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Investigations of Important and Effective Effects of Green Practices in Restaurants

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Abstract

Catering services is an important part in the tourism service system. Past researches focused on important topics like nutrition and food safety. It was only after the 1990s that the environmental topic was gradually given importance. This study attempted to find out the answer to the question whether green practices have strong effects on the image of the company and customers' behavioral intentions in the hospitality industry, especially for green restaurant. The importance-performance analysis measurement of performance as such provides only limited data in informing the allocation of resources to the hospitality industry, a shortcoming that becomes more marked in the circumstance of limited resources. A two-axis model is described which goes some way to addressing this deficiency.

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Keywords: Green practices; importance-performance analysis; Green restaurant

1. Introduction

As more customers recognize the seriousness of environmental problems, the consumer choices are becoming more ecologically conscious as they purchase products and services that are environmentally friendly (Han, Hsu, & Sheu, 2010). To meet the increasing demand for 'green' products and services, marketers throughout all industries invest enormous efforts into developing and promoting eco-friendly goods. The focus on being environmentally friendly has urged the restaurant industry to adjust their services as well in order to meet the changing expectations of the customers. Restaurant owners are adopting Green Practice (GP) to their properties by becoming members of green associations, such as Green Restaurant Association (GRA).

Green restaurants emphasized on providing products and services that satisfy customer needs and decrease environmental conflicts. From these green environmental practices, business image can be promoted to achieve

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continuous operational objectives. Therefore, for many hotel-related industries, one of the main reasons why companies are pursuing green practices is to improve their image and reputation to the public. Two-thirds of the CFOs of the top 100 largest retailers indicated that the greatest motivator for companies to pursue eco-friendly practices is to improve companies image where 54% for 'image among consumers' and 13% of 'image among shareholders' (Environmental Leader, 2007). This indicated that industry professionals also recognized the importance of green practice as one of the component contributing to image of the company and that they believe the image of the company can be improved through executing green practices, which in the long-run will contribute to customer loyalty (Ryu, Han, & Kim, 2008).

However, the past studies on green product consumption are mainly focused on demographic and psychological characteristics of green consumers or investigated the relationship between consumers' behavioural intentions and other antecedents of green purchasing in the decision-making process (Chan & Lau, 2000; D'Souza, Taghian, & Khosla, 2007). In this stream of general green product consumption studies, researchers in hospitality industry explored the eco-friendly decision-making processes of hotel customers (Choi & Parsa, 2006; Han, Hsu, & Lee, 2009; Tseng, Lan, Wang, & Chiu, 2010).

However, not a single study has been done to find out the effects of green practices on the company. Thus, it would be important to look at the green practices that would affect different customer segments by their perceived images of green restaurants and their behavioral intention. This study would help restaurant owners to design services in a more customer-oriented way regarding green attributes and it would give them an effective guide line to attract more customers to their business as they adopt the key green practices. Therefore, the specific objectives of this study are to (1) identify customers' perceived importance of green practices in the restaurant industry, and (2) examine customers' perceptions regarding the performance of green practices in restaurants. Also, it (3) discovers the key green practices influencing customer' perceived ecological image of the restaurant and ecological behavioral intentions in different customer segments.

2. Literature Review

2.1 *Green study in the hospitality industry*

Similar to the stream of general green product consumption studies, examining behavioural and psychological aspects of hotel and restaurant customers' eco-friendly decision making processes have received attention from researchers in resort hospitality industry studies. Han, Hsu and Lee (2009) examined the formation of hotel customer's intentions to visit a green hotel using Ajzen's Theory of Planned Behaviour (1991). Their result showed that all of the predictors-attitude, subjective norm, and perceived behavioural control had positive effects on customers' intention to stay at a green hotel. They also found out that there were no statistical difference of the paths in between eco-friendly activists and non activists. It provided the insight to help operators design services in a more customer-oriented way, but the employed methodological approach of using a single question to estimate a direct positive relationship between favourable attitude toward each green practice and customers' behavioural intention needs to be proved quantitatively. Only limited research on the study of green practices has been done in the hospitality industry, especially in the restaurant industry (Tseng, 2010). Also, despite the fact that many business owners believe that the image of companies can be improved through executing green practices and that improved image can eventually affect the customers approach behaviour, there has not been a study that has attempted to examine the image effect of green practices and there are few studies on the connotation of green practices that should be shown by customers toward green restaurants and their degrees of satisfaction and importance.

