MARKET RESEARCH: A STUDY TO EVALUATE THE VALUE CUSTOMERS ASSIGN TO GREEN HOTELS’ CERTIFICATION IN THEIR HOTEL SELECTION DECISION-MAKING PROCESS

A thesis submitted to the Kent State University College of Education, Health and Human Services in partial fulfillment of the requirements for the degree of Master of Science

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Due to the growing number of customers who prefer to consume environmentally friendly ("green") products and services, the current study aims to investigate how business travelers consider green hotels when making their hotel selection purchase decisions. As a population sample, business travelers, such as university faculty and staff traveling on university business and conferences, have been selected. This work focuses on evaluating the utility business travelers draw from hotels’ green certification, the price of different service levels, the brand, and amenities using the Conjoint Analysis Method, which is a multivariate marketing research technique used to understand how respondents develop preferences for products or services. The main questions discussed in this paper are that despite the growing popularity of green initiatives, in the lodging industry, business travelers draw most of the utility from price competitiveness, and that green certification does not provide the significant utility to them.
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CHAPTER I
INTRODUCTION

Many of our choices will have an impact on our planet in a positive or negative manner. Different consumer choices have a global impact on the environment, which can be identified as living and non-living elements of our surroundings. It is not a surprise that the worldwide economy burns, every day, “an amount of energy the planet required 10,000 days to create” (Rahman, Reynolds, & Svaren, 2012). Moreover, according to Rahman et al., human beings consume 40% of the net primary productivity or green material produced on Earth each year, 35% of the productivity of the oceanic shelf, and 60% of freshwater run-off. If we all do something to preserve natural ecosystems, we can save them for the coming generations. One of the ways to do so is to “go green.”

What does it mean to “go green”? Different individuals may have their own understanding of such actions. In general, however, “green” stands for environmentally friendly practices and activities that do not harm our planet (Maniatis, 2016). The term “green” is alternatively known as “eco-friendly,” “environmentally friendly,” or “sustainable” (Han, Hsu, & Lee, 2009; Pizam, 2009). “Green product” is a newly coined term (Liu, Hong, & Li, 2016) to denote products that are usually made with eco-friendly materials and have no harmful chemicals or compounds. Another way to describe green products are objects with a less environmental impact and a less adverse impact on human health. Here we must emphasize that, apparently, there is no 100% green product, since all of them may have some effect on their surroundings. The main requirements for green products (organic food or bio- [eco-friendly] cosmetic, etc.) are that the raw
material should be environmentally-friendly, grow without pesticides and chemical manure, without toxic materials. The usage of genetically modified organisms is also restricted, and the package of green products should be environmentally friendly as well (Liobikienė, Mandravickaitė, & Bernatonienė, 2016). Currently, most nations have their own definitions and developments of green products (Liu et al., 2016).

According to Wolfe and Shanklin, (2001), “green” refers to actions that decrease negative impacts on our environment (e.g., recycling, eco-purchasing). In addition, it has direct relationships with the environmentalist movement and its efforts to save natural resources for present and future generations. Based on the information from Rahman et al. (2012), the origins of the environmental movement can be traced to the first Earth Day in 1970, although its seeds had been sown some years before. They also accentuated that with the green decade came green consumers as people began to understand how consumption habits affect the environment. This movement stands for producing and using environmentally friendly energy and products that can alleviate environmental impacts of wasteful use of natural resources, consumption of nonrenewable energy, excessive water use, generation of waste, and so on. As our society becomes more concerned about the impact it makes on the natural environment, green consumption started penetrating all spheres of human activities as well as business areas. Adopting clean technologies, ecotourism, and organic foods are just some of the examples of environmentally friendly behaviors. Conducting business with green vendors and service providers and choosing products and services that are safer to human health are good ways to improve the ecological health of a firm as well (Pizam, 2009). The more people
around the world become environmentally concerned about the future of our planet, the more popularity the growing “green lifestyle” phenomenon gains.

To pursue an environmentally conscious lifestyle, people would probably need to spend more time complying with these principles. Along with other industries, Hospitality and Tourism has also adopted environmentally friendly business practices and learned how to attract more visitors and to achieve environmental sustainability. However, the hospitality industry does not cause wide-scale environmental pollution, such as harming the ozone layer or significantly contaminating natural resources (Rahman et al., 2012).

In the hotel industry, the term “green hotel” is becoming more popular. In this study, “green hotel” refers to a hotel that applies certain cost-effective environmentally friendly practices while serving guests. Those practices can be described as solid waste reduction, efficient use of energy, as well as other practices related to water and eco-friendly materials. Thus, to become green, a hotel needs to demonstrate its environmental responsibilities and to show how it makes efforts to reduce or eliminate its negative impact on the environment (Enz & Siguaw, 1999). Due to the rising environmental concerns, green hotels are growing in popularity among consumers who care about their environmental impact. Since more hotel customers are becoming environmentally minded guests, more hotels are getting engaged in the development of green programs designed to make them more advanced in adapting green practices, which include the use of technological innovations and investments.
Saving the environment is one of the most significant drivers that influence eco-friendly hotel choices (Barber, 2014). Consequently, it leads to customers’ intention to purchase a green hotel stay. Although the focus on the environment does not exclude other important factors, such as room price, brand, location, food choices, and so forth, in certain cases, the “green” factor can influence the final booking decision.

