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Hans Hagglund  
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A SUSTAINABILITY “GREEN” CERTIFICATION AUDIT OF FOODSERVICE  
OPERATIONS AND THE DEVELOPMENT OF A RESTAURANT  
SUSTAINABILITY INSTRUMENT

by

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A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the College of Education  
at the University of Central Florida  
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## ABSTRACT

This study investigates current green restaurant certifications as well as developing a new more user certification. First, a fact finding investigation to find the most established and commonly utilized green restaurant certifications were compared. Second, a new green certification was developed. Third, chosen green restaurant certifications were compared. Lastly, the new green certification analyzed whether restaurants in the central Florida area utilized green practices.

Data were collected in face to face sessions with restaurant managers during non-peak hours of operation. There were numerous surveys utilized in this research study. The statistical methodology utilized in this study was average means and factor analysis in SPSS 20. The statistical results indicated that the newly developed green certification was ranked closely to the two established certification of the Green Restaurant Association and the Green Seal. Furthermore, when inquiring about restaurant green practices the result strongly indicated that restaurants are not utilizing green practices. As a side note there were restaurants that were not even using the more basic green practices such as energy efficient light bulbs. Implications, limitations and suggestions for future research were discussed in the final chapter.

I dedicate this dissertation to my two boys (Christopher and Matthew)  
and my parents (Hans and Gun-Marie).

## ACKNOWLEDGMENTS

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## TABLE OF CONTENTS

LIST OF FIGURES .....	xii
LIST OF TABLES .....	xiii
CHAPTER ONE: INTRODUCTION.....	1
CSR in the Hospitality Industry .....	2
Definition of Sustainability.....	6
Engaging Development.....	6
Strategies to Enhance the Present .....	9
Preserve the Future .....	10
United Nations and Sustainability .....	11
Sustainability in the Hospitality Industry .....	13
Problem Statement .....	14
Purpose of the Study .....	14
Significance of the Study .....	16
Research Questions .....	16
Summary .....	17
CHAPTER TWO: LITERATURE REVIEW.....	18
Early Definitions of CSR .....	18
Economic Responsibility .....	22

Legal Responsibilities.....	22
Ethical Responsibilities.....	22
Philanthropic Responsibilities .....	22
CSR Models.....	23
Porter and Kramer’s Four Justifications for CSR.....	26
Ecological Footprint.....	27
Definitions of Sustainability .....	28
Sustainability and Earth’s Population.....	29
Sustainability, Environment and US Politics.....	30
Sustainability in Business .....	32
Sustainability’s 4 Es (Edwards, 2005).....	32
Ecology / Environment: .....	33
Economy / Employment: .....	34
Equity / Equality: .....	34
Education: .....	35
Sustainability in the Lodging Industry.....	35
Restaurant Facilities and Energy Usage .....	38
Building Audits.....	41
The Restaurant Industry .....	42
Restaurant Segments.....	42
Impact of Restaurants on Society .....	44



Economic Impact of Restaurants .....	46
Sustainability in the Restaurant Industry .....	47
Supporting Healthy Lifestyles .....	51
Sustainable Agriculture.....	52
Safe Food Practices.....	53
Environment.....	53
Environmentally Friendly Practices.....	54
Social Concerns .....	54
Community Involvement .....	54
Green Activism .....	55
Socially Responsible Design.....	55
Fair Human Resources Practices .....	55
Socially Responsible Marketing .....	55
Green Associations and Certifications.....	56
Green Building Council .....	57
The Natural Step .....	58
CERES .....	60
The Nordic Swan .....	62
Green Seal.....	62
The Florida Lodging Green Palm Certification .....	63
The Green Restaurant Association.....	64

Green Certification Criteria .....	66
Organization and Responsibility, Legislation and Regulatory Requirements, and Documentation of Certification Association (Swan) Requirement.....	67
Summary .....	68
<b>CHAPTER THREE: METHODOLOGY .....</b>	<b>70</b>
Introduction.....	70
Research Questions, Hypothesis, and Research Procedures.....	70
Research Question 1 .....	70
Research Question 2 .....	70
Research Question 3 .....	71
Research Question 4 .....	73
Research Question 5 .....	73
Design of the Study.....	74
Research Protocols.....	76
Study Population.....	81
Sample Selection.....	81
Research Procedures .....	81
Instrumentation .....	82
The Green Restaurant Association Certification .....	82
The Green Seal Certification .....	82

The Nordic Swan .....	82
The New Green Certification.....	83
The Managers Certification Comparison Survey .....	83
The Attributes Certification Comparison Survey .....	83
Construct Validity.....	84
Reliability.....	85
Ethical Considerations .....	85
Limitations of the Study.....	86
Summary.....	86
 CHAPTER FOUR: FINDINGS .....	 88
Introduction.....	88
Overview of the Study .....	88
Certification Correlation Testing .....	89
Summary.....	98
 CHAPTER FIVE: CONCLUSIONS, LIMITATIONS AND SUGGESTIONS.....	 99
Research Question 1: Are there current prominent green restaurant instruments? .....	99
Research Question 2: Are there differences between the existing green restaurants instruments? .....	100

Research Question 3: Is there an efficient way to effectively measure aspects of green practices?.....	101
Research Question 4: Do restaurant segments and category classifications influence the propensity to engage in green practice implementation? .....	102
Research Question 5: Are managers aware of the importance of green practices? .....	102
Significance to hospitality educators, researchers and industry professionals ...	103
Significance to Hospitality Educators.....	103
Significance to Researchers .....	103
Significance to Industry Professionals.....	104
Constraints and limitations .....	104
Recommendations for Future research .....	105
Contribution of Study .....	106
APPENDIX A: MANAGERS CERTIFICATION QUESTIONNAIRE.....	108
APPENDIX B: CERTIFICATION ATTRIBUTES .....	116
LIST OF REFERENCES .....	122

## LIST OF FIGURES

Figure 1 Scheme of sustainable development: at the confluence of three constituent parts. The Future of Sustainability: Re-thinking Environment and Development in the 21 <sup>st</sup> Century (Adams, 2006).....	11
Figure 2: Levels of Social Responsibility (Carroll, 2003).....	23
Figure 3. Model of CSR (Baker, 2011).....	25
Figure 4: A Conceptual Framework for Green Practices in the Restaurant Industry (Choi and Parsa, 2008).....	50

## LIST OF TABLES

Table 1 Certification Analysis .....	72
Table 2. Instrument Matrix .....	84
Table 3 Certification Correlations, Correlation is significant at the .01 level (2-tailed) ..	90
Table 4. Case Processing Summary .....	91
Table 5 .....	92
Table 6 Database query.....	92
Table 7. Manager Certification Comparison and Preference for Green Certification .....	93
Table 8 Certification Attributes .....	94
Table 9. Figure 9 Explanation.....	97

## CHAPTER ONE: INTRODUCTION

“Going green” is one of the current trends in the restaurant industry. There are numerous ways that a restaurant can go green. Some researchers focus on green practices such as organic food, while others focus on saving operational costs through reducing energy. In all, these practices may or may not create a financially stronger bottom line. To assist with restaurants’ green efforts, numerous green certifications have been introduced. These certifications enable and assist restaurants with their goals, while positively impacting both the environment and the restaurant’s financial performance.

