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Examining the influence of restaurant green practices on customer return intention

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EXAMINING THE INFLUENCE OF RESTAURANT GREEN PRACTICES ON

CUSTOMER RETURN INTENTION

by

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Bachelor of Professional Studies in Baking and Pastry Arts
The Culinary Institute of America
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A thesis submitted in partial fulfillment
of the requirements for the

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ABSTRACT

Examining the Influence of Restaurant Green Practices on Customer Return Intention

by

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In recent years there has been an increased awareness of how the actions of the

foodservice industry are effecting the environment. With this awareness we have begun

to see a change in priorities for both new and existing businesses. At the forefront of this

change in the "green" direction is the GRA who certifies how eco-friendly an

establishment is based on its' environmental guidelines. This study will examine the

correlation between customer return intention and the institution of green practices within

a restaurant setting. The expected outcome would be that a restaurant that is certified

green or, implementing measures to become more sustainable will have higher customer

retention, than those who choose to operate using traditional operational practices.

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First, I would like to thank my Chair, Dr. Yen-Soon Kim, who from the beginning encouraged me to go the extra mile. She has helped to shape my dreams for the future and for that I am grateful. Deserving thanks also goes to my entire committee including, Dr. Carola Raab, Dr. Christine Bergman, and Dr. Sheng Wang who aided in developing this research and led to its completion. I am also appreciative to the William F. Harrah College of Hotel Administration for the education and experiences I received.

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Lastly, I would like to give my warmest wishes to my family, who taught me that hard work and dedication are paramount in achieving your goals. What I have learned from your unending care, sacrifice and understanding helped me carry through this program, and will remain with me throughout my life.

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CHAPTER 1

INTRODUCTION

Green Practices in Restaurants

Green practices have become more relevant in everyday life (LaVecchia, 2008).We are constantly surrounded by advertisements, signs and commercials all telling us about a subject which we should be monitoring: energy efficiency. Along with the Environmental Protection Agency, Energy Star labeling has made a substantial impact on how we save in homes across the country, but what is being done in the restaurant industry?

The restaurant industry is the number one electricity consumer in the U.S. retail sector accounting for 33% of all United States electricity use. In addition, this sector uses a tremendous amount of water, cleaning supplies and disposables such as to-go containers. This large use of nonrenewable resources places the restaurant industry in a category of being unsustainable. The word commonly used today to indicate the reverse of this is to be "green" (Merriam-Webster Online Dictionary, 2009b).

Green businesses operate using standards that solve, rather than cause, environmental and social problems. These businesses utilize principles, policies, and practices that improve the quality of life for their customers, employees and community. These practices are instituted as a means to reduce the production of greenhouse gases, conserve natural resources and cut costs to business owners (O'Brien, 2002). It is important to remember that instituting green practices is not necessarily something that can be visible to customers. Simply using a recycling program or changing standard operating procedures to lessen the amount of time certain appliances are left on will not

affect a customer's perception of a restaurant. According to a study conducted by the NPD Group (a consumer research group), despite the restaurant industry's effort to make operations more environmentally friendly, consumers don't view this sector as having made any progress with regards to going green (Glazer, 2008). This lack of awareness is directly contributing to the customer perception of the industry. In order to overcome this perception it is important for third party certification organization to arise and make the efforts of the industry more relatable to customers. This need for legitimizing the restaurant industries efforts is currently being filled by the Green Restaurant Association (GRA).

The GRA works to assist the foodservice industry in becoming more sustainable by using both convenient and cost effective methods. To assist in this endeavor the GRA has created a list of activities known as the environmental guidelines. The guidelines include energy and water efficiency, conservation, recycling, composting, sustainable food, pollution prevention, use of organic and biodegradable products, and the purchasing of non-toxic cleaning products. Many real-life situations are used to demonstrate the techniques that are most commonly used and some, which are more unique to an individual setting (Green Restaurant Association [GRA], 2002b).

This thesis hypothesizes that green restaurant activities positively affect customers' perceptions of restaurants, and with an increase in green practices will come an increase customer return intention. The only group which will likely not be affected by green branding is the price sensitive demographic, unless there is some perceived monetary benefit. That is, if the price of eating at a restaurant increases substantially, then

the lower income demographic will take their business elsewhere; thus income sensitivity will play a role in this research.

Problem Statement

Green practices have become increasing relevant as of late. There is a demand for businesses to take responsibility for what they are contributing to our declining environmental state. While regulations are in place to offset some negative impacts from industry there is still a demand by consumers which is not being recognized by many industries but specifically in food service. There has been limited research conducted concerning the importance of green practices in the family/casual dining sector as it relates to the customer. Research in this area is overdue.

Purpose of Study

The purpose of this research is to explore the relationship between the importance of green practices in restaurants and how it impacts return intentions. In other words, this research seeks to identify how restaurant green practices affect return intention positively or negatively. Further, this study aims to understand how important green practices are to restaurant customers.

Research Questions

1. What are the differences between customer importance rating and the independent variables (demographic)?
2. How likely is a customer to return to a restaurant that utilizes some green practices?
3. How likely is a customer to return to a restaurant that is certified green?

Hypotheses

H_o = There is no significant relationship between customers' demographic characteristics and their intention to return to a restaurant.

H_a = There is a significant relationship between customers' demographic characteristics and their intention to return to a restaurant.

H_o = There is no significant relationship between customer return intention and a restaurant utilizing some green practices

H_a = There is a significant relationship between customer return intention and a restaurant utilizing some green practices

H_o = There is no significant relationship between customer return intention and the practices in a certified green restaurant.

H_a = There is a significant relationship between customer return intention and the practices in a certified green restaurant.

Significance of Research

It is expected that this research will show what restaurant green practice attributes affect customer return intention. It is also an aid in determining which green practice attributes are most important to customers. Ultimately, this research will aid restaurants in determining which green practices to adopt in order to increase customer return intention.

Definition of Terms

The terms which are specific to this research are listed below. These terms are defined using Merriam-Webster Online Dictionary.

Green: a: often capitalized: relating to or being an environmentalist political movement b: concerned with or supporting environmentalism c: tending to preserve environmental quality (as by being recyclable, biodegradable, or nonpolluting) (Merriam-Webster Online Dictionary, 2009b)

Organic: of, relating to, yielding, or involving the use of food produced with the use of feed or fertilizer of plant or animal origin without employment of chemically formulated fertilizers, growth stimulants, antibiotics, or pesticides (Merriam-Webster Online Dictionary, 2009c)

Sustainability: the ability of an ecosystem to maintain ecological processes, function, biodiversity and productivity into the future (Green Restaurant Associations, 2009e)

Renewable: capable of being replaced by natural ecological cycles or sound management practices (Merriam-Webster Online Dictionary, 2009c)

CHAPTER 2

LITERATURE REVIEW

Environmentalism in History

Recently, concerns for the environment seem to be too little too late, one must

consider that the issues surrounding this expanding concept of "green living" has been

around for centuries. Concepts which are known today including conservation, erosion,

necessity of reduction of use and others have all been seen before. Information which was

gathered then is in some ways the starting point for what environmentalism is today

The concept of environmentalism in its rudimentary form can be traced back to

the 14th century when the word "conservancy" was first adopted in Britain (Grove, 2002).

Then the word referred strictly to regulating fisheries and navigation in a river or port but

today the concept of conservancy has led to conservation which is most commonly used

in conjunction with references to the environment (Merriam Webster Online Dictionary,

2008a). In an attempt to gain an understanding of environmentalism today and how the

restaurant industry has achieved a "green" outlook, we must examine the history of

environmentalism and the legislation which has brought us to where we are as a country

today.

In the 14th century Britain was responding to the early consequences of merchant

capitalism and global trading which consequently had a negative effect on precious

natural resources. Conservation became an important concept when sugar and other

intensive crops were grown on islands, specifically around the Indian Ocean including

the East and West Indies. This led to soil erosion and drought which was thought to be

caused by the lack of nutrients in the soil from constant production. While major

production had begun to take its toll in the West and East Indies, the Caribbean had already been in the throes of the effects of globalization (Grove, 2002).

Globalization and environmental concerns worked hand in hand as the need to develop impeded on land, natural resources and wildlife. Globalization in its early phases involves the extinction of small indigenous cultures and the import of foreign animals to work the land and provide food, clothing and a means of preservation. This method of taking over a place, specifically islands contributed to the extinction of the indigenes of the Canary Islands and the Dodo bird. This far reaching concept would eventually begin to threaten these islands as watering and supply stations for travelling ships which would spark the colonial governments to take action to ensure survival, not only of themselves but of the island and its agricultural production (Grove, 2002).

