariance was violated for all correlations between the dependent and independent variables. Since each group is of approximately the same size, however, this violation has little impact on the final results (Hair, Black, Babin, Anderson, Tatham, 2006).

Results

Demographic Characteristics

In total, 165 complete surveys were collected from the conference attendees. The majority of the respondents were male (67.1%), with many of the respondents between the ages of 40-49 (36.8%), 30-39 (26.4%), or 50-59 (20.9%). Most all of the participants had some sort of college education, as 4.2% indicated Some College, 47.9% graduated from undergraduate college, while 33.3% had obtained a graduate degree. An overwhelming majority (67.1%) indicated that they had spent more than fifteen nights in a hotel in 2007 (See Table 1). The range of reported occupations was great, as might be expected with an open-ended question. Eighteen of the respondents were involved with business/hotel development, while 13 were architects. Other mentioned occupations were real estate, consultant, hotel management, attorney, project manager, construction, and designer.

The majority of respondents do perform environmental activities at home. Recycling cans and bottles (89.1%) and recycling paper (80%) were the most popular, followed closely by Re-using Plastic Bags (79.4%) and Use of Energy Saving Light bulbs (76.4%). Using Low Flow Water Fixtures was the least popular with 53.3% of the respondents admitting that they do not use them followed by Using Cloth Bags for shopping (57.6%) (See Table 2).

Open Ended Responses

In response to the question "what three words come to mind when you think of a green hotel", survey participants provided a variety of responses. Organic, New, Leed and Progressive were some words that came

Table 1
Respondent Demographics

	Number	%
Age		
20-29 years old	12	7.4
30-39 years old	43	26.4
40-49 years old	60	36.8
50-59 years old	34	20.9
Greater than or equal to 60 years old	14	8.6
Total	163	100.0
Gender		
Male	106	67.1
Female	52	32.9
Total	158	100.0
Education Level		
Some College	7	4.2
Undergraduate Degree	79	47.9
Graduate Degree	55	33.3
Post Graduate Degree	13	7.9
Other	11	6.7
Total	165	100.0
Nights Spent in Hotel		
1-5 nights	11	6.7
6-10 nights	18	11.0
11-15 nights	25	15.2
Greater than 15 nights	110	67.1
Total	164	100.0

Table 2
Environmentally Friendly Activities Performed at Home

Environmentally Friendly Activity	Number	%
Recycle cans and bottles	147	89.1
Recycle paper	132	80.0
Re-use plastic bags	131	79.4
Use energy efficient light bulbs	126	76.4
Buy organic groceries	106	64.2
Use low flow water fixtures	77	46.7
Use cloth bags for shopping	70	42.4

to mind for a few participants. Efficient/Efficiency was, however, cited most often (33). Recycling was mentioned 29 times, while Environmental/environmentally friendly was mentioned 28 times. Other popular words were Sustainability (20), Clean (18), Conservation (15), Responsible (13), Healthy (12), Conscious/conscientious (11), and Air quality (11).

Not all participants provided a positive view on green hotels, however. The word Expensive came to mind on more than one occasion. Others claimed, "It ain't easy, "Difficult to enforce", and "Very false advertising." Other negative words included Plain, Geeky, Not luxury, Cheap/Spartan, and Ugly.

The responses to the question "what are the top two environmental issues that the hospitality will face in the next five years," were not as varied as responses to the previous question. The primary concerns were related to energy and water. Cost of energy alone was cited 42 times, in addition to Energy use (34) and Conservation of energy (7). Water use, Water cost, Availability of water, and Water conservation were mentioned, all combined, 59 times. Other concerns were Waste management (21), Carbon emissions (12), Climate change/Global warming (8) and Air quality (8).