Green certification programs have emerged in recent years in the hospitality industry. Different tourist attractions have different standards for sustainability. Some of these certification programs are questionable, whereas others provide a consistent process of verifying environmental responsibility (Rahman et al., 2012). Overall, the numbers of green hotels are increasing around the world (Han & Kim, 2010). However, not all travelers are interested in staying at a green hotel. The purpose of this study is to evaluate how consumers evaluate green hotels when making purchase decisions. The study focuses on identifying if consumers prefer green hotels to hotels that do not have a green certification and on the premium that customers will be willing to pay for staying in a green hotel.

The paper is organized as follows: the next section presents a literature review of green hotels and customers’ green consumption. The following section presents the research questions. Then the methodology section discusses the Conjoint Analysis as the method that was employed in this study. Data collection and analysis are presented next and the final section focuses on conclusions, recommendations, limitations, and suggestions for future research.
CHAPTER II
LITERATURE REVIEW

Environmental protection continually attracts public attention (Han & Kim, 2010). Going green is becoming increasingly attractive to many industries. Bansal and Roth (2000) in their study identified that the three main incentives for businesses to go green are competitiveness, legitimation, and ecological responsibility. Airline passengers can purchase credits to offset the carbon emitted during their flight, motorists can rent a hybrid or electric vehicle, and when travelers spend a night on the road, they can choose to stay at a green hotel (Kuminoff, Zhang, & Rudi, 2010).

Green Hotels

Sometimes availability of hotels’ environmental policies or efforts they have taken to reduce their impact on the environment may become main factors for visitors when selecting which hotels to choose. A green hotel image can be a powerful marketing and operational tool for attracting new consumers and retaining existing consumers as well. In addition, these eco measures can be simple and inexpensive. Therefore, a hotel with a successful green image is not only capable of achieving cost-effective strategies to reduce the use of energy and water, but it can also look more appealing to current and potential investors, as well as do good to building highly motivated employees’ teams and create guests’ loyalty. Green hotels are encouraged to establish long-term, interactive, and trustful relationships with customers to increase customer purchase intentions and to retain customers. These measures are not only good for the green hotel industry, but they also serve to retain existing customers and can develop new market
opportunities to enhance their business performance (Liu et al., 2016). All these factors can lead to a secure top position in the lodging market.

Hotels go green for a variety of reasons such as: economic benefits, strengthening employee organizational commitment, facing public scrutiny, improving investor relations, and the general social good (Gan, 2006). Undoubtedly, sustainability is regarded as one of the key issues within the global lodging industry (Jones, Hillier, & Comfort, 2014). Hotels consume a considerable amount of water, energy, and disposable products due to the nature of their services and functional characteristics and thereby seriously damage the environment in daily operations (Han & Yoon, 2015). The lodging industry is the most environmentally harmful hospitality sector and can attribute 75% of its environmental impact to the disproportionate consumption of “non-durable goods, energy and water, followed by emissions released to air, water, and soil” (Rahman et al., 2012). Consumer behavior in the hotel industry also generates negative influences on the environment (Chen & Tung, 2014).

According to the Green Hotels Association (2017), Green Hotels are environmentally-friendly properties whose managers are eager to institute programs that save water and energy and reduce solid waste—while saving money—to help protect our one and only earth. That is, a growing number of hotels are joining the green movement to reduce harmful impacts on the environment. and in doing so, they eventually increase their profitability (e.g., cost savings and customer attraction/retention; Han & Kim, 2010).
Green practices can be described as actions that companies can do to minimize their carbon footprint and their negative impact on the environment. Besides participating in important eco-friendly (sustainable) practices to reduce consumption of energy, water, as well as waste reduction, nowadays, green hotels tend to develop and implement other steps to send a positive message to environmentally concerned customers. This includes the most common practices such as: linen and towels reuse services, waste recycling options, use of energy saving fluorescent lighting, and so on. Marketing its environmentally friendly practices can be an effective strategy for a hotel looking to change its position and to achieve competitiveness in the lodging industry (Han et al., 2009). Obviously, this approach can also enhance one’s corporate image. Particularly in the hotel industry, the recognition of consumer green preferences and of the importance of promoting environmentally responsible products/services has led increasing numbers of hotel companies to adopt a proactive environmental management and to implement environmentally conscious practices in order to improve their competitiveness (Claver-Cortés, Molina-Azorín, & Pereira-Moliner, 2007). Moreover, green practices are not only well notable; they are also cost effective. However, the conversion process can require large sunk costs for energy-efficient appliances as well as higher operating costs associated with purchasing environmentally benign cleaning supplies and recycled paper products (Kuminoff et al., 2010). Energy and water efficient appliances can be costly and that may lead to increased room rates (Kuminoff et al., 2010). Observation of varying environmental standards can lead to a green label. The information contained on the label plays an important role in convincing consumers who
are sensitive to the product and brand and thereby encourage intention towards sustainable consumption (Bartiaux, 2008). In other words, it can lead to environmental certification. An environmental certification can be defined as a “voluntary procedure that sets, assesses, monitors, and gives written assurance that a business, product, process, service, or management system conforms to a specific requirement” (Geerts, 2014).