A series of studies relating to deforestation, pollution and climate control, marine life conservation and tree planting were conducted by two French authors, Pierre Poivre and Bernardin de Saint Pierre. Poivre and Saint Pierre outlined their specific environmental concerns on the island they inhabited in the French colony of Mauritius. Their research and achievements concerning the environment were later used in the Caribbean to aid with similar problems of drought, deforestation and over development (Grove, 2002).

Environmentalism in America

According to Gordon MacDonald, the first time many American heard about air pollution was through comedian Jack Benny and his radio show during which "he made numerous jokes about Los Angeles smog and its impacts of people and pigeons" (MacDonald, 2003). While Jack Benny's jokes were purely meant for entertainment a real problem was lurking and not only in southern California but also in other valleys

across the country. Air pollution was recognized as a real threat that proved to have deadly consequences in Donora, Pennsylvania in 1948 when 20 people died and 600 were hospitalized due to industrial air pollution (MacDonald, 2003). This incident in particular which was sparked by the manufacturing and industrial sectors specifically impacted the automobile and industrial manufacturing industries and began a long list of regulations which we see in effect today with the advent of hybrid cars and nuclear power plants (MacDonald, 2003).

While the first legislation for air pollution was passed by Congress in 1955 it wasn't until 1969 that a government agency was placed in charge of defining regulations concerning the environment. The development of the National Environmental Policy Act (NEPA) in 1969 gave way to the Environmental Protection Agency (EPA) and the Council on Environmental Quality (CEQ) which aided in regulation development, and allocated specific environmental responsibilities to different Departments within the government. Pesticide regulations therefore fell to the Department of Agriculture and the Department of Health, Education and Welfare which would provide internal checks and balances to avoid having the advocates for pesticides use from determining their regulations (MacDonald, 2003).

Since 1955 there have been many changes in environmental policy. Whether it be concerning DDT(a pesticide which was once widely used to control insects in agriculture and insects that carry diseases) which was banned in 1972, or the passing of several pollution, clean air, clean water and energy acts. It is safe to say that the environment has become more of an issue today than it was in the past (Agency for Toxic Substances and Disease Registry, 2007).

The Green Restaurant

One area in which there has been a growing interest in green practices is the restaurant. Restaurants are in essence consumption machines. They use energy, fuel, water, natural resources and in turn produce a combination of food for the public and more waste. According to the GRA, the restaurant industry is said to consume a third of all United States energy used by the retail sector. Of all the energy produced in the U.S. a total of ninety-three percent comes from non-renewable goods like coal, petroleum, natural gas and nuclear power. Of all the air pollution world-wide, the burning of the aforementioned non-renewable goods is the number one cause. Another use of energy in the restaurant comes from the heating, and disposal of water (GRA, 2002b)

The average restaurant facility uses upwards of 300,000 gallons of water per year. Of that amount approximately 35% is used for food preparation, 28% is used for cooling, 18% is used for sanitation, 13% for Other (N/A), and 6% for refrigeration. In the case of water, reduction of use is of a paramount concern (GRA, 2002b). One way that many facilities are reducing water overall is through a program called "Water upon request". This program is a way for restaurants to let their patron know that water will not be served unless requested (Southern Nevada Water Authority, 2008). Reduction also is a key component regarding garbage.

Per year, the average restaurant produces 50,000 pounds of garbage. Of that amount, close to 95% could be recycled or composted. These unsustainable practices are contributing to already overcrowded landfills, pollution, and long term economic losses (GRA, 2002). In an attempt to reconcile some of these issues restaurants can implement green practices.

Green practices can include recycling, reduction of water/waste, forgoing the use of Styrofoam and caustic/chemical cleaners to name a few. There are many restaurants which voluntarily participate in using green practices within their businesses; some even incur savings in the long run. As an example of a functioning green restaurant we will examine Le Pain Quotidien.

Le Pain Quotidien is a casual dining restaurant who takes the use of recycled and eco-friendly products seriously. Their dining tables are made from reclaimed wood, the to-go cups and cutlery are made of corn and potatoes respectively, and this restaurant is currently looking to switch their uniforms to organic cotton (Nicholls, 2008). Most commonly used restaurant products like plastic wrap, toothpicks, paper napkins and towel, and straws can be purchased produced with recycled, biodegradable, tree-free, or organic components (Green Home, 2008). The cost however is what would make a restaurant think twice. Nora Pouillon is the chef/owner of Le Pain Quotidien and she states that purchasing organic ingredients and products adds 20% to her overall costs (Nicholls, 2008). While other chefs, like those involved with Chefs collaborative, a non-profit organization which promotes sustainability in food service, suggest passing some of the cost onto the customers (Mills, 2008). While the costs seem higher initially, in combination with the other environmental guidelines, it is possible that your costs could be less or at least maintained. The further development of products like those mentioned above leads to one key idea: zero waste (Nicholls, 2008).

Green businesses operate using standards that solve, rather than cause, environmental and social problems. These businesses utilize principles, policies, and practices that improve the quality of life for their customers, employees and community.

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The Green Restaurant Association: Environmental Guidelines

The Environmental Guidelines are a set of seven concepts which cover a wide spectrum of different green practices. In order to become a certified green restaurant there must be a fully implemented recycling program, no polystyrene used including cups and to-go packaging, the establishment must participate in the education of staff and community, and the restaurant must accumulate 100 pts within the first year, ten points are awarded for each act within each guideline.

Energy efficiency and conservation is the first of ten Environmental Guidelines set by the GRA. This guideline focuses on creating practices that conserve energy throughout the restaurant including but not limited to lighting, heating, appliances, and equipment (GRA, 2002b). The goal only states the need to conserve what energy the restaurant uses while allowing the restaurant the option of choosing where they would like to implement changes. Each restaurant is unique and therefore has unique challenges to becoming more energy efficient. By examining what methods that are being used today, and looking towards what the future could offer, the GRA allows the applicant the knowledge to stay ahead of legislation, the ability to cut costs and marketing to bring in new clientele (GRA, 2002b).

Water conservation and efficiency is the second guideline set by the GRA. Conservation has become an important part of both work and home life and restaurants are no exception. The objective of water conservation is simple- water is a limited resource being used faster than it can naturally be replenished (Culiver Co, 2002). Restaurants in particular use more than their fair share of water; between appliances, equipment, and landscaping, conservation has become more attainable to the restaurant

choosing to become certified. This guideline also relates directly to energy efficiency and conservation as energy is necessary to heat and run water. Equipment such as dishwashers, steam kettles and coffee equipment are constantly heating water to create the desired effect and therefore by creating water conserving practices within the restaurant, energy conservation will follow.

The third guideline concerns recycling and composting. When looking to become a Certified Green Restaurant, a business must recycle all products which are accepted by local collection companies (GRA, 2002b). While the recycling aspect of the guidelines is absolute, composting can prove to be more difficult.

Currently many restaurant and hospitality businesses choose to utilize recycling as a means to reduce trash and there for alleviate some cost related to garbage removal. The change in amount of garbage is seen when comparing restaurants that have already been certified green to their counterparts. As an example, the Grille Zone, a certified green casual dining restaurant located in Boston, has reduced their total waste per day to half of a 55-gallon trashcan whereas a restaurant of similar size, without recycling procedure would produce 10-12 bags of garbage per day (Nicholls, 2008). This example demonstrates how recycling can reduce overall waste and help the environment. Purchasing sustainable, local, and organic foods is also part of the Environmental Guidelines for the GRA. The role this guideline plays aids restaurants in purchasing food which is less harmful to the environment overall by reducing carbon emissions, soil damage and the use of toxic pesticides (GRA, 2002b). This guideline not only benefits the company but the community and its consumers as well.

A challenge in purchasing sustainable foods is that price, quality, convenience, and brand loyalty tend to have more of an effect on purchasing then the environmental aspects. In general, only 30% of consumers have an understanding of what sustainability is and relate positively to items that are purchased or produced with sustainability in mind. Sustainable consumption has also been linked to value and belief systems (Vermeir & Verbeke, 2006). It is important to keep in mind the consumer when making a change to current business practices, for example, becoming a certified green restaurant. The pollution prevention guideline set by the GRA simply states that to reduce pollution a restaurant should address three issues: source reduction, reuse, and improving operational practices (GRA, 2002b). For the most part the idea of pollution prevention is interwoven throughout the other nine environmental guidelines.