Environmental Hotel Room Attributes

Sheets Changed only on request for guests staying more than one night received the highest mean out of all the attributes ($M = 6.82$). This preference was followed closely by having Occupancy Sensors in the room ($M = 6.79$) and Key Cards that turn power to the room on and off ($M = 6.73$). Low-flow Showerheads received the lowest mean score ($M = 5.04$) followed by Refillable Soap Dispensers ($M = 5.18$), and Refillable Shampoo Dispensers ($M = 5.68$).

While changing sheets upon request did receive the highest mean score, installing Energy Saving Light Bulbs in the Sleeping Area of the guest room received the most strongly agree responses with a 73.9% response rate. Towel Re-use programs and Recycling Bins in the guest room were also received very well with 71.5% and 69.1% strongly agree responses, respectively. In comparison, the two least popular environmentally friendly attributes, based on the number of Strongly Agree responses, were Refillable Shampoo Dispensers (40.2%) and Refillable Soap Dispensers (43%). In addition to standard deviations for each attribute, Table 3 lists all attributes, from most preferred to least preferred, based on mean scores. See Table 4 for the number and distribution of responses, from Strongly Agree to Strongly Disagree, across all environmental attributes.

Table 3
Means and Standard Deviations for Each Environmental Room Attribute

Environmental Attribute	Mean Score	Standard Deviation
Sheets Changed Upon Request Only	6.83	7.37
Occupancy Sensors	6.79	7.37
Key Cards to Turn Power to the Room On and Off	6.73	7.37
Energy Saving Bulbs in the Sleeping Area	6.42	1.31
Energy Saving Bulbs in the Guest Bathroom	6.37	1.31
Towel Re-Use Programs	6.35	1.43
Recycling Bins	6.30	1.42
Low Flow Toilets	6.17	1.47
Low Flow Faucets	6.08	1.50
Refillable Shampoo Dispensers	5.68	7.57
Refillable Soap Dispensers	5.18	1.98
Low Flow Showerheads	5.04	2.12

MANOVA

Bartlett's test of sphericity (1353.6 with 77 d.f., $p < .0001$) indicated that environmentally friendly attributes and gender are correlated and, therefore, MANOVA is an appropriate technique for data analysis. The overall MANOVA tests of Pillai's, Hotelling's T², and Wilks' Lambda were all significant ($p < .0001$). Post hoc tests were not necessary or appropriate in this case since there were only two groups in the independent variable. In addition to a correlation with gender, Bartlett's test of sphericity also indicated that environmentally friendly attributes were significantly correlated with Education, Age, and Number of Nights Spent in a hotel in 2007 (1373.6, 1324.7, and 1366.8 respectively). All were significant at the $p < .0001$ level, $df = 77$, therefore confirming MANOVA is an appropriate technique for analysis. Pillai's, Hotelling's T², and Wilks' Lambda were also significant for each independent variable ($p < .0001$). Post hoc multiple comparison tests were run using either Tamhane, which is deemed appropriate when variances are not equal across groups, or Scheffe, which is appropriate when variances are equal across groups (Hair et al., 2006).

Of the 12 environmentally friendly attributes, the female's mean score for 8 of them was higher than the males' mean scores. Males believed hotel rooms should have Energy Saving Light Bulbs in both the sleeping area of the guest room and the bathroom ($M = 6.44$ and 6.40, respectively), and Low Flow Toilets ($M = 6.21$), while females were not so agreeable ($M = 6.31$, 6.29 and 6.08, respectively). Both groups were in basic agreement about Low Flow Faucets, however, where $M = 6.08$ for males and 6.06 for females. Women believed rooms should have Low Flow Showerheads, Refillable Soap and Shampoo Dispensers, Towel Re-Use Programs, Sheets Changed upon request only, Recycling Bins, Occupancy Sensors and Key Cards that turn power to the room on and off. See Table 5 for detailed comparisons of the means and standard deviations.