2.2 *Green Practices in Restaurants*

Based on thorough literature review, this study identified green practices that can be utilized in the restaurant industry. The titles of the various dimensions include: A) Recycling and composting: There are many waste products which are recyclable in restaurants. They are glass, plastic, metal, cardboard, and aluminium. Composting food waste helps to reduce the amount of waste and it improves the quality of the soil. These are possible green practices in restaurants regarding recycling and composting; B) Energy and water-efficient equipment: Energy and water efficient equipment can be applied in various areas in a restaurant -kitchen, dining area, and restroom; C) Eco-friendly cleaning supplies and packaging: Non-toxic cleaning supplies and packaging are safe for the environment and people; D) Menu sustainability: Organic food is raised by non-toxic pesticides and fertilizers and made without

genetic engineering (Hasnelly, 2011). Locally grown foods reduce the amount of air pollution associated with transportation which uses fossil fuels. The other detailed measures are shown in the items of table 1.

Green practices from these sources were developed for restaurateurs. Other practices for the back of the house were excluded, for example using energy efficient lighting within storage and kitchens. This study considered green practices that customers are exposed to.

3. Methodology

3.1 Importance-Performance analysis approach

Importance-Performance analysis (IPA) provides a useful method for simultaneously considering both the dimensions of importance to customer and performance evaluated by customer when define a variety of priorities settings (Sampson & Showalter, 1999). Martilla and James (1977) first introduced IPA structure as a technique for evaluating the attribution of motorcycle industry and place the average scores of importance and performance on a 2-dimension plot. The standard criterion on the plot and position in the quadrant are plotted as required, nonetheless, only the relevant position of each dot on the plot makes difference. (Martilla and James, 1977) Sethna (1982) highlight that IPA is a sufficient technique when modify the elements of service quality. Therefore, IPA has been extensively applied as a common, yet effective tool to modify the advantage or disadvantage of product, service or sales network in various enterprises after undertaken by several application cases (Chapman,1993 ; Cheron, McTavish, & Perrien.1989).

3.2 Selecting the sample restaurant

For selecting a sample restaurant of this study, this study considered Newsweek (2009), the second largest news weekly magazine in the U.S., published the exclusive environmental ranking of America's 500 largest corporations. Starbucks ranked the first in its industry sector, right above McDonalds. Also, according to Brooks (2009), there were only two restaurant chains indentified by customers when they were asked which companies they saw as environmentally and socially responsible. Starbucks was one of these two restaurant companies (Starbucks and McDonald's) that has been highly recognized as a 'green restaurant' among the customers. Green practices that are executed in Starbucks such as the use of recyclable take-out containers, use of energy-efficient lighting in seating areas, and the use of water efficiency equipments were similar throughout the different locations. Combining multiple studies' results from different locations was assumed not to be difficult to obtain the study objectives. Lastly, considering the scale of Starbucks' business the potential contribution of the study would be influential. For these reasons, Starbucks was selected as a study sample.

3.3 Implementation

The data were collected from a Starbucks coffee house located at central Taiwan. A self-administered questionnaire was distributed to randomly selected customers who were waiting in line for coffee orders or dining in the store. The survey was conducted for 2 weeks in August, 2011. A total of 400 responses were collected; 74 were excluded from the analysis due to high percentage of incomplete questions. Therefore, 326 complete questionnaires were used for data analysis. Obtaining valid response rate is 81.5%.

4. Results and conclusions

Table 1 shows the mean values of importance and satisfaction of green practices in coffee house restaurant. The degrees of importance and satisfaction are divided into 4 different quadrants, among which, the first quadrant shows the competitive advantage that green restaurants must possess and the second quadrant shows the need for immediate improvement.