A traveler can observe the fuel reduction from driving a hybrid car, and retailers of carbon offsets receive frequent audits, but it is difficult for a traveler to verify a hotel’s “greenness” (Kuminoff et al., 2010). This also means that some of the hoteliers can go green out of consideration for money savings instead of environmental protection (Chen & Tung, 2014). Since the criteria used to certify a hotel as green are inconsistent across the various accrediting associations, some hotels go green as a marketing ploy without really being green (Rahman et al., 2012).

Greening of hotel firms is believed to be an essential precondition for attracting and retaining an increasing number of pro-environmental customers who prefer and are willing to purchase an environmentally responsible lodging product (Han, 2015). Over the past several years, the world’s leading hotel brands have increased their efforts to respond to environmental issues and invested significantly in going green (Kang, Stein, Heo, & Lee, 2012). In an independently owned hotel, the manager or owner generally enjoys considerable freedom to operate his or her facility and as a result, the extent to which the property is sensitive to environmental concerns depends on the operator’s knowledge, attitude, and willingness to act (Rahman et al., 2012). The environmental policies and initiatives implemented by chain-affiliated hotels are developed at the
corporate level and maintained across the entire chain (Gil, Jiménez, & Lorente, 2001). Besides, according to Rahman et al. (2012), chain-affiliated hotels are stronger adopters of green practices than independent hotels. Most research on corporate environmental management involves larger firms due to the belief that there is a direct relationship between the size of a hotel and its capacity for environmental management (Mensah, 2006). The larger a facility is, the greater is the consumption of water and energy, and the more waste is created (Rahman et al., 2012).

Furthermore, the hotel management can remind consumers of their social responsibilities to save the environment rather than to have in mind only their own personal needs and wants (Goldstein, Griskevicius, & Cialdini, 2007). Supposedly, they can do this by creating and distributing proper messages that explain and demonstrate the obvious and potential benefits of being environmentally protective. Liu et al. (2016) suggested that hotel operators set up an exhibition space in their hotel to display environmental protection measures and products that they are using or have implemented as well as the effectiveness of their efforts. They could show the public power-saving electric appliances and water-saving devices they use, the frequency of changing bed sheets, waste classification and recycling methods, as well as the use of paint with low volatile organic compounds, locally produced organic vegetables, replacement of halogen light bulbs, the adoption of low toxic detergents, and proper handling of kitchen waste.

Since potential guests increasingly seem to prefer green hotels, the hotel industry began to see green practices not as a temporary strategic and operational planning project, but rather as a fundamental motive that should underlie all hotel management efforts.
(Han, Hsu, Lee, & Shue, 2011). A green reputation in the hospitality industry thus is considered to be central to effectively dealing with customers’ growing demands for eco-friendly products/services (Han & Yoon, 2015).

**Customers’ Green Consumption**

Increasing consumption causes the depletion of natural resources, climate change, air pollution, and waste generation (Liobikiené et al., 2016). In a broad context, sustainability may be viewed as balancing among social, ecological, and environmental goals and their consequences on societies and our planet (Elkington, 1998). Previous studies in environmental psychology and green marketing/consumer behavior have asserted the criticality of individuals’ environmental awareness, perceived effectiveness, eco-friendly behavior, and eco-friendly reputation when forming a decision to engage in environmentally responsible purchasing behavior (Han & Yoon, 2015). Increasingly aware of the seriousness of environmental problems, customers are becoming more ecologically conscious and are seeking to purchase eco-friendly products and services, preferring firms that favor environmental practices (Han et al., 2009). Environmentally responsible customers are more aware of environmental problems, believe in the effectiveness of green consumer behaviors, engage in eco-friendly activities in everyday life, and actively seek products/services sold by ecologically and socially responsible companies (Han & Yoon, 2015). In today’s competitive world, consumers always need information about eco-friendly businesses to evaluate their environmental claims and green reputation. Therefore, those businesses should promote awareness of the histories
of their products, including origin, the manufacturing process and the types of services available for the environmentally concerned customers.

With the rise of customers’ ecological consciousness, many companies are striving to invent new eco-friendly marketing/service strategies or to adopt existing strategies that appeal to the public and their target customers (Chen & Chai, 2010). The primary responsibility of sustainable consumption is with the consumers, who are expected to translate their beliefs and values about sustainability into their demands and purchasing behaviors (Schaefer & Crane, 2005). This is also applicable to the choice of a green hotel, since it is not only an irreversible trend but also, perhaps, an excellent way of balancing consumption with environmental protection (Hsiao, Chuang, Kuo, & Yu, 2014). According to Chen and Tung (2014), ecotourism is the very embodiment of green consumption and is receiving growing international recognition, while improving tourism management supports sustainable development.