The objective of this study is to conduct green certification audits at selected commercial restaurants. Utilizing three currently established green restaurant certifications, information will be gathered through visits to local restaurants. With the information gathered from the local restaurants in addition to a thorough in-depth discussion with a focus group, a new, more effective and efficient Green Audit certification instrument will be developed. This new certification instrument will be developed to achieve various objectives including a user friendly and informative system that will guide restaurants in creating a “plan of action” in becoming green while simultaneously creating a healthier financial bottom line.

Corporate Social Responsibility (CSR) is an important and prominent topic that has been discussed in the business community over the last decade, and it is, at the least, tangentially associated with going green. CSR is referred to by other monikers as “corporate conscience,” “corporate citizenship,” “social performance,” or “sustainable responsible business” (Baker, 2011). In its publication, *Making Good Business Sense*, The World Business Council for

Sustainable Development utilized the following definition, “*Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large,*” (Holme & Watts, 2000, p. 10). CSR has also been described by the following statements: “CSR is about capacity building for sustainable livelihoods. It respects cultural differences and finds the business opportunities in building the skills of employees, the community and the government” and “CSR is about business giving back to society” (Baker, 2011).

The CSR concept began in the 1950s (Carroll, 1999). In early writings, CSR was simply referred to as “social responsibility” as the corporate business sector had not yet been established within the domain of social units (Carroll, 1991). The main goal of CSR is for a given company to embrace responsibility for its actions. This mindset encourages corporations to create positive impacts on society through activities within the environment, consumers, employees, communities and other stakeholders.

### CSR in the Hospitality Industry

Assumedly, a company’s primary focus is on producing revenues and creating profits. However, businesses also have to validate their survival by focusing on additional stakeholders beyond their shareholders (D’Amato, Henderson, & Florence, 2009). Thus, more businesses are now focusing on CSR to cater to market demands. CSR in the hospitality industry has become more than a trend, and is now a way of life for some hospitality firms (Bohdanowicz & Zientara, 2008).



The hospitality industry is divided into numerous sectors such as lodging, restaurants, travel and tourism, convention and meeting, cruise lines and theme parks (Ottenbacher, Harrington and Parsa, 2009). Companies within the hospitality sectors focus on CSR in various ways. For example, Scandic Hotels, a hotel chain located in the Scandinavian countries, has embedded CSR into their business model, effectively changing the way the company operates. More specifically, Scandic's "Omtanke" program conceptualizes CSR by focusing on human resources management, the local community, and supporting and promoting environmental sustainability (Bohdanowicz and Zientara, 2008).

In the restaurant sector, McDonald's is a prime example of a company that practices CSR but in a slightly different manner. In business, corporate identity is often defined as an expression of a company's values. At McDonald's, corporate identity is regarded as a crucial strategic management tool applied both internally and externally (Fox and Fox, 2004). A belief structure which consists of the common characteristics of a group can be regarded as "ideology" (Van Dijk, 2006). Thus, the philosophy behind intertextual relationships is critical when analyzing how McDonald's constructs its social character and relationships through social communications and public relations (Hong, 2008). Language is an instrumental tool in social roles, social context, social situations and social processes (Fox and Fox, 2004). Thus, when McDonald's produces a script, it cautiously considers an assortment of voices and opinions from other groups to replicate its own values and beliefs. This continually rebuilds and / or recreates corporate identity and social relations by agreeing, disagreeing or negotiating to other voices (Hong, 2008).

In the transportation sector, Scandinavian Air Systems (SAS) is one of many airlines that focus on Corporate Social and Environmental Responsibility (CSER). From a CSR and sustainability point of view, air emissions have the largest impact on the environment yet they are often excluded from the regulatory efforts of controlling the environmental effect of airplanes. This seemingly convenient loophole in regulations demonstrates the importance of CSR in the transportation sector.

There are, however, a few incentives for SAS to focus on CSR. According to Lynes and Andrachuck (2008), there are two main CSR motivations at work: 1) the introduction of new technologies that encompass cleaner production and 2) lesser production costs, which simultaneously provide a positive image of the airline and reinforce the motivation for CSR. These two factors are keys to success, and the financial benefits that result from green operating methods are numerous. One example is the green landings, or green approaches, that SAS have been practicing since 2006 which reduce the consumption of fuel.

Image and reputation cannot be understated in today's business environment and there are numerous research studies that support this (Brown, Dacin, Pratt, and Whetton, 2006; Ashforth and Mael, 1989; Bhattacharya and Sen, 2003; Dutton, Dukerich, and Harquail, 1994). According to Cowper-Smith and Grossbois (2010), environmental issues were becoming a primary concern when compared to social or economic issues, with emissions reduction as a primary focus. Wanderley and Wildes (2010) analyzed the transportation industry's CSR reporting; eight transportation companies are committed to reducing greenhouse gas (GHG)

emissions; while six out of eight organizations also defined specific targets to be met (Wanderley and Wildes, 2010).

The impact that tourism has on a destination's environment, economies, societies, and cultures is well recognized (Stynes, 1997). The seemingly antagonistic ramifications have exposed the tourism industry to tough criticism (Tourism Concern, 2005). This being said, the positive impact that tourism may have on a destination cannot be underestimated. For example, tourism brings financial resources for well-needed infrastructure improvements and jobs, which in turn, enhance the tourism destination's economy and the standard of living (Henderson, 2007).

In 2003, the Convention Industry Council (CIC) commenced the Green Meeting Task Force. The goal was to create a minimum best green practices mechanism for event planners and suppliers. Their findings suggest both positive financial and environmental impacts as the two main benefits of green meetings and events (Convention Industry Council, 2004, Lee, Breiter, and Choi, 2011).

There are numerous examples of CSR in the cruise line industry. One instance is the Scandinavian Hurtigruten Cruise Line which concentrates on providing an environmentally friendly Arctic experience. Hurtigruten Cruise Line has promised to "carbon balance" all flights that bring in their customers. The company is able to do this by cleaning preferred sections of Scandinavian beaches in addition to donating part of their profits to numerous environmental non-profit organizations.

Theme park operators in Orlando, Florida reported CSR activities in the areas of environment, community and customers. The theme park industry, however, is currently lagging

behind other industries in reporting their CSR efforts as part of an overall corporate business strategy (Holcomb, Okumus, and Bilgihan, 2010). These companies can increase the level and emphasis of CSR initiatives through improved publication and promotion of their CSR activities.