The concept of addressing a pollution problem has been in effect since the 1970's when the government passed several major environmental laws in regards to cleaning up past problems that resulted in contaminated soil, polluted waterways and impure air. Pollution prevention began around 1985 and began to look beyond cleaning up the problem to the future (Miller, Burke, McComas, & Dick, 2007).

Bringing pollution prevention back into the restaurant can be as simple as waste management but is not limited to this topic. Restaurants can prevent waste by purchasing reusable materials, using non-toxic materials, reducing packaging and conserving energy and water (Shanklin, 1993). Other methods of waste prevention include going paperless and implementing in process recycling. Using waste prevention methods is a strategy that could benefit any type of business as well as any size. (Environmental Protection Agency [EPA], 2008) Restaurants in particular can make use of purchasing products that can be

reused or products that use less packing or at the least recyclable packing. Purchasing

supplies, food, cleaning supplies even appliances can aid a restaurant in total waste

reduction that, in turn has cost related benefits. Savings related to pollution prevention

can come from reduced volume of waste, reduction of energy and reduction in the

amount of raw materials being used. The overall goal would be to reduce total volume

from handling, shipping, and disposal costs. (EPA, 2008) Pollution prevention is an

attainable goal at any level and should be seen not only as a means to save money, but

also as a way to give back to the local community through the acceptance social

responsibility.

The GRA's Environmental Guidelines are all inclusive yet widely open to

interpretation and nowhere can this be seen more than in their sixth guideline. This

guideline offers information about recycled, tree-free, biodegradable, and organic

products and where they can be utilized within the restaurant. This guideline is different

in that it covers aspects not relating to food but rather to the operation (GRA, 2002b). The

incorporation of products meeting the fore mentioned criteria has expanded over the

years to include everything from plastic cup and cutlery to furniture and building

materials. Becoming green with respect to products and operations is becoming easier

and this should only continue.

Currently the main factors that influence the purchase of recycled products

include price, and availability. This relationship exists also in the household product

market as well. A 2001 survey found that 86% of participants were willing to pay extra

for products made in an eco-friendly manner (Guagnano, 2001). The concept of the

survey was to see if the consumer who received no individual benefit would, they still

purchase the items that offer the most environmental benefit. The findings were favorable towards the well-being of the environment as opposed to the savings the individual would have received (Guagnano, 2001). These findings can relate to the restaurant industry in that although the prices of recycled products, for the most part, are higher there is a benefit to purchasing them (Green Home, 2008).

The seventh Environmental Guidelines set by the GRA concerns the use of non-toxic and chemical cleaning products (GRA, 2002b). By ceasing the use of hazardous chemicals, which contain petroleum, and other caustic chemicals this guideline helps in avoiding harm to the environment or your staff.

Within a restaurant, there are many issues to consider with regards to cleaning. Safety, convenience, price, and availability all make this process more difficult than purchasing the toxic and caustic versions of cleaners. Companies like Ecolab are making the switch and realizing the new opportunities in their line of eco-friendly cleaning products named Apex. Not only is this product non-toxic but it is packed in solid form which, since they are not in bulky liquid form, reduces the transportation costs. Ecolab boasts that although the product is more expensive when priced by the pound, it actually is costs less once the business factors in the utility savings, including shipping, and the training on the use of the new product. Another reason that this product, in particular can be called eco-friendly is its packing. Typically sold in 5-gallon pails, the Apex line is wrapped in cellophane that, once used can be balled up to the size of a baseball. This packaging method reduces waste and is recyclable (Mills, 2008). Overall eco-friendly products follow this trend in reduced packaging and reduced refuse and recycling requirements.

This concept of environmentally preferable purchasing is in use within the federal government as well. Their focus relies on condition such as pollution prevention, sustainability, local condition, and the claims of the product that, for the government are reviewed by the Environmental Protection Agency. While their procedures encompass many of the guidelines for the GRA they have found difficulties in determining which products meet the requirements for eco-friendly cleaning products. Currently the General Services Administration in collaboration with the EPA has developed a list of commercial cleaning supplies that identifies the toxicity and biodegradability standards of each cleaner. Depending on the locale, different cleaners are used throughout government buildings and facilities (Coggburn & Rahm, 2005).

The following two guidelines are applicable to new builds:

The environmental guideline concerning Green Power is where we see the GRA giving a bit more leeway. The guideline states, "Electricity and power is available from renewable resources such as wind, solar, geothermal, small hydro and biomass. These energy sources cause dramatically less air pollution and environmental damage compared to fossil fuel, nuclear, and large-scale hydroelectric energy sources." Using this definition of green power it becomes apparent that there isn't always an opportunity for a restaurant to utilize this suggested set of systems however, some restaurants have found ways to incorporate green power into their business.

As an example of the use of solar power, or photovoltaic's we can examine Ted's Montana Grill which has 49 restaurants in 18 cities. What makes this chain unique is their drive towards "sustainable, alternative energy sources" (Advanced Green Technologies, 2009). The Tallahassee, Florida location of Ted's Montana Grill is the first in the city to

utilize solar power as a means to reduce energy costs. Currently this location has 44

panels on their upper roof with an additional 22 panels on their patio roof. In

combination these panels supply an estimated 5% of the restaurants energy needs which,

as an added benefit also affords the restaurant certain rewards and incentives including

rebates which are equal to the amount of energy that is saved. The reward program in

Tallahassee is one of the best in the country (Advanced Green Technologies, 2009).

Using wind power provides some additional problems when considered as an

option other than solar power. Solar power requires the installation of panels usually

located on the roof of a building whereas wind power requires a turbine. In Gumee,

Illinois a wind turbine is exactly what a Chipotle Mexican Grill has installed. This

location utilizes a six-kilowatt wind turbine which is capable of supplying this restaurant

with as much as 10% of the facility's electricity demand. For this location, the turbine

along with several other green features is aiding the restaurant in attaining their "LEED

for Retail" pilot program certification. The LEED program is part of the U.S. Green

Building Council's efforts to set and maintain standards for what qualifies a building to

be green (Laumer, 2008).

The GRAs environmental guideline for Green Power can also be implemented

through the use of the U.S. Green Building Council's program entitled LEED. LEED or,

The Leadership in Energy and Environmental Design Green Building Rating System was

created to encourage and accelerate the worldwide adoption of both sustainable building

and development practices through the creation of a specific set of tools and performance

criteria. LEED is a third-party certification program which is regarded as the nationally

accepted benchmark for design, construction and oversight of green buildings. When

examining the impact of LEED certification on a building the U.S. Green Building

Council states that,

> "LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality" (University of Cincinnati, 2008).

If a restaurant was seeking to become certified green and followed LEED building

standards then they would be in compliance with this environmental guideline.

The final environmental guideline is for education. In some aspects this guideline

may be one of the most important. Specifically this guideline is set in place to both

educate the restaurant which is seeking or maintaining certification and have the

establishment educate the public. Without this step there would be no rhyme or reason

behind taking the extra effort to become certified.

Along with the GRAs drive to educate their applicants, the applicants also,

according to the GRA have a responsibility to educate the public. This becomes a major

part of the application process. Not only does the restaurant need to implement a plan of

attack to begin to change their establishment but there is also the immediate need to train

and educate staff.

Educating the staff alone becomes a major undertaking in the certification

process. While some changes which effect water or energy conservation do not need

explanation, other changes including recycling and take-out practices may need to be

addressed to ensure proper implementation. This staff education is crucial to completing

this environmental guideline.

Benefits of Becoming a Certified Green Restaurant

The first in the GRA's list of member benefits is "Publicity." This is a very attractive benefit to small businesses and large chains alike. In the past few years, the GRA has featured its Certified Green Restaurants in several news outlets including the San Diego Union Tribune (feature story), CNN, National Public Radio and Fox News Live. The GRA also provides its own publicity locally for restaurants through advertisements, mailers and identifying markers including stickers, menu labeling and the through the use of the GRA logo. One chain of Certified Green Restaurants received a third of their publicity for being Certified Green (GRA, 2002c).

Another benefit the GRA claims is a reduction in overall costs and additional savings from energy saving measures. To quote the GRA, "Cost savings result from our well-researched energy conservation programs, recycling/waste reduction systems, and using The GRA's influence to facilitate manufacturers and distributors in lowering their product costs. Some Certified Green Restaurants save thousands of dollars annually per location (GRA, 2002c).