Green consumerism can potentially improve quality of life for those who pursue it. For instance, a consumer can benefit directly from consuming organic food because it is more nutritious and healthier with fewer risks to personal health from pesticides and herbicide residues (Chander & Muthukrishnan, 2015). According to Kilbourne, McDonagh, and Prothero (1997), sustainable (green) consumption helps to improve quality of life from the perspective of reduced environmental concerns, improved economic growth, improved safety, improved community development and employment, equitable distribution of natural resources, improved wellbeing, healthy lifestyles, and social responsibility.
Due to additional costs for better raw materials and labeling authentication, green products are usually sold at a premium compared with conventional products (Ling, 2013). Kaufman (2014) stated that consumers would be willing to pay a higher price for “green” goods, but only if they were of higher quality than conventional goods. Paying a premium for these “green” goods allows people to feel that they are doing their part to help the environment or that they are helping workers in developing countries (Kuminoff et al., 2010).

Based on findings of Chen and Tung (2014), consumers will be likely to stay at green hotels if they have a more positive attitude regarding environmental responsibility and if their subjective behavioral norms include a moral obligation to such consumer behavior. The purpose of this study is to focus on hotels and to evaluate how consumers consider green hotels when making their purchase decisions.
CHAPTER III

METHODOLOGY

Green consumption has become an important consideration among consumers who consider how to protect the environment (Kim & Choi, 2005). However, it is important to evaluate how consumers evaluate green products in the hospitality industry. To address these issues, this study poses the following:

1. Do customers prefer green hotels to hotels that do not have a green certification?
2. Are customers willing to pay a premium when making green hotel purchase decisions?
3. What premium are customers willing to pay for staying in a green hotel?
4. Do business travelers make their green hotel purchase decisions primarily based on price only?

The Study

The study aims to focus on business travelers and their hotel selection and purchase decisions. This focus is motivated by the assumption that business travelers are not primarily price sensitive, and that they are willing to consider other characteristics, such as amenities and luxuries, and, possibly, green status (Gundersen, Heide, & Olsson, 1996). This study employs a critical approach, and the main assumption is that despite the importance of environmentally responsible consumerism, in the hospitality industry, green consumption is not yet developed.
Research Method

Conjoint Analysis is a multivariate technique commonly used in marketing research to understand how respondents develop preferences for products or services. It is based on the premise that customers estimate the value of a product or service by combining the separate amounts of value provided by each attribute of a product or service. Using Conjoint Analysis allows the researcher to determine what combination of product or service attributes would influence consumers’ choice. The analysis is based on simulating product (or service) offerings, using a limited set of attributes and analyzing how consumers make preferences between these attributes. These attribute valuations can be used to estimate the overall value of different products and services choices.

In their study on Conjoint Analysis in Marketing Green and Srinivasan (1990) found that Conjoint Analysis had received considerable attention from both academics and practitioners since the early 1970s. It continues to be a popular statistical marketing technique to study how consumers make their trade-offs among products and services with multiple attributes. According to Green and Srinivasan, the rise of the usage of Conjoint Analysis related to the development of microcomputer packages for commercial use.

Consumers express preferences when they make judgments about products or brands, when the products or brands they are responding to represent some systematic combinations of attributes. The goal is to determine the features that consumers most prefer. Consumers might use such attributes as miles per gallon, sitting capacity, price,
length of warranty, and so on in making judgments about which automobile they prefer. Yet, if asked to do so directly, many respondents find it difficult to state which attributes they were thinking about, and how they were combining them to form overall judgments. Rather than trying to obtain a sense of which attributes are important directly from consumers’ self-reports, consumers are simply asked for their preferences, and their value systems are inferred from those choices (Churchill & Iacobucci, 2006, p. 538).

Conjoint Analysis is extremely valued by businesses, especially when a new product or service is launched. This analysis provides a better understanding of what utilities in a newly developed product/service a customer would value the most, and what most customers are looking for. It has often been identified as a relevant method in the new-product-development process (Wittink, Vriens, & Burhenne, 1994). The Conjoint Analysis includes a variety of profiles. For the purpose of this study, a Self Explicated approach has been applied. This approach consists of three different tasks: first, identify “Most Preferred” (termed Level of Preference—LOP) and “Least Preferred” attribute levels. Second, indicate the preference of attribute levels between the most and least preferred (if relevant). Finally, provide a level of attribute importance (termed Universal Constant Sum—UCS) ranging between 0–100, and when the sum of importance ranking for all attributes sum to 100.