### Definition of Sustainability

In 1987, a definition of sustainability was created by the Brundtland Commission as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” In 1994, Viederman defined sustainability as “a vision of the future that provides us with a road map and helps us focus our attention on a set of values and ethical and moral principles by which to guide our actions.” Both the Brundtland Commission and Viederman introduced concepts of engaging development and strategies to enhance the present while preserving the future. The following sections focus on these key factors:

- 1.) Engaging Development
- 2.) Strategies to Enhance the Present
- 3.) Preserve the Future

### Engaging Development

Development is frequently considered in economic terms and rarely in a sustainability arena. In terms of sustainability definitions, development means advocating:

- a) Economic Growth
- b) Social Progress

### c) Environmental Protection

Economic growth refers to the advancement and progress in the economy, and is facilitated by increases in productivity. Economic growth is defined as “increasing capacity of the economy to satisfy the wants of goods and services of the members of society” (Kendrick, 1961). Increased productivity lowers inputs such as labor, capital, material and energy for any given amount of output (Kendrick, 1961). Scientists, however, are divided in their conclusion of whether economic growth is positive or negative. Georgescu-Roegen (1971) suggests that a growing economic activity, which refers to production and consumption, necessitates larger quantities of waste by-products. This refers to an increase in the utilization of the Earth’s natural resources, whether renewable or non-renewable, resulting in a buildup of waste. Also, the concentration of contaminants will consequently overpower the carrying capability of the biosphere and thus, result in the degradation of the quality of Earth’s environmental health. Despite rising incomes, this will lead to an overall decline in human welfare. To save the Earth from “going under,” economic growth should slow down, if not stop, in which the world should make a transition towards a steady-state economy (Daly, 1991).

An alternative belief suggests that the fastest way to improve the environment is through economic growth. It is theorized that higher incomes will lead to an increase in demands for goods and services that don’t necessarily drain natural resources. These discriminating consumers are predicted to insist on the adoption of environmentally friendly practices and protectionary regulations (Barlett, 1994). Such consumers may use their dollars as bargaining power to demand improvements in the quality of the environment. “The strong correlation

between incomes, and the extent to which environmental protection measures are adopted, demonstrates that in the longer run, the surest way to improve your environment is to become rich” (Beckerman, 1992).

Social progress refers to the facilitation of social equity and equality for all humans. The main impression of social progress is that societies can improve their living standards in terms of social, economic and political standards. Numerous political views exist on how social progress may occur. In terms of sustainable social progress, the focus starts at the local community level. For example, a typical city in North America of approximately 100,000 inhabitants annually imports 200 tons of food, 1,000 tons of fuel and 62,000 tons of water daily. The same city exports 275 tons of garbage and 110 tons of human waste every day (Morris, 1990). This example represents the average city which produces most of the Earth’s solid and liquid wastes and consumes most of the Earth’s fossil fuels. The city also releases the majority of ozone depleting composites and poisonous gases, and in the end provides the emphasis to economic encouragement to the cleaning of the Earth’s forests and agricultural lands (UNEP, 1990).

Environmental protection increases the probability that the Earth’s resources will not be depleted prior to the future generation’s needs when those resources are met effectively. “The conservation of natural resources is the fundamental problem. Unless we solve that problem, it will avail us little to solve others,” (Roosevelt, 1907). Currently, the consequences of our population’s lifestyle can be viewed in the degradation, sometimes permanently, of Earth’s natural resources. The main discussions regarding the responsibility of environmental protection have been focused on the role of government legislation and enforcement, yet Harding (2006)

posits that it is the responsibility of the overall population. Environmental legislation, ethics and education are three factors involved in environmental protection. Each is important in the process of deriving a common strategy regarding environmental decisions at both a national level and personal level (Solomon, 2010).

### Strategies to Enhance the Present

The second concept describes the present with the intention of achieving growth through not only the economy, but also through environmental and social advancement. The focus of sustainable growth and development is dependent on humans' capability of technical ingenuity. Technological advancements increase efficiency in the use of materials and energy (Institute for 21<sup>st</sup> Century Energy, 2011). Consequently, an increased need for the utilization of renewable natural resources and a stricter control of utilizing non-renewable natural resources would result.

At the root of Earth's degradation regarding land, water and forest, is the lack of proper agricultural policies preventing further harm to Earth. In terms of energy policies, the three main issues include the greenhouse effect, acidification and deforestation. Since the aforementioned factors threaten economic sustainable development, it is crucial that economics and ecology be integrated in both the decision making and lawmaking process. These steps are crucial to protect the environment and promote development.

In terms of Earth's environmental and economic issues, they may have their roots in social and political factors. Earth's rapid growth in population has had a profound impact on the environment and on development – growth in regions varies as a result of cultural values. Distribution of power and influence within society may be the core problem in environmental

and developmental challenges. Thus, there is the need for new approaches involving social development programs that specifically elevate the status of women in society and protect vulnerable groups (United Nations World Commission on Environment and Development, 1987).

For the above factors to succeed, all nations of the world need to coordinate their efforts. Ecosystems do not see borders between nations: water pollution moves through shared rivers, lakes and seas; air pollution travels in the atmosphere over vast distances; and major accidents such as nuclear reactor failure may cause extensive regional effects.

#### Preserve the Future

The third concept involves preserving the future which is described as a long-term overhaul of all existing systems in society. Currently, it is almost impossible to predict the needs of future generations, thus, Mumier (2005) presented the following basic common objectives: 1) Everyone's right to shelter, education and healthcare; 2) The human population's enjoyment of equality, equal opportunities and respect for all human beings regardless of skin color, religion and nationality; 3) Protecting the environment; 4) The basic right to work and earn a decent salary; and 5) The right to live in a clean environment with access to a basic infrastructure.

Taking the aforementioned three sustainability concepts, one can conclude that sustainability is temporal as it is time related. Taking all three concepts into account, sustainability is a process required to reach a goal that is embedded in a system that supports it.



## United Nations and Sustainability

Sustainability as a subject and definition started at the United Nations Conference of the Human Environment in Stockholm, Sweden in 1972. It was the first time that UN's member nations discussed the human environment and changed the way international environmental politics were developed. The following United Nations Conferences on the Human Environment have discussed the international environmental issues more in depth.