Another aspect to consider with regards to benefits for the restaurant is how this certification affects the customer. According to the GRA there is little to no effect on the customer. This only means that if a restaurant which was not previously certified becomes a Certified Green Restaurant there is no harmful changes for the customer. The GRA actually states that there seems to be an increase in customer loyalty with a certified restaurant that is not present in other non-certified restaurants.

The GRA contends that customers are more educated concerning environmental factors and the impacts of restaurants in particular that they will seek out environmentally

responsible businesses. "When customers walk into a Certified Green Restaurant, they see the environmental steps the restaurant is working to implement. The transparency of the process is educational and inspirational for many customers, which creates a stronger bond between customer and restaurant" (GRA, 2002c). This study will examine this in further depth.

According to the GRA's website, 80% of Americans identify themselves as being concerned about the environment. Of that 80% a dedicated portion is driving a 20% annual growth in the $11 billion organic food industry. This 20% is also investing billions with socially responsible investment groups, not to mention they are also green restaurant customers (GRA, 2002c).

<div align="center">The Green Seal</div>

Greenseal.org was founded in 1989 as a provider of science-based certification standards that are "credible, transparent, and essential in an increasingly educated and competitive marketplace" (Green Seal, 2009a). Currently, greenseal.org has established a considerable market among the large institutional purchasers. These purchasers include some government agencies, universities, and the lodging and architectural building industries. Greenseal.org actively advises these "institutions and industry sectors in their efforts to green their purchasing, operations, and facilities management functions" (Green Seal, 2009a).

On September 4, 2009 Green Seal announced that their "Green Seal Environmental Standard for Restaurants and Food Services" had been approved by the American National Standards Institute. This Green Seal was based data collected that researched the environmental impacts of restaurants and food service. As a result of this

seals approval, there is now a "comprehensive framework to guide operations on how to reduce their environmental impacts and is the basis for Green Seal Certification" (Green Seal, 2009b).

The difference between the GRA and Green Seal is that Green Seal uses data, research and industry resources to gain insight into the product or in this case concept that they are certifying. Unlike the GRA, Green Seal offers a standard for comparison. Green Seal also certifies numerous products and services.

<div style="text-align: center;">Customers and Dining Green</div>

When examining a restaurant there are many facets which the customer weighs prior to making the choice of dining at a particular establishment. While it is suggested that resource availability, which includes both time and money is paramount in the dining decision process, other variables also must come into play if one is to understand the customer and their choices (Kim & Geistfeld, 2003). Dining out, in recent years has begun a transformation for consumers. Now, choosing a restaurant implies more than just cost, or location. The National Restautant Association conducted a survey which revealed that "6 out of 10 consumers say they are 'likely to choose a restaurant based on its level of environmental friendliness" (LaVecchia, 2008).

Understanding coporate social responsibility on the consumers level is also impacting how restaurant patrons choose where to dine. A survey conducted by Technomic, a research and consulting firm which aids restaurants and food suppliers, concerning corporate social responsibility in foodservice discovered that 52% of survey respondents agreed that the environment was the issue that concerned them the most with regards to the foodservice industry. The range of issues which were worrisome to

consumers change frequently but include global warming, the energy crisis, dependence on foreign oil, proper waste disposal, and sustainable building practices.The biggest concern however lies within the food itself; pesitcides, horomones, sustainable practices and the use of local product are all important to the restaurant patron who is concerned with the environment (Technomic Consultants, 2006). The importance of these individual issues varies from person to person and with the political and social climate. The question that some restaurant customers are asking now revolves around the general concept of, 'Is this good for me and is it good for the environment' (LaVecchia, 2008). In essence, a restaurant must appeal to the customers willingness to pay for and solicit the greener options in dining.

<div align="center">Customer Return Intention</div>

Understanding which factors effect customer return intention is of great importantance to understanding the customer's wants and needs. While overall quality plays a large role in whether or not a customer will choose to return the more important factor is satisfaction. The ability to gauge customer satisfaction levels and to apply that information is a crucial starting point for maintaining continued customer retention (Kim, Ng, & Kim, 2009).

From the previous section, 6 out of 10 customers are 'likely to choose a restaurant based on its level of environmental friendliness;' therefore satisfaction is not present for these 6 out of 10 people. If high satisfaction levels were included in a green restaurant then one could make the connection that for specific customers, high satisfaction, in conjunction with green factors would make this a situation for a repeat customer (LaVecchia, 2008).

Another factor that is of great importance for creating return intention is word-of-mouth. Positive word-of-mouth has been shown to increase revenue by attracting new customers which increase the percentage of repeat customers; whereas, negative word-of-mouth will do the opposite in greater quantity (Kim, et.al. 2009).

<center>Intention versus Behavior</center>

A point which must be addressed with regards to this research in that it is a measure of intention. There have been many studies on the differences between actual return behavior and return intention. Those studies indicate that intention to return to a restaurant (specifically) is strongly impacted by satisfaction first. If customers are satisfied with the establishment as a whole then the return intention will be reflected in return behavior (Soderlund and Ohman, 2005).

When examining the customer in terms of wanting to return and expecting to return, Soderlund and Ohman found that intention as wants (IW) had a heavier impact on return behavior than intentions as expectations (IE) (2005). Basically that satisfaction of the customer with the restaurant impacted the customer wanting to return. Second to wanting to return, the customers satisfaction also impacted the expectation of the customer to return. Meaning that is a customer was satisfied with their experience at a restaurant, they showed a stronger wanting, or yearning to return whereas they may expect to return, possibly if the satisfaction rating was lower.

Overall, intention and behavior show correlations however what the customer actually does, and intends to do is difficult to measure. This does not mean that research demonstrating behavior is more accurate than that of intention however, few studies following up on return behavior based on return intention have been completed.

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CHAPTER 3

METHODOLOGY

Research Design and Procedure

The survey was developed to be administered online. The survey was divided into two sections. The first section asks how customers rank fourteen green attributes according to importance. This section also listed fourteen attributes which may or may not affect the customers' intention to return. Both parts of this first section utilized a seven point Likert scale response format (1=Not Important, 4=Neutral, and 7=Very Important) to measure the level of importance to the respondent. When combining these two parts, the survey examined both green attributes and other foodservice operating attributes which can both be found in a family/casual style restaurant.

The final section of this survey consisted of demographic information. The demographic information included gender, age, education level, income, marital status and race/ethnicity. This section also included questions which pertained to the respondents' use of green practices in the home. These questions included activities relating to recycling, conservation, re-use and reduction within the home.

An in-depth literature review was conducted about topics related to the customer return intentions and restaurant green practices. These green practice attributes were determined as attributes which can be commonly found in or advertised about in a family/casual restaurant. This review served as groundwork to identify major restaurant green practice attributes that had an influence on the customers. Referring to the factors identified by reviewed studies, this research collected twenty five questions on green practice attributes.

Validity

To determine content validity, this study utilized a literature review which revealed studies measuring aspects which were engrained in this model. Studies which measured return intention attributes, restaurant operation attributes and green practices attributes were fused to create the survey instrument. This study also utilized some DINESERV information to create the survey (Kim, et.al, 2009) A pilot test was also used to determine the validity of the survey. This pilot test was distributed to 115 participants of which, 105 were useable.

Reliability

A reliability analysis (Cronbach alpha) was performed on the pilot test to determine the reliability and consistency of each of the attributes which the study measured. A minimum value of 0.5 was considered the acceptable value for the indication of reliability of this study (Nunnally, 1967). For the pilot test the Cronbach alpha coefficient was .874. This value suggests a high level of reliability.

Data Collection

The population of this study was comprised of U.S. residents who were also members of the Zoomerang.com online survey community. The respondents of this survey were located in the four U.S. geographic regions. The respondents also had to meet the qualifying criteria of having eaten at a family/casual restaurant within the past six months. The survey was launched and made available to the Zoomerang.com member on October 10, 2009. The survey closed on November 1, 2009.

Data Analysis

The data was analyzed using Statistical Packages for Social Sciences (SPSS) 16.0. Using SPSS enabled this research to obtain both descriptive statistics and inferential statistics through factor analysis, and regression.

First descriptive statistics were used to determine the distribution of the demographics by frequency and percentage. Descriptive statistics were also used to find the mean and standard deviation of each of the food service operations attributes which were then analyzed using Factor Analysis and Multiple Regression.

The main purpose of adopting factor analysis was to obtain a relatively small number of variables that can explain most of the variances among the attributes and to apply the derived dimensional factors in subsequent multiple regression analysis. The appropriateness of the factor analysis was assessed by a reliability alpha test. Variables with a factor loading equal to or greater than 0.5 were considered significant. To find a correlation among those factors derived from the factor analysis and from green practices and the level and return intention, the multiple linear regression analysis was conducted at a 0.05 significance level.