For the current study, the Conjoint Analysis was based on common hotel attributes with the inclusion of green certification. The attributes and the attribute levels were price per night ($100, $150, and $200/night), brand (Hilton and Marriott), average customer star rating from Trip Advisor.com (4 and 5 stars), green certification (yes, no),
and meal options (none, coffee and pastries and full breakfast). The population of business travelers used in this study included the university faculty and staff travelling on university business or on academic assignments (such as conferences).

To conduct this study, the researcher has obtained a Certificate of completion on CITI Program Basic Course on Social and Behavioral Research. The study was approved by the Kent State University Institutional Review Board (IRB) on February 2018 as minimal risk to human subjects (#18-047). The survey was constructed with Qualtrics and sent as a link via email to all the faculty and staff of Kent State University. This was an anonymous and voluntary survey to collect data on customers’ preferences when selecting a hotel stay during a university related business travel or during travel for academic reasons (Appendix A). The population has been selected based on the assumption that business or academics travels may not be strictly price sensitive and are more sensitive to the evaluation of different hotel attributes (including green certifications and environmentally sustainable behaviors).

The Qualtrics survey was designed to identify the importance of different hotel attributes considered by the participants in their hotel selection decision-making process while traveling on university’s business or any academic assignment based on price per night ($100, $150 and $200/night), brand (Hilton, Marriott), average customer star rating from Trip Advisor.com (4 and 5 stars), green certification (yes, no) and meal options (none, coffee and pastries, full breakfast). Some demographic questions about the participants have been included as well. As a motivation to participate in the survey, the first 200 participants were offered an opportunity to receive a coupon for a free cup of
coffee at Scribbles Coffee Co., a coffee shop located near Kent State University Main Campus.

**Data Collection**

Data collection from faculty and staff members was initiated with an email that included a detailed consent form and a survey link. This email was sent to 2,485 email addresses provided by the Kent State University Human Resources Records Department. The survey was sent on February 14, 2018, and remained open for 7 days.

The first part of the survey presented each of the attributes (price per night, brand, average customer star rating from Trip Advisor.com, green certification, and meal options) and for each attribute, participants were asked to select the “Most Preferred” and the “Least Preferred” option. For attributes with more than two levels (price and meal options), participants were also asked to rank the mid cases using a 0 to 10 scale. This stage provided an LOP for each attribute. Finally, participants were asked to provide a level of importance for each of the attributes (price, brand, average customer star rating from Trip Advisor.com, green certification, and meal options) by allocating a total of 100 points between all attributes.
CHAPTER IV

RESULTS

Data Analysis

The study was designed to use the Self Explicated Conjoint Analysis approach to identify the preferences in hotel attributes by Kent State University faculty and staff members travelling on university business or on any other academic assignment. Currently, there is no empirical study available on how university faculty and staff assign and evaluate the value of the hotels’ green certification in their hotel booking decisions.

The survey was sent to 2,485 university faculty and staff, and the response rate was 12.6% yielding 311 usable surveys. To calculate and interpret the data, the SPSS Statistical Software was employed. From a total of 311 usable surveys, 22 were excluded due to missing values, resulting in 289 fully completed usable surveys.

The first research question asked if customers would prefer green hotels to hotels that do not have a green certification. This preference was measured by the survey when participants were asked to report if they prefer hotels with a green certification or hotels that do not have a green certification. Since the green certificate question was defined as a yes/no question, one option would be preferred, and this level had LOP=10. It is possible to easily distinguish between a customer who preferred a green certification and one who does not. The findings showed that out of the 289 valid and complete surveys, the vast majority ($n = 256, 88.6\%) stated that they would prefer a hotel with a green certificate. Only 33 respondents (11.4\%) stated that they do not consider green certification as a preferable attribute in their booking decisions.
Research question 2 focused on evaluating if customers would be willing to pay a premium when making green hotel purchase decisions and, if so, what premium the customers would be willing to pay for staying at a green hotel. To determine if customers would be willing to pay a premium, the LOP for price used for each participant was multiplied by the UCS of the price attribute, and the result was divided by 100 to yield the utility of price. The average of the utility of price for the green certification group was compared with the no green certification group. Levene’s Test for Equality of Variance was employed to confirm that the two samples had equal variance ($F = 0.067$, Sig > 0.05). An Independent $t$-test revealed that there was no significant difference between the two groups (see Table 1).

Table 1

*Independent $t$-Test Comparing Price Utility Between Green Certificate Group and No Green Certificate Group*

<table>
<thead>
<tr>
<th>Max price utility</th>
<th>t-test for Equality of Means</th>
<th>Std. Error Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>Mean Difference</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.405</td>
<td>-.34037</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>.430</td>
<td>-.34037</td>
</tr>
</tbody>
</table>

To verifying that the utility of prices was not significantly different between the two groups, the average preferred price was calculated for each group. The preferred price was defined by the participants’ LOP. For the green certificate group, the preferred price mean was $122.76 (Std. Dev. = 33.36) and for the non-green certificate the mean
price was $122.27 (Std. Dev. = 29.58). An Independent $t$-test determined that there was no significant difference between the mean price of the two groups.