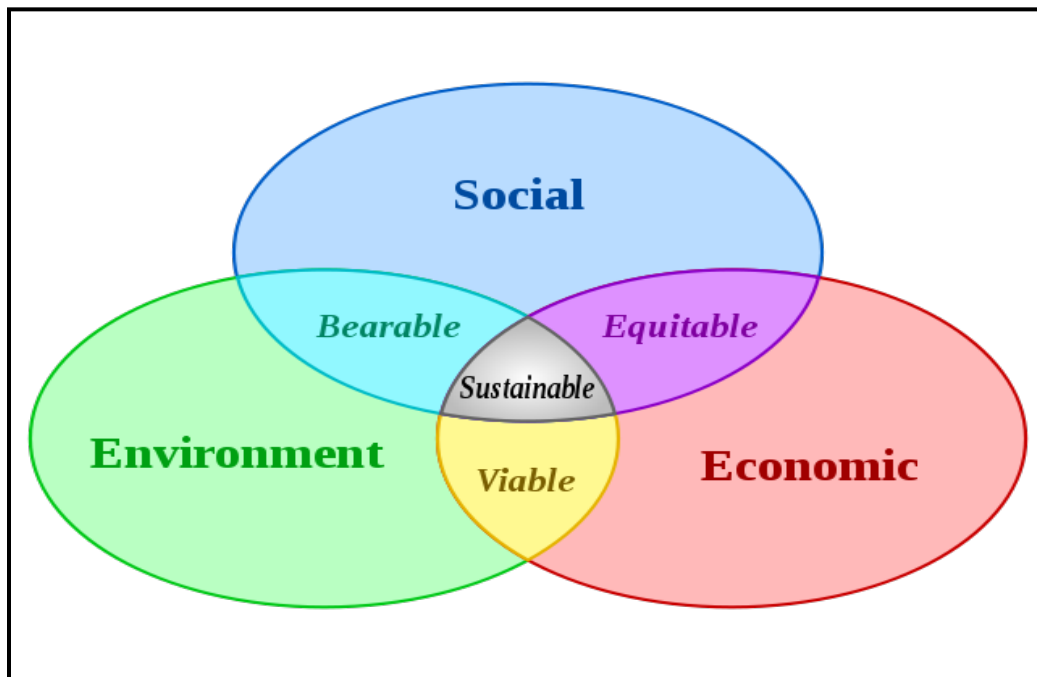


Figure 1 Scheme of sustainable development: at the confluence of three constituent parts. The Future of Sustainability: Re-thinking Environment and Development in the 21<sup>st</sup> Century (Adams, 2006)

The above figure demonstrates the sustainability movement thought process and involves three core dimensions: Social; Environment; and Economic. The underlying message is that global balance is necessary – the circles interlock as each element is dependent on one another. As a society, it is essential that we strike a balance between economic growth and social needs with the natural environment. The difficult task is to ensure that growth in the present does not adversely sacrifice future needs (Adams, 2006).

For instance, at the Earth Summit 1992 in Rio de Janeiro, Brazil, there were 172 governments participating in the world view of social responsibility. The most important achievement from the Summit was the development of the United Nations Framework Convention on Climate Change. This led to the Kyoto Protocol, an international agreement that targets to reduce greenhouse gas emissions in 37 industrialized countries. The outcome was the 27 principles of the Rio Declaration as well as Agenda 21 (United Nations General Assembly, World Summit Outcome, 1992).

The 2002 World Conference on Social Responsibility was held in Johannesburg, South Africa. United States President George W. Bush boycotted the conference and instead sent Colin Powell, Secretary of State, to address the attendees. Overall, the conference was a disappointment to most participating nations. The United States, however, as of the 2009 Copenhagen Climate Summit, has since re-engaged with the global environmental arena.

It was evident at the 2005 UN's General Assembly World Summit, that sustainability required the understanding of environmental, social and economic demands, now recognized as the triple bottom line. In the later part of the same decade, a fourth pillar, education, came about.

This resulted in the now common four E's of sustainability which will be presented later in this paper (Edwards, 2005).

### Sustainability in the Hospitality Industry

Although a very serious issue, the tourism industry has gone unnoticed as a global contributor to climate change (Dubois and Ceron, 2006). The tourism industry is one of the largest in the world, according to the World Travel and Tourism Council (WWTC, 2011) with 259 million employees and generating 9.1% of the world's gross domestic product (GDP). These figures are crucial when focusing on sustainability.

The effects that the sectors of the tourism industry are in charge of or responsible for in terms of the environment, can have a substantial impact on future generations. Currently transportation is the tourism segment that most significantly impacts the environment, and concurrently receives the bulk of global criticism (Lynes and Dredge, 2010; Gossling, 2002). When further facts and data have been collected, measured and compared regarding transportation, building codes, building energy usage, water consumption, and overall waste, this may change.

Green practices in the hospitality industry have become the new trend due to the common belief that "going green" makes economic solid sense. The hospitality industry has the opportunity to make substantial gains financially when they focus on green practices. This research study will concentrate primarily on the restaurant industry.

Numerous businesses have started marketing their green efforts, known as "Green Marketing," a concept seemingly linked with hype and overstated claims about products and

their environmental impact (Manaktola and Jauhari, 2007). However, when a business markets itself as being green with logos such as the Green Seal, Green Restaurant Association, and the Nordic Swan, consumers know that the business has made the right purchasing choices and implemented green practices in its operation. There are numerous research studies supporting the notion that going green is a fundamentally positive stance when it comes to a business' success. Consumers appreciate and reward businesses that demonstrate strong environmental and social responsibility and are prepared to pay higher prices for such services (Creyer and Ross, 1996; Joyner and Payne, 2002).

#### Problem Statement

There has been little research to date regarding the effectiveness of green certifications on the bottom line of hospitality enterprises. This study attempts to increase the existing scientific literature in this area and provide additional recommendations. This research will also discuss the topic of corporate social responsibility and sustainability in the restaurant industry. Furthermore, the research will establish the environmental impact of the restaurant industry. Finally, data from the National Restaurant Association (NRA) will be presented along with data representing the economic impact that the restaurant industry will have on both the environment and society as a whole.

#### Purpose of the Study

The main objective of this study is to understand how green certifications and green practices in restaurants may be utilized to improve their financial bottom line. This study makes an effort to

provide evidence that supports the notion that operating a business in a sustainable manner will create more jobs while increasing and improving effective and efficient utilization of resources. As a result, this will create a healthier business environment, which in turn, will lead to an improved bottom line and an increase in shareholders' wealth.

Chapter One provides background information that is intended to provide a broad overview on the history of corporate social responsibility, its definition, and its purpose as well as a broad view of the restaurant industry. A statement of the research problem and the purpose of the study will then follow. After a succinct description of the adopted theoretical framework, the research questions will be presented. Finally, the methodology to be used in the study will be discussed.

Chapter Two discusses, in depth, the two topics of corporate social responsibility as well as the restaurant industry: how the importance of CSR has created a stream of successful companies. Changes in the restaurant industry and new niches and trends will also be highlighted.

Chapter Three discusses the methodology used for this study. This study embarks on the research side of utilizing green certifications to audit various local restaurants.

Chapter Four includes the data collection, analysis and discussion of the results, followed by the study's limitations.

Chapter Five includes discussions regarding the study, various implications of the study's outcome and possible added research, the limitations of the study, as well as possible future research in this area.

### Significance of the Study

This study will cover several areas of being a socially responsible company which, in the end, would benefit the entire planet and its population. In order to accomplish this purpose, the study will first assess the nature of the relationships between corporate social responsibility, sustainability and the restaurant industry.