Table 4
Frequencies for Each Environmental Room Attribute

Environmental Attribute	Strongly Agree		Moderately Agree		Slightly Agree		Neutral		Slightly Disagree		Moderately Disagree		Strongly Disagree	
	#	%	#	%	#	%	#	&	#	%	#	%	#	%
Energy Saving Bulbs In Sleeping Area	122	73.9	23	13.9	5	3.9	8	4.8	1	.6	1	.6	5	3.0
Energy Saving Bulbs In Guest Bathroom	117	70.9	26	15.8	6	3.6	8	4.8	2	1.2	2	1.2	4	2.4
Low Flow Toilets	105	63.6	29	17.6	11	6.7	7	4.2	3	1.8	7	4.2	3	1.8
Low Flow Faucets	94	57.0	38	23.0	12	7.3	10	6.1	0	0	6	3.6	5	3.0
Low Flow Showerheads	65	39.4	24	14.5	19	11.5	11	6.7	17	10.3	13	7.9	16	9.7
Refillable Soap Dispensers	71	43.0	17	10.3	15	9.1	25	15.2	13	7.9	17	10.3	7	4.2
Refillable Shampoo Dispensers	66	40.2	20	12.2	17	10.4	23	14.0	14	8.5	14	8.5	10	6.1
Towel Re-Use	118	71.5	27	16.4	6	3.6	4	2.4	1	.6	2	1.2	7	4.2
Sheets Changed	107	65.2	37	22.6	5	3.0	3	1.8	1	.6	5	3.0	6	3.7
Recycling Bins	114	69.1	26	15.8	7	4.2	10	6.1	1	.6	0	0	7	4.2
Occupancy Sensors	108	65.9	29	17.7	8	4.9	8	4.9	2	1.2	4	2.4	5	3.0
Key Cards	105	64.0	26	15.9	12	7.3	9	5.5	3	1.8	6	3.7	3	1.8

While results of MANOVA indicated differences among the independent variables as related to the twelve environmentally friendly variables, results of the post hoc comparison tests revealed few significant differences within the specific groups. For example, in the education category, the Other group had a stronger belief than College Graduates that hotel rooms should have Energy Saving Light Bulbs in the guest bathroom. Otherwise, all of the other categories had similar beliefs about all of the attributes. Respondents that had stayed in hotels for 6 -10 nights in 2007 nights believed hotels rooms should have both Low Flow Faucets and Showers, more so than those participants that had stayed in hotels more than 15 nights in 2007. Participants in all other categories of Number of Nights Stayed in a Hotel shared similar feelings about the other environmental attributes. Age provided the most significant differences among the age categories. Participants between the ages of 30 - 39, 40 - 49, and 50 - 59, more so than participants over the age of 60, would all like to see Low Flow Toilets in guest rooms. In addition, participants between the ages of 40 - 49 felt more strongly than those over the age of 60, about having Low Flow Faucets in the guest room. Finally, the younger participants, those aged 20 - 29, had a stronger belief than participants between both 30 - 39 and 40 - 49, that rooms should have Occupancy Sensors.

Table 5
Means Scores and Standard Deviations for Environmental Attributes Based on Gender

Environmental Attribute	Females		Males	
	Mean	Standard Deviation	Mean	Standard Deviation
Energy Efficient Bulbs In Sleeping Area	6.31	1.49	6.44	1.25
Energy Efficient Bulbs In Guest Bathroom	6.29	1.45	6.40	1.29
Low Flow Toilets	6.08	1.55	6.21	1.47
Low Flow Sinks	6.06	1.59	6.08	1.49
Low Flow Showerheads	5.14	2.24	4.99	2.09
Refillable Soap Dispensers	5.63	1.76	5.02	2.06
Refillable Shampoo Dispensers	5.16	2.05	5.11	2.00
Towel Re-Use Program	6.53	1.43	6.31	1.37
Sheets Changed Upon Request Only	6.63	1.11	6.12	1.54
Recycling Bins	6.53	1.30	6.15	1.50
Occupancy Sensors	6.53	1.32	6.08	1.51
Key Card to Turn Power to the Room On and Off	6.41	1.37	6.08	1.47