The data suggests that customers who prefer the green certificate were not willing to pay a premium for this attribute, compared with customers who do not show any preference for hotel green certification. This means that research question 2 received no support. It follows that research question 3 becomes irrelevant.

Research question 4 attempted to determine if business travelers were making their hotel booking decisions based predominantly on price. To determine if price is the most important attribute, the average importance of each attribute (UCS) was calculated, and pairwise comparisons were employed to determine the most important in the pairs’ price-brand, price-hotel rating, price-green certificate, and price-meals. These comparisons were done for the group that prefers green certification and separately for the group that did not prefer a green hotel certificate.

For the group that did not prefer green certificate, Table 2 provides descriptive statistics for the utility of each attribute, followed by the pairwise comparisons of the attribute importance means (see Table 3). The findings show that price is the most important attribute for the group that does not prefer a green certificate.

Table 4 provides descriptive statistics for the utility of each attribute for the group that preferred a green certificate. The pairwise comparisons of the attribute importance means are provided in Table 5. Like the previous group, the findings show that price is the most important attribute for the group that does prefer a green certificate. The average importance rankings of used hotel attributes from both groups of participants is
provided in Table 6.

Table 2

*Descriptive Statistics for UCS Scores of Paired Attributes, No Green Certificate Group*

<table>
<thead>
<tr>
<th>Pair</th>
<th>Attribute 1</th>
<th>Attribute 2</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>hotel–Price–UCS</td>
<td>hotel–Brand–UCS</td>
<td>40.3871</td>
<td>31</td>
<td>22.47173</td>
</tr>
<tr>
<td>Pair 2</td>
<td>hotel–Price–UCS</td>
<td>hotel–Rating from TripAdvisor.com–UCS</td>
<td>40.3871</td>
<td>31</td>
<td>22.47173</td>
</tr>
<tr>
<td>Pair 4</td>
<td>hotel–Price–UCS</td>
<td>hotel–Meal–UCS</td>
<td>22.8065</td>
<td>31</td>
<td>18.43985</td>
</tr>
</tbody>
</table>

Table 3

*Independent t-Test for Significant Difference Between Attribute Importance Ranking, No Green Certificate Group*

<table>
<thead>
<tr>
<th>Pair</th>
<th>Attribute 1</th>
<th>Attribute 2</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>hotel–Price–UCS</td>
<td>hotel–Brand–UCS</td>
<td>5.094</td>
<td>30</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>hotel–Price–UCS</td>
<td>hotel–Rating from TripAdvisor.com–UCS</td>
<td>5.728</td>
<td>30</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 2</td>
<td>hotel–Price–UCS</td>
<td>hotel–Rating from TripAdvisor.com–UCS</td>
<td>9.150</td>
<td>30</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>hotel–Green Certificate–UCS</td>
<td>2.875</td>
<td>30</td>
<td>.007</td>
<td></td>
</tr>
</tbody>
</table>
Table 4

Descriptive Statistics for UCS Scores of Paired Attributes, Green Certificate Group

<table>
<thead>
<tr>
<th>Pair</th>
<th>Attribute</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>hotel–Price–UCS</td>
<td>43.7908</td>
<td>239</td>
<td>21.26064</td>
</tr>
<tr>
<td></td>
<td>hotel–Brand–UCS</td>
<td>12.9958</td>
<td>239</td>
<td>14.47266</td>
</tr>
<tr>
<td>Pair 2</td>
<td>hotel–Price–UCS</td>
<td>43.7908</td>
<td>239</td>
<td>21.26064</td>
</tr>
<tr>
<td></td>
<td>hotel–Rating from TripAdvisor.com–UCS</td>
<td>16.5858</td>
<td>239</td>
<td>14.00240</td>
</tr>
<tr>
<td>Pair 3</td>
<td>hotel–Price–UCS</td>
<td>43.7908</td>
<td>239</td>
<td>21.26064</td>
</tr>
<tr>
<td>Pair 4</td>
<td>hotel–Price–UCS</td>
<td>43.7908</td>
<td>239</td>
<td>21.26064</td>
</tr>
<tr>
<td></td>
<td>hotel–Meal–UCS</td>
<td>16.8117</td>
<td>239</td>
<td>12.54614</td>
</tr>
</tbody>
</table>

Table 5

Independent t-Test for Significant Difference Between Attribute Importance Ranking, Green Certificate Group

<table>
<thead>
<tr>
<th>Pair</th>
<th>Attribute</th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>hotel–Price–UCS &amp; hotel–Brand–UCS</td>
<td>239</td>
<td>-.364</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 2</td>
<td>hotel–Price–UCS &amp; hotel–Rating from TripAdvisor.com–UCS</td>
<td>239</td>
<td>-.333</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 4</td>
<td>hotel–Price–UCS &amp; hotel–Meal–UCS</td>
<td>239</td>
<td>-.171</td>
<td>.008</td>
</tr>
</tbody>
</table>
Table 6

*Average Importance Attribute Ranking, Green Certificate Group and No Green Certificate Group*