The restaurant industry plays a major role in economic development. Nearly every aspect of the hospitality and tourism industry includes restaurants – a segment that stands out in its utilization of natural resources. The ecological footprint of restaurants is substantial -- in the hospitality-tourism industry, this segment utilizes, by far, more resources than the other segments (Green Restaurant Association, 2011). Thus, there is sufficient justification for an in-depth research study that takes into account the green operating opportunities that currently exist. These opportunities are becoming increasingly more popular since they guide restaurants towards green and sustainable practices, and in turn, are believed to improve the restaurants' financial bottom line. Thus, the need for green certification labels in the restaurant industry is essential.

### Research Questions

1. Are there current prominent green restaurant instruments?
2. Are there differences between the existing green restaurant certifications?
3. Is there an efficient instrument to effectively measure aspects of green practices?

4. Do restaurant segments and category classifications influence the propensity to engage in green practice implementation?
5. Are managers aware of the importance of green practices?

### Summary

The first chapter briefly introduced the topic of Corporate Social Responsibility (CSR), where it started, and where it is heading in the future. CSR has become more and more important in most businesses, and is becoming a way of life for many organizations.

One of the pillars of CSR is sustainability. Sustainability may play a major role in the success of a business venture, and this research study will focus on sustainability as it applies to business ventures within the restaurant industry. The chapter also included information concerning the restaurant industry, which is the research context of this manuscript.

## **CHAPTER TWO: LITERATURE REVIEW**

Sustainability, as a concept, is well established and commonly accepted (Edwards, 2005). One of the reasons for its popularity is based on the argument that our planet can only supply life on Earth only for so long with the resources it currently has. When those natural resources are depleted, life on Earth as we know it is in danger of demise. The only solution is to make major changes as to how we consume Earth's resources.

### Early Definitions of CSR

In 1953, the following definition was developed by Bowen, "...it refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society." In the 1960s there was a significant increase in the amount of attention given to CSR and thus more definitions were developed. Primarily, the following authors drove the topic forward and developed various definitions of CSR. These authors were Davis, Frederick, and McGuire (Carroll, 1999), and finally Davis and Blomstrom (1966).

Davis (1960) defined CSR as "businessmen's decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest." What Davis meant was that social responsibility was to be viewed in a managerial context. He continued explaining that a firm's socially responsible decisions are an investment in the future as they would potentially increase the financial future gain of the firm. In 1967 Davis wrote: "The substance of social responsibility arises from concern for the ethical consequences of one's acts as they might affect



the interests of others.” He continues with, “Social responsibility moves one large step further by emphasizing institutional actions and their effect on the whole social system. Social responsibilities, therefore, broaden a person’s view to the total social system.”

The following definition was developed by Frederick in 1960, “Social Responsibilities mean that businessmen should oversee the operation of an economic system that fulfills the expectations of the public.” This implies that an economy’s means of production and distribution should enhance total socio-economic welfare and not simply cater to the interests of private persons or firms. Social Responsibility is the final analysis which implies a public posture toward society’s willingness to utilize economic and human resources for societal improvement on an extensive scale.

The third contributor in the 1960s was McGuire who, in 1963, wrote the following: “The idea of social responsibilities supposes that the corporation has not only economic and legal obligations but also certain responsibilities to society which extend beyond these obligations.”

The fourth contribution came from Davis and Blomstrom (1966) whose definition follows: “Social Responsibility, therefore, refers to a person’s obligation to consider the effects of his decisions and actions on the whole social system. Businessmen apply social responsibility when they consider the needs and interest of others who may be affected by business actions. In so doing, they look beyond their firm’s narrow economic and technical interest.”

The fifth contributor, Clarence Walton, wrote in 1967 “In short, the new concept of social responsibility recognizes the intimacy of the relationships between the corporation and

society and realizes that such relationships must be kept in mind by top managers as the corporation and the related groups pursue their respective goals.”

In the early 1970s, a book authored by Heald (1970) claimed: “As businessmen themselves have defined and experienced it, meaning of the concept of social responsibility for businessmen, must finally be sought in the actual policies with which they were associated.” In 1971, Johnson provided the following definition: “A socially responsible firm is one whose managerial staff balances a multiplicity of interests. Instead of striving only for larger profits for its stockholders, a responsible enterprise also takes into account employers, suppliers, dealers, local communities, and the nation.”

Steiner (1971) writes, “Business is and must remain fundamentally an economic institution, but...it does have responsibilities to help society achieve its basic goals and does, therefore, have social responsibilities. The larger a company becomes, the greater are these responsibilities, but all companies can assume some share of them at no cost and often at a short-run as well as a long-term profit. The assumption of social responsibilities is more of an attitude of the way a manager approaches his decision making task, than a great shift in the economics of decision making. It is a philosophy that looks at the social interest and the enlightened self-interest of business over the long run as compared with the old, narrow, unrestrained short-run self-interest.”

In 1972 another definition was developed: “To qualify as socially responsible corporate action, a business expenditure or activity must be done for which the marginal returns to the corporation are less than the returns available from some alternative expenditure, must be purely

voluntary, and must be an actual corporate expenditure rather than a conduit for individual largesse.”

It is very difficult to distinguish between what is “purely voluntary” and that which is a response to social norms. “I take responsibility to mean a condition in which the corporation is at least in some measure a free agent. To the extent that any of the foregoing social objectives are imposed on the corporation by law, the corporation exercises no responsibility when it implements them,” (Manne and Wallich, 1972).

Wallich (1972) continued to evolve the concept of social responsibility by positing, “Three basic activities seem to be involved in the exercise of corporate responsibility: (1) the setting of objectives, (2) the decision whether to pursue given objectives, and (3) the financing of these objectives.”

The evolution of the concept of CSR started decades ago with a few authors realizing that companies should not just focus on the financial bottom line but also should include and interact with the company’s local community as well as take into account the environment. Federal and local governments have added laws and regulations to make companies more conscientiousness about their responsibility as a corporate citizen. Furthermore, numerous NGOs have also developed a following amongst citizens around the world to encourage companies to become more socially responsible. CSR as a concept has also evolved from a niche topic to an umbrella concept embracing sustainability as one of the primary forces in Green adaptations.

Recently, the two main authors providing guidance and spearheading concepts regarding CSR are Carroll and Wood (Carroll, 1999; Wood 1991). Carroll developed the “Levels of Social

Responsibility” in 1979 and has since then modified the model numerous times (1983, 1991, 1994, 1998, 2000, 2004) (Visser, 2005). Wood (1991) developed the “The Corporate Social Performance Model.” In the late 1970s, Carroll suggested four categories of CSR, economic, legal, ethical and philanthropic responsibilities (Visser, 2005). The four categories in Figure 2 may be explained as follows:

#### Economic Responsibilities

The economic responsibility level is the fundamentally basic responsibility of a company. A company should make a profit for its shareholders (Carroll, 2003).

#### Legal Responsibilities

The legal responsibility level advocates following the law. A company has to follow the rules and regulations (Carroll, 2003).