Discussion

One of the primary purposes of this study was to obtain a list of environmentally friendly guest room attributes that customers would like to have in their hotel room. For the most part, responses to the survey were favorable towards the green attributes. In fact, none of the attributes had a mean that was less than Slightly Agree. The following environmentally friendly attributes, Energy Saving Light Bulbs throughout the room, Low Flow Toilets and Faucets, Towel Re-Use, Sheets Change upon Request, Recycling Bins, Occupancy Sensors, and Key Cards were all very well received. This sends a message to hoteliers and hotel developers alike that guests will accept such attributes in the hotel room. The indentified list provides a starting point and direction to take in order to begin the greening process. Not all attributes need to be, or should be, incorporated into the operation all at once, however. A first step may be to change all light bulbs to energy saving bulbs. Subsequent attributes may be incorporated into operations when suitable.

The three attributes that seemed to raise some doubt were the use of refillable shampoo and soap dispensers, as well as the use of low flow showerheads. Unfavorableness for the refillable soap and shampoo dispensers coincides with Kasim's (2004) study. Hotel guests tend to equate refillable dispensers with going to the gym. Some also have the perception that dispensers may not be sanitary, or that it can be unclear what exactly is in the dispensers. From a hotel operator's perspective, they have found it difficult to find dispensers that are visually appealing and easily integrated into the design of the hotel room. All of these trepidations combined may be the reason there are not many dispensers in hotel rooms today. To move past such apprehension, hoteliers must be able to find suppliers of environmentally products that can be incorporated into their room design. At the same time, hoteliers must tout the benefit of using refillable containers and educate their consumers about the harmful effects of using so many bottles of shampoo, or throwing away partially used bars of soap, on the environment. With education such as this, hotel guests can become smarter consumers of the green hotel product.

In the past, low flow showerheads have not provided much water pressure (HomeTips.com, 2008). It has been difficult to dissuade consumers of this perception. This may also be the reason that using low flow water fixtures at home was not popular among the environmentally friendly activities performed at home. Again, education comes to mind here. The suppliers of low flow fixtures, in particular showerheads, have apparently been unable to effectively communicate to consumers that low flow fixtures do, now, provide similar water pressure as those fixtures that are not low flow. As a result, low flow showerheads are not something hotel guests necessarily want in their rooms. Making consumers aware of the benefits of the low flow fixtures may change this perception.

Overall, the younger participants of the survey seemed to be more in favor some of environmental attributes than the more mature respondents (60 years old and older). This may be due to the fact that impacts on the environment have become a prominent issue today, whereas in past years, the impacts have not received so much focus. The environment is becoming engrained in the younger generations as they grow up. Thus, they may be more in tune with their place in the world, and especially concerned about their future. This poses

both an opportunity and a challenge for hoteliers. The opportunity rests with the younger generations. Because they seem to be more receptive of environmentally friendly hotel attributes, they are a potential target market for hoteliers seeking to market their product to guests concerned about the environment. On the other hand, travelers aged 60 and older include the very beginnings of the baby boom population, which is predicted to be a large travel population as they retire. The challenge for hoteliers will be how to educate these future travelers about, and make them accept, environmentally friendly attributes.

The conference attendees produced a gamut of responses, from positive to negative, about the three words that came to mind when thinking about a green hotel. After several failed attempts to incorporate all of the top ten words into a definition of a green hotel, this is what the researchers decided upon, using most of the cited words:

> A green hotel is an environmentally conscientious operation that promotes and practices energy efficiency, conservation, and recycling, while at the same time providing hotel guests with a sustainable, clean, and healthy product.