<table>
<thead>
<tr>
<th>Hotel Attributes</th>
<th>Green Certificate Group</th>
<th>No Green Certificate Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>hotel–Price–UCS</td>
<td>43.7908</td>
<td>40.3871</td>
</tr>
<tr>
<td>hotel–Brand–UCS</td>
<td>12.9958</td>
<td>15.2258</td>
</tr>
<tr>
<td>hotel–Green Certificate–UCS</td>
<td>6.1130</td>
<td>1.9355</td>
</tr>
<tr>
<td>hotel–Meal–UCS</td>
<td>16.8117</td>
<td>22.8065</td>
</tr>
</tbody>
</table>
CHAPTER V
CONCLUSIONS

The main objective of the current study was to identify how consumers evaluate green products in the hospitality industry. The focus of this paper was on business travelers, their hotel selection, and purchase decisions. The focus on business travelers was motivated by the assumption that business travelers are not primarily price sensitive and that they are willing to consider other characteristics such as amenities and, possibly, green certification as a reason to select a hotel and pay a premium. The study’s main research questions attempted to determine if customers prefer green hotels (over hotels that do not have a green certification), if they are willing to pay a premium when making green hotel purchase decisions, and what premium customers are willing to pay for staying in a green hotel.

Although the majority of participants responded that they would prefer a hotel with a green certificate, the findings also show that they were not willing to pay a premium for the hotel’s green certificate. By conducting pairwise comparisons among the hotel attributes, the findings suggest that price is considered to be the most important hotel attribute. Without a doubt, price matters!

All these findings lead one to believe that despite the growing popularity of green initiatives, in the lodging industry business travelers draw most of their utility from decisions that are based on price. Green certification does not provide a significant utility to them, and they are not willing to pay a premium for it.
These findings may be disappointing to environmentalists, but they can be interpreted as somewhat optimistic. While customers are not demonstrating any willingness to pay for a green certification, it is reassuring to note that the vast majority of them considered it important. This finding suggests that hotel guests consider green practices as important. Therefore, one can expect that customers will comply with green practices during their hotel stay, such as using towels for longer periods of time, and so on.

**Limitations**

The current study has its limitations. The most immediate limitation is that the results are only applicable to Kent State faculty and staff members who travel on university business or any other academic assignment. This population sample does not represent business travelers in general. Generalizability is also limited by the use of only two hotel brands (Hilton and Marriott), three price levels ($100, $150, or $200), two star rating levels (4 and 5 stars), and three meal options (none, coffee and pastries, full breakfast). Future research should extend the population sample and include more attributes with more levels to evaluate the robustness of the findings.

Another limitation of this study is that it did not collect information from participants about their environmentally sustainable behaviors. Ewert and Galloway (2009) suggested that individuals sometimes respond to a questionnaire or interview about the natural environment in ways that project an image that is pro-environment but may not be fully consistent with their actual beliefs or subsequent behaviors. Therefore, the responses on hotel green certification could be biased if the participants respond in a
socially desirable manner. Future research should attempt to collect information from participants about their green consumption preferences.

**Future Research**

Future research should replicate this study over larger populations of consumers in the US and elsewhere. Moreover, additional attributes and attribute levels should be considered. This will allow hotels to better understand customer decision processes.
APPENDIX A

SURVEY
Appendix A

Survey

Hotel Selection Decision-Making Survey

Yuliya Ponomaryova
to me
Feb 14 View details

Dear Kent State Faculty and Staff,

We are conducting a study about the value customers assign to different attributes when they make hotel selection decisions. This study is part of Ms. Yuliya Ponomaryova’s thesis and her advisor is Dr. Aviad Israeli.

You are being invited to participate in this online survey. Your participation is voluntary. You will not be asked to provide any identification. You will be asked a few questions about your preferences when booking a hotel stay. The whole process should not take more than 5 minutes to complete. The first 200 participants will be offered a coupon for a free cup of coffee at Scribbles Coffee in Kent.

Taking part in this research study is entirely up to you. You may choose not to participate, or you may discontinue your participation at any time. If you have any questions or concerns about this research, you may contact Dr. Aviad Israeli at (330) 672-2075 or by email at aisraeli@kent.edu. This project has been approved by the Kent State University Institutional Review Board (18-047). If you have any questions about your rights as a research participant or complaints about the research, you may call the IRB at (330) 672-2704.

If you are interested in participating, please click on the following link:

Follow this link to the Survey:
Take the Survey

Or copy and paste the URL below into your internet browser:
https://kent.qualtrics.com/ife/preview/SV_3z09Krg5ARf1mOp?O_CHL=preview

Follow the link to opt out of future emails:
Click here to unsubscribe
Informed Consent to Participate in a Research Study

Study Title: A study to evaluate the value customers assign to green hotels’ certification in their hotel selection decision-making process.