#### Ethical Responsibilities

The level of ethical responsibilities suggests that the company is obligated to do what is right, just and fair and to avoid harm (Carroll, 2003).

#### Philanthropic Responsibilities

The highest level that a company can reach is the philanthropic stage. When a company has reached this level it is regarded as a good citizen. Reaching this level means that the company contributes to the community and improves quality of life (Carroll, 2003).

Summarizing, according to Carroll (2003), there are four hierarchical levels of social responsibility for a company. A company’s first level of CSR is to make money, because if a

company does not make money it cannot sustain a business life. The second the level is that a company must follow the law in doing business so that the company’s stakeholders are not at risk of losing the business. The third level includes that a company not only must follow the law, but also has to operate and behave ethically. If a company operates legally but not ethically, it runs the risk of losing business through poor reputation. The last level is that a company should be a good corporate citizen and support charitable or philanthropic ventures. This can be achieved through funding various socially responsible research projects or by company employees volunteering their time to help local groups and neighborhoods.

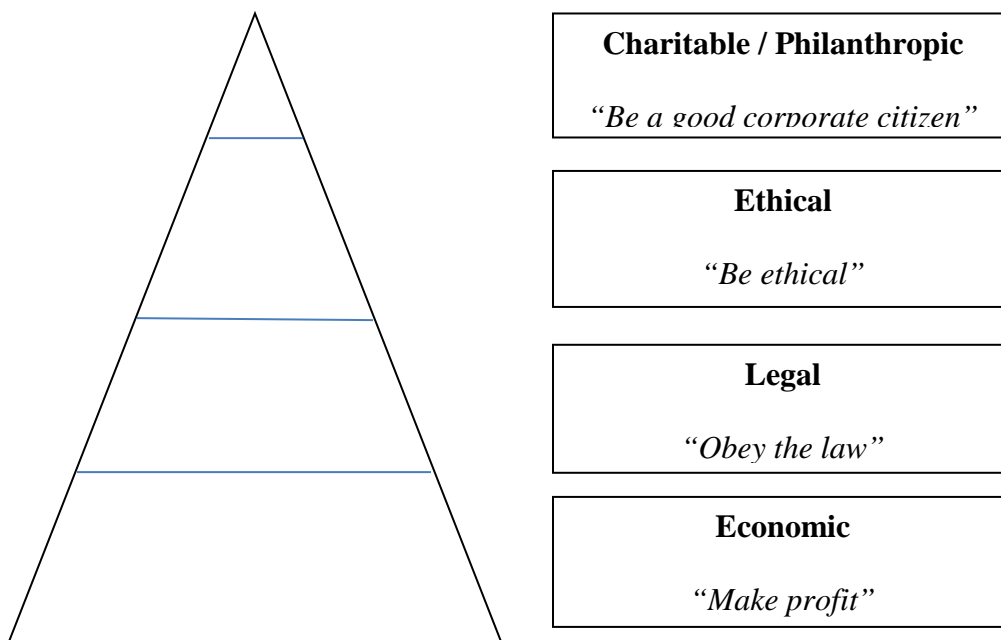


Figure 2: Levels of Social Responsibility (Carroll, 2003)

CSR Models

There are, according to Baker (2011), two different models of CSR. The first is an American, philanthropic model where a business focuses on profits, paying taxes and giving to

charity. The second model is European, which according to Baker, is focused on operating the entire business in a more sustainable manner and investing in communities for business purposes. According to Baker (2011), the European model has an advantage over its American counterpart where social responsibility becomes an integral part of the process of creating wealth. This process should be managed properly so that the business competitiveness is enhanced and thus will maximize a society's creation of wealth. These processes will also, in times of hardship, ensure a continuous focus on CSR. In the American model, the first thing that businesses do in case of hardships is discontinue the philanthropic investments.

According to the Baker model (Figure 3) businesses need to manage two aspects of their operations. The first is assessing the quality of their management team, accomplished by examining both the people in management positions and the processes utilized. The second aspect is to investigate the nature and quantity of the above mentioned group's impact on society in surrounding areas, keeping in mind that stakeholders are becoming increasingly interested in the behavior of the business, their products and services. Finally, the decisions made by the business impact the environment, local community and its own workforce (Figure 3).

In 2006, Porter and Kramer introduced another factor to CSR, a link between CSR and a firm's competitive advantage. This competitive nature will result in a demonstration of greater financial gain and better overall financial performance. Firms should view CSR as an opportunity instead of damage control or a PR campaign, while realizing that CSR is becoming more and more significant to competitive success (Porter and Kramer, 2006).

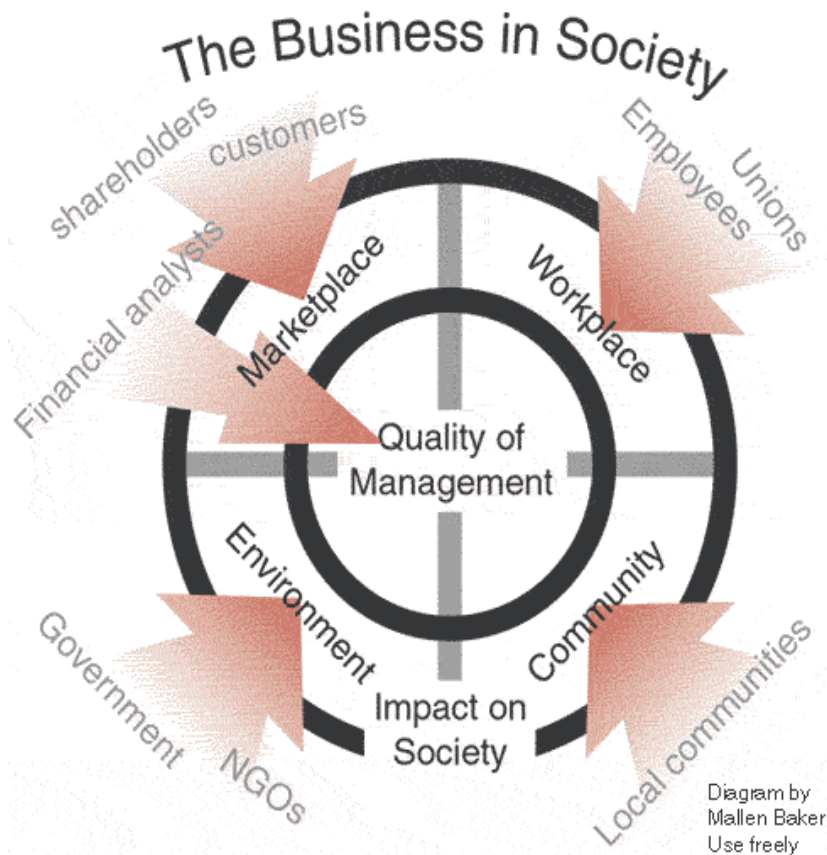


Figure 3. Model of CSR (Baker, 2011)

Porter and Kramer propose the following factors to integrate business and society:

- 1) "Identifying the points of intersection," which indicates that companies should discover where business and society meet. 2) "Choosing which social issues to address," emphasizing those issues which the firm is most comfortable dealing with through utilizing current resources. 3) "Creating a corporate social agenda," meaning that a firm must stand for various values that will become their social agenda. 4) "Creating a social

dimension to the value proposition,” indicating that companies must find a social cause to support.