Table 1 Importance and satisfaction of green restaurant practices

Items	Importance Satisfaction		Dimensions
C8 Use of a system which monitors and controls comfortable temperatures efficiently	0.738	0.679	1 st quadrant
C10 Use of environmentally friendly cleaners for dishes, and linen	0.749	0.664	1 st quadrant
C11 Use of environmentally friendly cleaners for tables and floors	0.721	0.677	1 st quadrant
C12 Use of take-out containers that are biodegradable (paper) or recyclable instead of using Styrofoam	0.772	0.644	1 st quadrant
C14 Offer organic food on the menu	0.674	0.631	1 st quadrant
C15 Offer fish and seafood harvested sustainably and free of harmful pollutants	0.803	0.703	1 st quadrant
C16 Avoid genetically modified foods	0.690	0.674	1 st quadrant
C2 Provide recycling bin in store	0.674	0.528	2 nd quadrant
C4 Use flow restrictors on faucets, low-flow toilets, and water-less urinals	0.674	0.590	2 nd quadrant
C6 Replace incandescent light bulbs with longer lasting CFL light bulbs or LED	0.721	0.603	2 nd quadrant
C3 Conduct food waste composting programs	0.605	0.544	3 rd quadrant
C5 Only serve customers water upon request	0.469	0.385	3 rd quadrant
C7 Use motion detectors for lights in the restroom	0.515	0.562	3 rd quadrant
C1 Recycle paper, plastic, cardboard, glass, and aluminum at the back of the house	0.667	0.649	4 th quadrant
C9 Keep the entrance door closed or use a double entrance door	0.664	0.618	4 th quadrant
C13 Offer local ingredients on the menu	0.646	0.646	4 th quadrant

The first quadrant (high importance and high performance): This quadrant is the main competitive advantage of green restaurants. This quadrant represents the service attribute that customers extremely give importance until great satisfaction is felt. The green restaurants must keep up the good work, maintain the source of competitive advantage of the service. The contents include: C8 Use of a system which monitors and controls comfortable temperatures efficiently; C10 Use of environmentally friendly cleaners for dishes, and linen; C11 Use of environmentally friendly cleaners for tables and floors; C12 Use of take-out containers that are biodegradable (paper) or recyclable instead of using Styrofoam; C14 Offer organic food on the menu; C15 Offer fish and seafood harvested sustainably and free of harmful pollutants; C16 Avoid genetically modified foods.

The second quadrant (high importance and low performance): This quadrant is the main source of threat to the service item. This is the service attribute that customers give much importance and the satisfaction they receive does not reach the expected service standards. The service contents in this quadrant include the future development key factors of the department and play an important role whether more customers will agree in the future. This key unit must invest in the prioritized improvement of multiple resources (Concentrate Here). This is lacking in the service attribute. The other contents include C2 Provide recycling bin in store; C4 Use flow restrictors on faucets, low-flow toilets, and water-less urinals; C6 Replace incandescent light bulbs with longer lasting CFL light bulbs or LED.

The third quadrant (low importance and low performance): The third quadrant is the second source of threat to the green restaurants. This quadrant contains the service attribute that customers do not give importance to and they receive a low degree of satisfaction. The related unit can give importance the use of resources after improvement (high importance and low performance), so as to improve this low priority service attribute. The contents include: C3 Conduct food waste composting programs; C5 Only serve customers water upon request; C7 Use motion detectors for lights in the restroom.

The fourth quadrant (low importance and high performance): The fourth quadrant is the second source of competitive advantage for green restaurants. This quadrant contains the service attributes that customers do not give importance to. However, customers receive a high degree of satisfaction in this quadrant. In other words, this service item has comparatively a low degree of importance and therefore, there is no need for investing too many resources. The contents include: C1 Recycle paper, plastic, cardboard, glass, and aluminium at the back of the house; C9 Keep the entrance door closed or use a double entrance door; C13 Offer local ingredients on the menu.

This study presented the FIPA approach that integrates fuzzy set theory and Importance-Performance Analysis. The importance of service attributes is implicitly derived that used defuzzification crisp number data, had considered the attribute category and the nature of fuzziness in human perception. Furthermore, from the perspective of workload in conducting a questionnaire-based survey, the FIPA approach eliminates the need to measure the pre-consuming importance of attributes. This unnecessary process is time-consuming for analysts and respondents. Consequently, an appropriate, effective and reliable action plan for each critical service attribute can be acquired by applying the FIPA approach to service quality management or customer satisfaction management, thereby providing managers with a competitive advantage.

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