Once the validity and reliability of the factor analysis was established, a component analysis was performed with varimax rotation. This was used to determine the core dimensions of return intention based on the food service operation attributes. Items with factor loading of .50 or higher were combined to form four distinct factor were reduced from Varimax rotations. To further analyze the factor analysis the "Kaiser-Meyer-Olkin Measure of Sampling Adequacy" (KMO) was used. Higher values of KMO that suggest that the data is adequate to be used in factor analysis (Kaiser, 1970). The

KMO for this study was .928 therefore this data is very adequate for use with the factor analysis. Alternatively, Bartlett's Test of Sphericity aids in the determination of the significance of all correlations found within the correlation matrix (Hair, Anderson, Tatham and Black, 1998). This study yielded a Bartlett's Test of Sphericity a 6739.29 which indicates a high correlation.

Regression assumptions for this study included the following; the data analyzed was normally distributed, there was a linear relationship between the dependent variable and the factors, residuals were all approximately equal for the dependent variables, and data which was significantly skewed (many missing values) was not included (Abrams, 1989).

CHAPTER 4

FINDINGS OF THE RESEARCH

Introduction

This chapter presents the results of the data analysis. A primary purpose of this research was to determine the importance of restaurant green practice attributes to the customer. For this purpose, factor analysis, and multiple linear regression analysis were conducted using SPSS 16.0.

Pilot Test

This research utilized an online survey format administered by Zoomerang.com. First a pilot test was utilized to determine the reliability of the study. Of the 115 surveys that were completed, ten were discarded for failure to respond affirmatively to the standard University consent form (n=10). This model had a reliability coefficient (Cronbach alpha) of .874 which was significant.

Profile of the Respondents

Subjects were 463 online survey respondents who had eaten at a family/casual restaurant within the past 6 months. The respondents were recruited through Zoomerang.com, an online survey company who administered the survey over three weeks in October, 2009. Zoomerang.com sampled the respondents randomly from the four U.S. geographic regions. Only respondents who met the requirement of dining at a family style restaurant in the past six months were allowed to enter the survey. Of the 463 total surveys, twenty four were unusable due to failure to respond affirmatively to the standard university consent form (n=24) or they were mostly incomplete (n=26) leaving the final sample of 413. Subjects with only a few missing values were retained except for

Table 1

Demographic Information of Respondents

Variables	Frequency	Percentage (%)
Gender		
Male	177	42.9
Female	230	55.7
Age		
18-25	37	9
26-35	76	18.4
36-45	106	25.9
46-65	149	36.4
66 and up	40	9.8
Highest Level of Education		
High School or less	167	40.4
Associate's Degree	100	24.2
Bachelor's Degree	98	23.7
Master's Degree or Higher	43	10.4
Race/ Ethnicity		
White, non-Hispanic	341	82.6
African American	29	7
Hispanic	17	4.1
Asian, Pacific Islander	19	4.6
American Indian, Alaskan Native	1	0.2
Marital Status		
Never Married	90	21.8
Married	217	52.5
Divorced	74	17.9
Separated	10	2.4
Widowed	17	4.1
Total Household Income		
Less than $20,000	61	14.8

$20,000-$45,000	106	25.7
$46,000-$60,000	96	23.2
$61,000-$80,000	56	13.6
$81,000 and up	80	19.4

Note: N=413.

analyses on the missing variables; therefore sample sizes for some of the analyses may

vary.

The sample was 42.9% male and 55.7% female which is a good sample to

represent the general public; 49% male, 51% female according to the US Census. (U.S.

Census Bureau, 2006-2008) The respondents ages were distributed as follows: 18-25:

9%, 26-35: 18.6%, 36-45: 25.9% 46-65: 36.4% and 65 or higher: 9.8%. The sample was

primarily Caucasian (82.6%), with 7% African American, 4.1% Asian/Pacific Islander,

4.6% Hispanic and .2% American Indian/ Alaskan Native. In terms of education, 40.4%

had a high school education or less, 24.2% had an Associate's Degree, 23.7% Bachelor's

Degree, and 10.4% had a Master's Degree or higher. The majority of subjects (52.5%)

were married, 21.8% were never married, 20.3% were divorced or separated and 4.1%

were widowed. Annual household income was distributed as follows: 14.8%: $20,000 or

less, 25.7%: $21,000 to $45,000, 23.2%: $46,000-$60,000, 13.6%:$61,000-$80,000, and

19.4%: above $80,000. This demographic information is shown in Table 1.

Subjects were also asked how often they eat at a family style restaurant in a week.

The majority of respondents (88%) eat out 1-3 times a week, 10% eat out 4-6 times a

week, and the remaining 2% eat out 7 or more times a week. In addition to how often the

respondents eat out the subjects were also asked about green practices used in their

homes. This allowed for more in-depth analysis of the respondent based on their dining

Table 2

Green Practices Performed at Home

Variables	Frequency	Percentage (%)
Recycle Bottles and Cans		
Yes	336	81.4
No	69	16.7
Use Energy Efficient Lighting		
Yes	350	84.7
No	55	13.3
Use Cloth Grocery Bags		
Yes	211	51.1
No	191	46.2
Buy Organic Groceries		
Yes	122	29.5
No	279	67.6
Recycle Paper and Cardboard		
Yes	290	70.2
No	111	26.9
Use Low Flow Fixtures		
Yes	215	52.1
No	187	45.3
Re-use Plastic Bags		
Yes	373	90.3
No	31	7.5
Compost Food Waste		
Yes	93	22.5
No	307	74.3

Note: N=413.

Green Practice Attributes

Descriptive statistics were performed to attain mean scores and standard

deviations of the twenty-eight restaurant green practice attributes listed in the survey

(Table 3). The importance level was measured using a 7-point Likert scale ranging from

1=Not Important, 4=Neutral, and 7=Very Important. The mean score for the overall

importance of green practice attributes was 5.77 which included a range from 3.71 for

Serving organic food and drink, to 6.48 for Taste of food. The standard deviations

ranged from 1.068 to 1.915. Attributes which reported a higher rating then a four

(neutral) were considered positive. Attributes with ratings higher than a four included

most notably taste of food (6.48), freshness of ingredients (6.31), value for cost (6.25),

politeness of staff (6.14) and, variety of menu options (6.03). The attributes which were

ranked included both restaurant green practice attributes as well as restaurant operating

practices. Both types of attributes were included as both play a vital role in customer

retention. As previously discussed in the methodology all attributes which were included

in the survey were derived from an in depth literature review seeking attributes which

effected return intention and green practice attributes. The attributes which were used in

the second section of the first part of the survey were all return intention attributes of

which most were not green practice attributes as this is a relatively new concept in terms

of studies conducted. These attributes and there mean and standard deviations can be

viewed in Table 3.

Knowledge of Green Practices in Restaurants

An important aspect to consider with regards to this study was the green

restaurant knowledge of the survey respondent. This would enable the study to show if

the respondent knew that he/she had eaten at a Certified Green Restaurant or just at a

restaurant that had implemented some green practices by properly distinguishing which is

Table 3

Restaurant Attributes Including Green Practices by Customer Importance

	Mean	SD
Taste of food	6.48	1.068
Freshness of Ingredients	6.31	1.181
Value for cost	6.25	1.142
Politeness of staff	6.14	1.126
Variety of menu options	6.03	1.173
Knowledge of staff	5.82	1.281
Family friendly atmosphere	5.74	1.399
Presentation of food	5.72	1.299
Healthy menu options	5.56	1.474
Location	5.56	1.259
Recycling throughout the restaurant	5.35	1.615
Using non-toxic chemical cleaners	5.28	1.729
Having Automatic Faucets	5.21	1.602
Purchasing local foods	5.08	1.638
Green lighting	5.04	1.522
Offering tap water	5.03	1.747
Not using Styrofoam cups	5.00	1.840
Using recycled paper goods	4.99	1.633
Having low flow toilets	4.91	1.678
Having set recycling practices	4.91	1.686
Not using Styrofoam to-go containers	4.87	1.915
Having motion sensors	4.66	1.699
Using energy saving light fixtures	4.57	1.642
Utilization of organic food ingredients	4.26	1.698
Utilization of organic beverage options	4.15	1.701
Using furniture made of recycled wood	3.97	1.679
Having staff wear organic uniforms	3.85	1.650
Serving organic food and drink	3.71	1.707

Note: N=393; Overall mean: 5.77; Scale: 1=Not Important, 4=Neutral, 7=Very Important

which. This study found that 63.2% of respondents had eaten at a restaurant which

utilized some green practice while 34.4% had not. Also, only 10.4% of respondents had

eaten at a certified green restaurant where as 87.2% had not. This information can be found in Table 4.