This description can easily be applied to hotels providing various levels of environmental attributes. It incorporates the general philosophy of the importance of caring about the environment, while at the same time understanding that the hotel product is important to guests. The definition also implies the significance of education (promotes). It is not only necessary for the hotel to have environmental policies in place, but it is also necessary to both promote the fact that the hotel actually has those policies in place, and promote the guest to get involved.

Water and energy were the overwhelming future concerns for the conference attendees. As demand for energy continues to rise, especially as populations and industries continue to grow throughout the world, so, too, will the cost of energy. When the demand is increasing, the supply of fuel is decreasing, especially natural resources such as wood, coal, and oil. In the future, hoteliers may not be able to obtain the necessary fuel for their operations. This provides incentive for them to reduce energy consumption, or find alternative sources of energy such as sun or wind power. The rising cost of energy, along with depletion of resources, will force hotels to seek ways to minimize energy use, while at the same time provide a hotel product that guests will be satisfied with. The question for hoteliers will be whether or not to pass additional energy costs on to the customer, especially during a time when demand for hotel products has been declining.

In addition to energy, participants were also concerned about costs for, conservation of, or lack of, water. The strong concern about water may stem from the fact that the conference was held in Las Vegas, which is well known for it's lack of water, and other issues surrounding water. Since the self-administered survey did not ask respondents where they were from, it is difficult to know for certain how the location influenced the responses. Regardless, water conservation is important to hoteliers and hotel developers for the same reasons as energy costs and conservation mentioned above. Increased demand will decrease supply and increase costs. The sooner a hotel property incorporates water conservation, as well as energy conservation, into their business plan, the better they will be positioned in the future.

Conclusion/Future Research/Limitations

The results of this study will help hoteliers and hotel developers that are unsure about what environmentally friendly attributes guests would like to have in their hotel room. By providing them with such a list, hoteliers can begin to understand that such attributes are important to their clients and that they can be incorporated into the guest room.

In addition to understanding environmental attributes, hoteliers have a new description of what a green hotel may encompass. It is a definition that they can incorporate into their own business practices. It also provides potential hotel guests with a clear picture of what a green hotel is. Hoteliers again can use this to their advantage by tapping into that market, i.e. the younger travelers. Finally, the results of this study give a clear picture of the concerns, in particular environmental concerns that future hotel managers will face. Agreement on the future concerns is a stepping-stone to discussions and forums that hotel managers can utilize to better understand how to cope with those concerns.

Because the research about environmentally friendly hotel attributes, or green hotels in general, is limited, the results of this study enable researchers to develop future research projects relating to environmental hotel attributes. For example, a future study could assess either environmental attitudes or personal values of

travelers in order to obtain both a better understanding of the characteristics of travelers that care about the environment, and how values or attitudes influence choice of green hotels. Also, participants in the study were not very open to refillable dispensers or low flow showerheads. Further qualitative research that delves into why this is so may help hoteliers come up with alternatives for both items that are both environmentally friendly and acceptable to guests. Finally, in order to validate the list developed in this study, it can be incorporated into other studies assessing different populations of travelers, such as leisure travelers, business travelers, or international travelers. Also, as the green hotel movement continues to grow, the list of environmentally friendly attributes will continuously evolve and need to be updated.

This study, very exploratory in nature, was conducted at a conference that focused on green development in the hospitality industry. As a result, the sample may be biased towards environmentally friendly activities. Many of the respondents were architects and developers currently working in the hospitality industry. They may therefore already have knowledge about environmentally practices in the industry and welcome them in a hotel room. This in turn may influence their level of agreement with having such attributes in a hotel room. In addition, the results are not generalizable to the entire population. The sample in the present study is small and rather homogeneous. The results, therefore, cannot be applied to the general traveling population. They can however, provide stepping stones for future research.

Another weakness of this study is the lack of control over the participants' desire to respond the way they think they should, as opposed to responding with their true beliefs. The propensity to achieve social desirability may be a strong influence on the results of a self-report questionnaire (Ones, Viswesvaran, & Reiss, 1996).

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