Principal Investigators: Dr. Aviad Israeli, Ms. Yuliya Ponomaryova

Description: You are being invited to participate in a survey study about evaluating hotel attributes in consumers’ purchase decisions. This consent form will provide you with information on the research project, what you will need to do, and the associated risks and benefits of the research. Your participation is voluntary. Please read this form carefully. It is important that you ask questions and fully understand the research in order to make an informed decision. Per your request, you will receive a copy of this document.

Purpose: The purpose of this study is to evaluate how consumers evaluate hotel attributes when they make purchase decisions.

Procedures: The study is conducted through an online survey. You will not be asked to provide any identification. You will be asked a few questions about your preferences when booking a hotel stay. The whole process should not take more than 5 minutes to complete.

Benefits: This research will not benefit you directly. However, your participation in this study will help us to better understand how consumers make decisions.

Risks and Discomforts: There are no anticipated risks beyond those encountered in everyday life.

Privacy and Confidentiality: You are not required to provide any personal information. Research participants will not be identified in any publication or presentation of research results; only aggregate data will be used.
Voluntary Participation: Taking part in this research study is entirely up to you. You may choose not to participate or you may discontinue your participation at any time.

Contact Information: If you have any questions or concerns about this research, you may contact Dr. Aviad Israeli at (330) 672-2075 or by email at aismeli@kent.edu. This project has been approved by the Kent State University Institutional Review Board (18-047). If you have any questions about your rights as a research participant or complaints about the research, you may call the IRB at (330) 672-2704.

Consent Statement: You may print a copy of this consent statement for future reference or you may ask Dr. Aviad Israeli for a printed copy.

Please click Yes to start the survey if you agree to participate.

Yes

No

>>

Powered by Qualtrics
You are trying to book a hotel for your next business trip. You are debating between a few alternatives. Please consider the following attributes (price, brand, rating, green certificates, and meal options), each with different possible levels, and select your most preferred and least preferred option for each set shown below:

<table>
<thead>
<tr>
<th>Price</th>
<th>Least Preferred</th>
<th>Most Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100</td>
<td>⊗</td>
<td>⊗</td>
</tr>
<tr>
<td>$150</td>
<td>⊗</td>
<td>⊗</td>
</tr>
<tr>
<td>$200</td>
<td>⊗</td>
<td>⊗</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Brand</th>
<th>Least Preferred</th>
<th>Most Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hilton</td>
<td>⊗</td>
<td>⊗</td>
</tr>
<tr>
<td>Marriott</td>
<td>⊗</td>
<td>⊗</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating from TripAdvisor.com</th>
<th>Least Preferred</th>
<th>Most Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 stars</td>
<td>⊗</td>
<td>⊗</td>
</tr>
<tr>
<td>5 stars</td>
<td>⊗</td>
<td>⊗</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Green Certificate</th>
<th>Least Preferred</th>
<th>Most Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>⊗</td>
<td>⊗</td>
</tr>
<tr>
<td>No</td>
<td>⊗</td>
<td>⊗</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meal</th>
<th>Least Preferred</th>
<th>Most Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>⊗</td>
<td>⊗</td>
</tr>
<tr>
<td>Coffee and pastries</td>
<td>⊗</td>
<td>⊗</td>
</tr>
<tr>
<td>Full breakfast</td>
<td>⊗</td>
<td>⊗</td>
</tr>
</tbody>
</table>
With respect to the attribute levels which you did not select, please indicate your preference for selecting these levels:

<table>
<thead>
<tr>
<th>Price</th>
<th>Least Preferred</th>
<th>Most Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meal</th>
<th>Least Preferred</th>
<th>Most Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee and pastries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full breakfast</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the previous questions, you rated different levels of each attribute. In the following question, you are asked to rank the importance of the attributes in your decision. You can allocate points to each attribute in a manner that corresponds with the importance you assign to the attribute (more points means more importance). The sum of all the points should be 100:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Level</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>$200</td>
<td>0</td>
</tr>
<tr>
<td>Brand</td>
<td>Marriott</td>
<td>0</td>
</tr>
<tr>
<td>Rating from TripAdvisor.com</td>
<td>5 stars</td>
<td>0</td>
</tr>
<tr>
<td>Green Certificate</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Meal</td>
<td>Full breakfast</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>
What is your gender?

- Male
- Female
- Not willing to disclose

Your age (Please type in numbers only):

[Input field]

 Powered by Qualtrics
What is your ethnicity?

- White/Caucasian
- Black/African American
- Hispanic/Spanish
- Native American
- Asian
- Pacific Islander
- Other (please specify)
- Not willing to disclose
Your highest level of education acquired:

- High school or below
- Associate degree
- Bachelor degree
- Master’s degree
- Doctoral degree
- Not willing to disclose
Your position, please check all that apply:

- Faculty
- Staff
- Administration
- Not willing to disclose
Do you wish to receive a free $2 coffee coupon for completing this survey? Only the first 200 participants will get the coupon. A separate window will be open for you to print out the coupon.

Yes

No
Please click here for the $2 coffee giftcard.pdf
After printing out the gift card, please remember to submit the survey by clicking the arrow button.

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REFERENCES
REFERENCES