Measurement of Customer Importance of Restaurant Green Attributes

To determine the number of factors, component analysis was performed with varimax rotation. Four factors with Eigenvalues greater than one, explaining 66.081% of the total variance resulted from the analysis. Cronbach alpha coefficients were computed for the attributes which formed each of the four factors. Reliability coefficients (Cronbach Alpha) ranged from .856 to .925 for the four factors. Factor 1, restaurant operations practices contained ten attributes and had a Cronbach alpha of .925. Factor 2, was comprised of eight attributes and had a Cronbach alpha of .888. Factor 3, contained three attributes and had a Cronbach alpha of .901. Finally, Factor 4 had four attributes and a Cronbach alpha of .856. When performing factor analysis, two attributes were excluded: organic cotton uniforms and recycling throughout the restaurant. These attributes were removed from analysis because they overlapped between two factors and showed significance in both.

Factor one was named restaurant operation practices and accounted for 23.671% of the variance. Factor one also has an alpha coefficient of .925 and included ten attributes. They were: politeness of staff, taste of food, freshness of ingredients, value for cost, variety of menu options, knowledge of staff, presentation of food, location, family friendly atmosphere, and healthy menu options.

Factor two was comprised of eight items and was titled conservation. This factor accounted for 13.819% of the total variance and had a Cronbach alpha coefficient of

Table 4

Eating at a Certified/Not Certified Restaurant

Variables	Frequency	Percentage (%)
Eaten at a Certified Green Restaurant		
Yes	43	10.4
No	360	87.2
Eaten at a restaurant which utilizes some green practices		
Yes	261	63.2
No	142	34.4

Note: N=413.

.888. The eight items in factor two were as follows; motion sensors, low flow toilets, green lighting, energy saving light fixtures, furniture made of recycled wood, automatic faucets, recycled paper goods, and offering tap water.

The third factor titled organic contained three attributes. Factor three accounted for 5.510% of the total variance and had a reliability coefficient of .901. The attributes which were included in factor three included, utilization of organic beverage options, Utilization of organic menu ingredients, and serving organic food and drink.

The fourth and final factor was titled carbon footprint reduction. This factor explained 4.087% of the total variance and had a Cronbach alpha coefficient of .856. This factor included 4 attributes, not using Styrofoam to-go containers, not using Styrofoam cups, non-toxic chemical cleaners, and purchasing local foods. These factors can be viewed in Table 5.

Table 5

Green practice attributes of family style service restaurant

Attributes	Factor Loadings				CM*
Factor 1: Restaurant Operation Practices	F1				
Politeness of staff	0.854				0.765
Taste of food	0.824				0.744
Freshness of Ingredients	0.780				0.767
Value for cost	0.779				0.682
Variety of menu options	0.773				0.623
Knowledge of staff	0.769				0.641
Presentation of food	0.691				0.574
Location	0.665				0.466
Family friendly atmosphere	0.682				0.505
Healthy menu options	0.505				0.551
Factor 2: Conservation		F2			
Motion sensors		0.738			0.634
Low Flow Toilets		0.722			0.678
Lighting		0.705			0.587
Energy saving fixtures		0.697			0.735
Furniture made of recycled wood		0.663			0.672
Automatic faucets		0.641			0.626
Recycled paper goods		0.610			0.576
Offering tap water		0.592			0.519
Factor 3: Organic			F3		
Utilization of organic beverage options			0.884		0.896
Utilization of organic food ingredients			0.859		0.896
Serving organic food and drink			0.715		0.691
Factor 4: Carbon Footprint Reduction				F4	
Not using Styrofoam to-go containers				0.809	0.811
Not using Styrofoam cups				0.747	0.727
Non-toxic chemical cleaners				0.607	0.678
Purchasing local foods				0.516	0.477
Eigenvalue	10.66	3.455	1.377	1.022	
Variance (%)	42.66	13.81	5.51	4.087	
Cumulative Variance (%)	42.66	56.48	61.99	66.08	
Cronbach Alpha/Pearson Correlation	0.925	0.888	0.901	0.856	
Number of Items (N= 25)	10	8	3	4	

*Communality, The Bartlett test of Sphericity= 6739.294 (sig.=.000)

Measure of Sampling Adequacy= .928

Hypotheses Testing

Hypothesis 1

Hypothesis 1 proposes green practice attributes are more strongly affect return intention to customers with certain demographic characteristics. The null and alternative hypotheses are stated as follows:

H_o = There is no significant relationship between customers' demographic characteristics and their intention to return to a restaurant.

H_a = There is a significant relationship between customers' demographic characteristics and their intention to return to a restaurant.

After running a one way ANOVA analysis it was found that only the demographic attribute titled "Gender" was affected by the factors. All four factors including, restaurant operations practices, conservation, organic, and carbon footprint reduction were all show to be more important to female respondents than male. The largest mean difference was found in the factor carbon footprint reduction, .047 (Table 9). The second highest mean difference was found with the organic factor (Table 8) followed by conservation (Table 7) then restaurant operations practices (Table 6). These differences were found to be significant all with p-values lower than .05. There was always a higher amount of female respondents than male in the survey this continued into the following ANOVA tables.

Table 6

Restaurant operations practices factor importance by gender

Attribute	Factor		Categories Male ≤ Female		F Value	p-value
Gender	Restaurant Operations Practices	N	171	225	6.07	0.014
		Mean	5.83	6.07		
		S.D.	.940	.957		
(I) Male Respondents	*(J)* Female Respondents			Mean Difference *(J-I)*		
1 ≤	2			0.24		

Table 7

Conservation factor importance by gender

Attribute	Factor		Categories Male ≤ Female		F Value	p-value
Gender	Conservation	N	172	220	6.128	0.014
		Mean	4.67	4.99		
		S.D.	1.34	1.19		
(I) Male Respondents	*(J)* Female Respondents			Mean Difference *(J-I)*		
1 ≤	2			0.32		

Table 8

Organic factor importance by gender

Attribute	Factor		Categories			F Value	p-value
			Male	$\leq$	Female		
Gender	Organic	N	174		228	4.69	0.031
		Mean	3.85		4.19		
		S.D.	1.50		1.57		
(I) Male Respondents	*(J)* Female Respondents				Mean Difference *(J-I)*		
1	$\leq$	2			0.34		

Table 9

Carbon footprint reduction factor by gender

Attribute	Factor		Categories			F Value	p-value
			Male	$\leq$	Female		
Gender	Carbon Footprint Reduction	N	174		226	10.4	0.001
		Mean	4.82		5.29		
		S.D.	1.53		1.38		
(I) Male Respondents	*(J)* Female Respondents				Mean Difference *(J-I)*		
1	$\leq$	2			0.47		

Hypothesis 2

Hypothesis 2 proposes that return intention is directly motivated by green practice attributes, even if the restaurant is not certified. The null and alternative hypotheses are stated as follows:

H_o = There is no significant relationship between customer return intention and a restaurant utilizing some green practices

H_a = There is a significant relationship between customer return intention and a restaurant utilizing some green practices

To test this hypothesis, multiple regression analysis was used to determine the impact the customer places on the importance of green practices in the restaurant against their intention to return. The dependent variable was a seven-point Likert scale of the likelihood to return to a restaurant which utilizes some green practices. The scales were as follows: "Highly Unlikely", "Neutral", and "Highly Likely."

The independent variables were four factors derived from the twenty-eight restaurant green practice attributes.

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4$$

where,

y: Dependent variable "Return Intention for a restaurant which utilizes some green practices"

x1:   Independent variable "Restaurant operation practices"

x2:   Independent variable "Conservation"

x3:   Independent variable "Organic"

x4:   Independent variable "Carbon footprint reduction"

The results of the regression analysis showed that there was a relationship between the four green practice attribute factors and the dependent variable "Return Intention for a restaurant which utilizes some green practices" are listed in Table 10.

Hypothesis 3

Hypothesis 3 proposes that return intention is directly motivated by green practice attributes, especially if the restaurant is certified green. The null and alternative hypotheses are stated as follows:

H_o = There is no significant relationship between customer return intention and the practices in a certified green restaurant.

H_a = There is a significant relationship between customer return intention and the practices in a certified green restaurant.