#### Porter and Kramer’s Four Justifications for CSR

Porter and Kramer present the following four steps as justification for CSR: 1) The moral obligation which views firms’ actions from a moral standpoint and even further as the firm holds obligations to provide society with something in return for its existence. The firm has a duty to be a good citizen, do the right thing and at the same time “achieve commercial success in ways that honor ethical values and respect people, communities, and the natural environment.” 2) Sustainability emphasizes the firm’s involvement in environmental and community stewardship. Firms should operate in a manner that secures long term behavior that is neither environmentally wasteful nor detrimental to society. Sustainability works best when it coincides with the firms’ economic and regulatory interests. Postponing of the initiative towards sustainability may lead to far greater costs in the future. 3) License to Operate is a concrete method for a firm to discover the various social issues that the firms’ stakeholder perceives as important. It provides the incentive to a firm to have a proper and on-going dialogue with regulators, local citizens and advisors as CSR depends on outsiders. 4) Reputation seeks a strategic benefit. Most firms rarely find this and instead focus on satisfying an external audience. Reputation will function as a buffer if public opinion turns against the firm due to a corporate crisis. How well a firm fares through the crisis depends on its reputation.



## Ecological Footprint

The Ecological Footprint measures human consumption as to how it pertains to both the resources needed to provide for human existence and what the current consumption levels are. It also takes into account the vast amount of waste that humans leave behind (Wackernagel, 1997). According to the World Wide Fund in 2008, the resource from Earth's ecosystem to support each person on earth is 2.7 global hectares, which is 30% more than is available on the Earth. This means that the average human being has an ecological footprint of 2.7ha, and unfortunately, these unsustainable practices deplete Earth of its resources. Economists focusing on ecology argue that to accomplish sustainability, humanity must preserve the planet's natural resources (Daly and Cobb, 1989; Pearce, Markandya, and Barbier, 1989). Humans may have exceeded the biospheres' regenerative capacity as early as the 1980s and may have grown to 120% by 1999.

The ecological deficit must be made up by adding pressure in an unsustainable manner on Earth to produce more. This can be accomplished in the following three ways: firstly it can be embedded in the world trade of goods and services; secondly it can be taken from the past such as the way we use fossil fuels today; thirdly we can borrow from the future as we do with cutting down forests and over-fishing (Wackernagel, et al, 2002). The overall trend is that higher living standards are less sustainable, and as the population and the standard of living increase it cannot be sustained.

## Definitions of Sustainability

Neither definition presented by the United Nations nor Viederman are generally accepted and have been scrutinized from several angles. There are differences with references to goal setting, results and how to accomplish those goals (Holling, 2000). There are two very distinct views on sustainability -- one is that industrial development should move forward to better and improve mankind, while the other is to consider the environment while developing economically. For the environmentalist, the thought of sustainable development is in itself an oxymoron as development depletes Earth's natural resources (Redclift, 2005).

Herman Daly (1989), an ecological economist, posted the question "What use is a sawmill without a forest?" This emphasizes the role of the economy as a subsystem to the human society, which is also a subsystem to the biosphere. The resulting view is one where each area takes from the other, resulting in a loss. This can be challenged with new scientific breakthroughs of how to create, develop and manufacture or produce items. According to Blackman, et al. (2011), there is no doubt that the Earth's natural resources are finite. If the resources were accounted in terms of their significance to human welfare, however, then the resources may never be exhausted. Blackman, et al. (2011) explains that if a "scientific breakthrough in a given year increases the prospective output of the unused stocks of a resource by an amount greater than the reduction (via resources actually used up) in that year, then, in terms of human economic welfare, the stock of that resource will be larger at the end of the year than at the beginning." There are at least three ways to increase stocks from natural resources:

1) Through innovative technological advancements that increase the ability to utilize the resource. 2) By substituting the resource with another resource; and 3) through technological changes and advancements that utilize recyclables (Blackman and Baumol, 2008).

It is difficult to identify one definition that can be endorsed and agreed upon by everyone. The definition must be scientific and factual with a clear statement of a set goal. A recommended, conservative definition is “sustainability is improving the quality of human life while living within the carrying capacity of supporting eco-systems,” (IUCN/UNEP/WWF, 1991). Another view that calls for political action is to move forward and not focus on the destination, but in the process or journey. For example, the Earth Charter Movement (2000) refers to sustainability as a “sustainable global society founded on respect for nature, universal human rights, economic justice and a culture of peace.” Experience has shown the importance of instruments which provide companies the indications from and to individuals to change unsustainable lifestyles. Additional indicators suggest means for companies to change unsustainable production methods while allowing for decentralized, market-based economic systems that do not rely on command-and-control methods (Commission on Global Governance, 1995).

### Sustainability and Earth’s Population

The world’s population is constantly growing while Earth’s resources are decreasing. The Earth’s population in 2012 reached 7 billion and is projected to exceed 9 billion by 2050. This increase will occur primarily in the developing countries due to their improved living conditions (Revision of the official United Nations population estimates and projections, 2008). Currently it

is the combination of two factors that challenges sustainability. The first is the population in the developing world is increasing, and the other is the unsustainable consumption in the developed world (Cohen, 2006).

### Sustainability, Environment and US Politics

The focus on the environment within society dates back almost two hundred years. There are numerous statements written by Henry David Thoreau and Ralph Waldo Emerson regarding observations of nature as lessons to be learned by humans. Two other well-known authors that have presented discussions regarding the importance of nature and the environment are Karl Marx and Thomas Malthus (Dresner, 2002). After Thoreau and Emerson's lifetime, John Muir founded the Sierra Club in the United States in 1892 and influenced the government to create national parks such as Mount Rainer, Petrified Forest and Grand Canyon National Parks. President Theodore Roosevelt established numerous conservation programs and designated the Yosemite National Park.

In the United States, in the early years of the 1970s, there were two very important pieces of legislation passed -- The Clean Water Act (1972) and The Endangered Species Act (1973). These two pieces of legislation have protected the biological wealth in America from corporate financial pressures (Speth, 2004). In the Global 2000 Report to the President of the United States, released in 1980, the following statement explained the climate disruption: "In recent decades, the concentration of carbon dioxide (CO<sub>2</sub>) in the atmosphere has been increasing in a manner that corresponds closely with the increasing global use of fossil fuels. The burning of fossil fuels – oil, natural gas, and coal – release carbon dioxide, about one half of which appears

to be retained in the atmosphere. Atmospheric carbon dioxide plays a critical role in warming the Earth; it absorbs heat radiation from the Earth's surface, trapping, it, and prevents it from dissipating into space. As the concentration of carbon dioxide in the atmosphere increases, more of the Earth's radiated heat is trapped." Yet, even with this information, not much has been done by the US Presidents Reagan, G.H. W. Bush, Clinton or G.W. Bush. Instead, local municipalities and state governments have taken necessary steps to make changes.