To test this hypothesis, multiple regression analysis was used to determine the impact the customer places on the importance of green practices in the restaurant against their intention to return. The dependent variable was a seven-point Likert scale of the likelihood to return to a restaurant which utilizes some green practices. The scales were as follows: "Highly Unlikely", "Neutral", and "Highly Likely."

The independent variables were four factors derived from the twenty-eight restaurant green practice attributes.

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4$$

where,

y: Dependent variable "Return Intention for a restaurant which is Certified Green"

x_1:   Independent variable "Restaurant operation practices"

Table 10

Return intention for a restaurant which utilizes some green practices

Dependent Variable:	Return Intention for a restaurant which utilizes some green practices
Independent Variables:	Restaurant Operation Practices, Conservation, Organic, Carbon Footprint Reduction

Prediction: Goodness-of-Fit					
Multiple Correlation Coefficient R	0.670				
Coefficient of Determination R Square	0.449				
Adjusted R Square	0.443				
Standard Error	0.987				
Durbin-Watson	1.868				

Analysis of Variance (ANOVA)	Sum of Square	Df	Mean Square	F	Sig.
Regression	292.772	4	73.193	75.075	0.000
Residual	358.772	368	0.975		

Variables in the Equation

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	5.311	0.051		103.877	0.000
Restaurant Operation Practices (F1)	0.486	0.051	0.367	9.494	0.000
Conservation (F2)	0.547	0.051	0.414	10.712	0.000
Organic (F3)	0.340	0.051	0.257	6.648	0.000
Carbon Footprint Reduction (F4)	0.366	0.051	0.277	7.152	0.000

x_2:   Independent variable "Conservation"

x_3:   Independent variable "Organic"

x_4:   Independent variable "Carbon footprint reduction"

        The results of the regression analysis showed that there was a relationship between the four green practice attribute factors and the dependent variable "Return Intention for a restaurant which is Certified Green" are listed in Table 11.

Table 11

Return intention for a restaurant that is certified green

Dependent Variable:	Return Intention for a restaurant which is Certified Green				
Independent Variables:	Restaurant Operation Practices, Conservation, Organic, Carbon Footprint Reduction				
Prediction: Goodness-of-Fit					
Multiple Correlation Coefficient R	0.65				
Coefficient of Determination R Square	0.43				
Adjusted R Square	0.42				
Standard Error	1.01				
Durbin-Watson	1.87				
Analysis of Variance (ANOVA)	Sum of Square	Df	Mean Square	F	Sig.
Regression	280.13	4	70.033	69.228	0.000
Residual	369.24	365	1.012		

Variables in the Equation					
	B	Std. Error	Beta	t	Sig.
(Constant)	5.197	0.052		99.38	0.00
Restaurant Operation Practices	0.379	0.052	0.287	7.264	0.00
Conservation	0.528	0.052	0.399	10.10	0.00
Organic	0.339	0.053	0.255	6.45	0.00
Carbon Footprint Reduction	0.465	0.052	0.352	8.91	0.00

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of the research was to analyze the relationship between restaurant green practices and it's affect on customer return intention. This research also allowed for the analysis of specific green practice attributes and how important they are to the customer.

The objectives of this study were:

1. To determine which green practice attributes were most important to the customer.

2. To assess which attributes affected return intention.

3. To assess the difference in return intention between a restaurant which utilizes some green practices and a certified green restaurant.

The objective of this study, related to the application of information gained through this study, was to report information that would be useful in determining which green practice attributes should be implemented to affect customer return intention. The questions which are related to the previously stated objectives are as follows:

1. Are green practices important to customers?

2. Do customers notice green practices in restaurants?

3. What are the most important attributes to the customer that effect their desired to return?

4. How do customers that participate in the use of green practices in the home translate that into choice of restaurant?

The population of this study consisted of restaurant patrons who have eaten at a family style restaurant within the past six months. An online survey was sent to members of Zoomerang.com, an online survey community. The survey was developed through a literature review of studies which either determined attributes affecting return intention or attributes which were important to customers. These were then transposed into a format which combined green attributes with the attributes found through literature review. The online survey was then created using the green practice attributes and return intention attributes from the literature review. The first section asked the respondent to rate how important green practice attributes are in a family style restaurant and which factor affect the respondents desired to return. The second section asked demographic information including gender, age, household income, marital status, highest level of education and race/ethnicity. This section also asked the respondent to answer a series of yes/no questions which asked about green practices at home. Finally, this section addressed the respondent with questions pertaining to whether or not the respondent would be more likely to return to a restaurant which utilizes some green practices or was certified green.

<div align="center">Summary of Findings and Conclusions</div>

The respondents in this study:

were family/casual restaurant customers within the last six months (100%),

were female (55.7%),

were educated at a high school level (40.4%),

were between the ages of 46-65 (36.1%),

were white, non-Hispanic ethnicity (82.6%),

were married (52.5%),

and, had a total household income of between $20,000- $45,000 (25.7%).

In terms of green practices at home the respondents:

The respondents also were asked to answer "yes" or "no" to questions concerning their at home green efforts. In was revealed that the respondents:

recycled cans and bottles at home (81.4%),

recycled paper and cardboard (70.2%),

used energy efficient lighting at home (84.7%),

used cloth grocery bags (51.1%),

used low flow water fixtures (52.1%)

and re-used plastic bags (90.3%).

This study produced four dimensional factors which were derived from factor analysis with Varimax rotation. The dimensional factors were restaurant operation practices, conservation, organic, and carbon footprint reduction. In restaurants which utilized some green practices, conservation was the factor with the highest beta and therefore the strongest relationship to the dependent variable. The next factor which showed the strongest relationship to the dependent variable was restaurant operations practices. This study next examined restaurants which were certified green. The factor titled conservation had the highest beta similarly to the other dependent variable. The difference came when looking at the second highest beta which came from the factor titled carbon footprint reduction. This difference can be accounted for by the nature of a certified of a certified restaurant compared to a restaurant which solely implements some green practices.

Conclusions

In this study, it was established that green practices were indeed important to customers and that they do, in fact affect return intention within the family/casual dining segment. The factors which were derived from the twenty-eight original restaurant green attributes were, restaurant operations practices, conservation, organic, and carbon footprint reduction. Restaurant operation practices included general foodservice operations attributes. The factor titled conservation included factors which were engrained with a similar theme, the reduction of waste through reduction of use. The organic factor focused on organic food, drink, and menu options. And carbon footprint reduction contained the green practice attributes which looked to reduce fossil fuel consumption and reduced the use of other toxic chemical usage. These factors were ranked by importance to the customer as a way to determine which factors were most important to the customer. All but two factors were considered "Important" if they received higher than a 4.00 mean score. This study revealed that Conservation was the most heavily weighted factor or the four.

For the restaurant industry, resulting information from this study can be used to aid a restaurant in choosing which green practices to implement in order to relate a green image to their customers. The findings of this study suggest that customers are looking for specific green attributes when it comes to dining. Those attributes can positively impact their return intention. With proper green practice implementation, return intention should increase among customers of family/casual restaurants.

Implications

This study uncovered that being a certified green restaurant is no more important to the customer than solely implementing some visible green practices. Customers were most concerned with restaurant operations practices followed by conservation and carbon footprint reduction. The least relevant factor was the utilization of organic menu items. As a result, this study suggests that there needs to be strides made to distinguish between what a certified green restaurant is and how it differs from a restaurant which only utilizes some green practices. Perhaps some new strategies for differentiating between the two types of restaurant could be developed. This would lead to customers seeking out restaurant which specifically meet their needs. By showing the differences, and explaining the process that a restaurant must go through and maintain to be certified, customers could make educated dining decisions.

This research could also be used by restaurants to determine green practices which are both affordable to implement and would increase the return intention of its patrons by capitalizing on the green trend. By utilizing the menu to inform customers of green practices which have been implemented (i.e. organic items, water upon request) the restaurant could see a higher return on their investment without direct advertisement.

Another implication of this research which is also a limitation is regarding age. While the respondents of this study were predominantly between the ages of 46-65 (36.1%), there is little known about how younger restaurant customers are making decisions based on green practices. Further study would be needed to make an accurate statement as to that demographics importance level of green practice attributes.

Since behavior does not necessarily imitate intention this study can only assume that what survey respondents say they will do is the same as the actions they will take. While this study does suggest that restaurant customers will choose to seek out restaurants which are using green practices it does not mean that this happen. Therefore, a major implication of this research lies in this relationship. Will patrons actually seek out green restaurants? That question is one that can not accurately be gauged from this research.

<div align="center">Recommendations</div>

Based on the finding of this study, the following recommendations are offered for consideration:

1. The GRA needs to initiate a stronger marketing campaign which will attract more customers to certified restaurants which pay for the certification.

2. Restaurants which are only using some green practices need to have an identifiable marker so that the customers will understand that there are some green practices being utilized.

3. Since most respondents answered that they had not been to a certified green restaurant, the restaurants which are certified need to make them more known in their communities for being certified green.

4. There should be more educational programs which include information about green practices as a way to prepare future restaurant managers/owners of the possible benefits of utilizing green practices.

Future Research

This research examined how customer return intention is affected by green practices in restaurants, and whether the implementation of some green practices will aid in retaining more customers than if the restaurant is certified green. A research model that addressed the above needs was also developed. Therefore, findings in this research led to several recommendations for future research.

Expansion of this study to include quick service and upscale restaurants would be a logical next step. Since this research solely covered, and the study only explained how important green practices are to family/casual restaurant customers it would be interesting to perform a similar study in other types of restaurants. Demographic factors may become important in these situations where they weren't in this study. Qualitative research: Qualitative research seeks to answer questions that place importance on how social experiences are created and given meaning. Qualitative research methods could be an effective way to provide crucial information which was not found from this study. Focus groups and in-depth interviews with restaurant, for example, would be useful in gaining knowledge that is not measurable by survey alone. More green practice attributes and motivations for choosing specific restaurants could be revealed through qualitative research methods which investigate for core dimensions in the answers given by respondents.

Another possible research opportunity would be to interview certified green restaurant patrons, and patrons which frequent a restaurant that utilizes some green practices. This would aid in determining motivational factors behind frequenting the

aforementioned establishments. Using qualitative research the possibility behind finding

the personal aspect of green consumer choices would be simpler.

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APPENDIX A

INFORMED CONSENT

You are invited to participate in a research study that will require you to complete a survey. The purpose of this study is to explore customers' perceptions of green practices in restaurants and how it impacts their satisfaction and return intentions. The survey will take less than 20 minutes to complete. There may be direct benefits to you as a participant in this study. This study has only minimal risks, and is open to healthy adults 18 and older who have eaten at a casual/family restaurant within 6 months. Your participation is voluntary. You may refuse to participate in this study or in any part of this study. Your answers will be kept confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for three years after completion of the study. After the storage time, the information will be destroyed.   If you have any questions or concerns about the study, you may contact the principal investigator Dr. Yen-Soon Kim at 702-895-5443 or Audrey Szuchnicki at 702-994-6464. For questions regarding the rights of research subjects, or any complaints or comments regarding the manner in which the study is being conducted, you may contact the UNLV Office for the Protection of Research Subjects at 702-895-2794. Thank you for your time and consideration. Your participation is greatly appreciated.   "I have read the above information and agree to participate in this study."

SURVEY

The following is a list of practices that you might find in a family restaurant (i.e. Applebee's, Ruby Tuesday, TGIFriday's). For each practice, please select your level of agreement with the following statement: "The most important green attributes in restaurants are…" by checking the coordinating box.
I. Definitions:

Green: Tending to preserve environmental quality (as by being recyclable, biodegradable, or nonpolluting).

Organic: A labeling term that denotes products produced under the authority of the Organic Foods Production Act.

	1	2	3	4	5	6	7

1   2   3   4   5   6   7
Not Important   Neutral
Very Important

The most important green attributes in restaurants are…..							
Energy efficient lighting	1	2	3	4	5	6	7
Recycled paper goods (i.e. napkins)	1	2	3	4	5	6	7
Organic cotton uniforms for staff	1	2	3	4	5	6	7
Recycling throughout the restaurant	1	2	3	4	5	6	7
Serving organic food or drink	1	2	3	4	5	6	7
Purchasing local foods	1	2	3	4	5	6	7
Non-toxic chemical cleaners	1	2	3	4	5	6	7
Not using Styrofoam to-go containers	1	2	3	4	5	6	7
Not using Styrofoam cups	1	2	3	4	5	6	7
Furniture made of recycled wood	1	2	3	4	5	6	7
Motion sensors to detect when to turn the lights on/off	1	2	3	4	5	6	7

Low flow toilets in the restroom	1	2	3	4	5	6	7
Automatic faucets on the sinks	1	2	3	4	5	6	7
Offering filtered tap water	1	2	3	4	5	6	7

II. The following is a list of factors that may affect your intention to return to a restaurant. For each factor, please select the level of importance which corresponds to you by checking the coordinating box.

How important would these factors be in determining your intention to return to a green restaurant…							
Presentation of food	1	2	3	4	5	6	7
Healthy menu options	1	2	3	4	5	6	7
Taste of food	1	2	3	4	5	6	7
Freshness of ingredients	1	2	3	4	5	6	7
Variety of menu choices	1	2	3	4	5	6	7
Value for the cost	1	2	3	4	5	6	7
Location	1	2	3	4	5	6	7
Politeness of staff	1	2	3	4	5	6	7
Knowledge of staff	1	2	3	4	5	6	7
Family friendly atmosphere	1	2	3	4	5	6	7
Energy saving light fixtures	1	2	3	4	5	6	7
Recycling practices	1	2	3	4	5	6	7
Utilization of organic food ingredients	1	2	3	4	5	6	7
Utilization of organic beverage options	1	2	3	4	5	6	7

II. Demographic Information

1. You are

   ☐ Female

   ☐ Male

2. How old are you?

   ☐ 18-25

   ☐ 26-35

   ☐ 36-45

   ☐ 46-65

   ☐ 65 and up

3. What is your highest level of education?

   ☐ High School or Less

   ☐ Associate's Degree

   ☐ Bachelor's Degree

   ☐ Master's Degree or more

4. What is your Marital Status?

   ☐ Never Married

   ☐ Married

   ☐ Divorced

   ☐ Separated

   ☐ Widowed

5. What is your total household income range?

   ☐ $20,000-$45,000

   ☐ $46,000-$60,000

   ☐ $61,000-$80,000

   ☐ $81,000 and up

6. Which environmentally friendly activities do you currently perform at home? Please circle all that apply.

   Recycle cans and bottles
   Yes   No
   Use energy efficient light bulbs
   Yes   No
   Use cloth grocery bags
   Yes   No
   Buy organic groceries
   Yes   No
   Recycle paper and cardboard
   Yes   No
   Use low flow water fixtures
   Yes   No
   Re-use plastic bags
   Yes   No
   Compost food waste
   Yes   No
   Anything else? _____

7. Have you eaten at a certified green restaurant?

   Yes   No

8. Have you eaten at a restaurant which utilizes some green practices?

   Yes   No

9. How often do you eat out a week?

   ☐ 0-1 times

   ☐ 2-3 times

   ☐ 4-5 times

   ☐ 6-7 times

   ☐ 8 or more times

Thank you so much for your participation!

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

Social/Behavioral IRB – Exempt Review
Approved as Exempt

DATE: May 26, 2009

TO: **Dr. Yen-Soon Kim,** Hotel Administration

FROM: Office for the Protection of Research Subjects

RE: Notification of IRB Action by Dr. Paul Jones, Co-Chair
Protocol Title: Restaurant Customers' Perceptions of Green Practices
OPRS# 0903-3061M

This memorandum is notification that the project referenced above has been reviewed by the UNLV Social/Behavioral Institutional Review Board (IRB) as indicated in Federal regulatory statutes 45CFR46.

PLEASE NOTE:
Attached to this approval notice is the **official Informed Consent/Assent (IC/IA) Form** for this study. The IC/IA contains an official approval stamp. Only copies of this official IC/IA form may be used when obtaining consent. Please keep the original for your records.

The protocol has been reviewed and deemed exempt from IRB review. It is not in need of further review or approval by the IRB.

Any changes to the exempt protocol may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a **Modification Form.**

If you have questions or require any assistance, please contact the Office for the Protection of Research Subjects at OPRSHumanSubjects@unlv.edu or call 895-2794.

VITA

Graduate College
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Thesis Title: Examining the Influence of Restaurant Green Practices on Customer Return
Intention

Thesis Examination Committee:
      Chairperson, Dr. Yen-Soon Kim, Ph.D.
      Committee Member, Dr. Christine Bergman, Ph.D.
      Committee Member, Dr. Carola Raab, Ph.D.
      Graduate College Faculty Representative, Dr. Sheng Wang, Ph.D.