Currently, the United States is the only nation that still has not signed off on the Kyoto Protocol. The Kyoto Protocol is a document that focuses on reducing the greenhouse gases that cause climate change. As a nation, the United States may not have signed the treaty; however, numerous states, such as California, have emphasized their commitment by signing a Global Warming Solutions Act that will bring down the state's greenhouse gases by 25% by the year 2020. Also, Portland, Oregon is considered to be the greenest city in the United States.

The Endangered Species Act of 1973 was discussed in Congress in the beginning of the 1980s and biologist, E.O. Wilson made the following statement: "The worst thing that can happen during the 1980s is not energy depletion, economic collapse, limited nuclear war, or conquest by a totalitarian government. As terrible as these catastrophes would be for us, they can be repaired within a few generations. The one process ongoing in the 1980s that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the recklessness our descendants are least likely to forgive us," (Worldwatch, 2002).

## Sustainability in Business

Management of successful business in today's environment must strike a balance between competing stakeholders' interests and the improvement of corporate social environmental and financial performance (Epstein, 2008). What is interesting is the balancing act in which management is willing to respond in a sensible and open-minded way towards activists calling for corporate change. Management should view and deal with this issue the same way as any other business problem.

It is only through the identification, measurement, and management of sustainability impacts that social, environmental and financial performance can be improved. Companies have the opportunity to turn social responsibility into a competitive advantage and this is not something that should be underestimated (Epstein, 2008). Unilever Group chief executive, Patrick Cescau states the following; "We have come to a point now where this agenda of sustainability and corporate social responsibility is not only central to business strategy but will increasingly become a critical driver of business growth... how well and how quickly can businesses respond to this agenda will determine which companies succeed and which will fail in the next few decades," (Epstein, 2008).

### Sustainability's 4 Es (Edwards, 2005)

There are Four E's that should be taken into account when discussing sustainability. They serve as a consensus and provide a broader understanding of what can and should be undertaken in the future to be sustainable. The Four E's represent:

1. Ecology / Environment
2. Economy / Employment
3. Equity / Equality
4. Education

#### Ecology / Environment:

Ecology/Environment represents the ability to achieve sustainable ecology. According to Edwards (2005), there are three crucial issues to consider: 1) Short term versus long term perspectives; 2) “Piece-meal versus systematic understanding of the indispensability of ecosystems for the viability of human existence;” and 3) There is a limit to how much our eco-system can withstand human impact.

The first is short term versus long term perspectives. The environment can be viewed in a matter of short term solutions or long term solutions. The proper long-term utilization of the following areas is crucial for the continuing existence of future generations’ “resource extraction, agriculture, transportation, manufacturing and building.” At the same time, humans are in desperate need of the basics of life such as clean air, water, heating and cooling, and safe food to consume (Edwards, 2005). These factors are based on the fact that all major ecosystems are fully functional and operational.

The second is “piece-meal versus systematic understanding of the indispensability of ecosystems for the viability of human existence.” It is believed that humanity needs to better understand how our eco-system works and how we are affecting it so that we can make the right decisions to increase our overall living. “The conditions and processes through which natural

ecosystems, and the species that make them up, sustain and fulfill human life. These services include purification of air and water; mitigation of floods and droughts; detoxification and decomposition of wastes and pollution of crops and natural vegetation,” (Gretchen, 1997).

The third is the concept that there is a limit to how much our eco-system can withstand human impact. This includes the ecological predicament and long term economic disorders we have created is exemplified by the destruction of oceans by over fishing and pollution, forests by clear cutting, and fresh water by toxins and pollutants.

#### Economy / Employment:

Economic sustainability has a different meaning than traditional environmentalism since it recognizes the importance of providing long-term employment without endangering successful and fully functioning ecosystems. The main idea is that by creating a healthy environment, it can provide the opportunity for a vibrant economic society that may carry on for an extensive period of time. This is a positive concept (Edwards, 2005).

#### Equity / Equality:

This part of sustainability brings the sense of community to the current mix of ecologically based, long-term economic development. It recognizes the importance of camaraderie, or togetherness, as humans caring for one another. “Fundamentally, this means all members of a sustainable community understand that the well-being of the larger community is interdependent. Social cohesion, compassion and tolerance are more likely to thrive in an environment where all members of the community feel that their contribution to the whole is



appreciated and where an equitable distribution of resources is recognized as essential for the long-term viability of the society,” (Edwards, 2005). Equity / equality also address the reasonable distribution of resources such as food, affordable housing, health care, education, job training and professional opportunities. On a global front, the inequities regarding famine and homelessness are viewed as issues of wealth distribution rather than a lack of resources.

#### Education:

The last of the four concepts is education. The three prior E’s and their relations to society have become even stronger by the vigorous commitment to public education. This medium helps people understand the vibrant nature of the aforementioned three E’s. Through education, knowledge is gained around the world with which to increase the understanding of our global dilemma (Edwards, 2005).

#### Sustainability in the Lodging Industry

Sustainability in the lodging industry has been an emerging trend for the last twenty years. Scandic Hotels, a Swedish hotel chain, started their sustainability process in the beginning of the 1990s when they, at the time, were facing bankruptcy. New leadership changed the entire company’s focus and mindset by improving the environmental impact step-by-step (Scandic Hotels, 2011).

According to Alexander (2002), green hotels strive to be more environmentally friendly by utilizing resources such as energy, water, and materials in an effective and efficient manner while at the same time, providing high quality service. Environmentally friendly hotels focus on

simplifying the entire operation in numerous ways. For example, they implement efficient methods of utilizing water through low-flow shower heads and wastewater for toilets. Hotels can conserve and utilize renewable energy by changing light bulbs and increasing/decreasing the temperature. Additionally, solid waste in hotels has been reduced simply by implementing recycling programs and reducing the dependency on paper and plastic.

One cannot discuss the lodging industry without mentioning the importance of facilities management. Information on hospitality facilities serve as a crucial aspect in understanding the cost structure of a hospitality business, as they dramatically impact the business' financial operations. To better comprehend the costs of designing, constructing and operating hospitality facilities, numerous areas must be considered. First, the design must be appealing to the customer. According to Ayla (1995), "The benefits of eco-techniques go beyond cost-saving, comparative market position, favorable corporate image, and positive impact on the supply industries through pre-cycling – i.e. purchasing decisions that favor environmentally friendly products can be very significant in terms of sustaining and enhancing the quality of a destination's physical environment."

According to Yudelso (2007), the internal return of investment for a LEED (Leadership in Energy and Environmental Design) certified building is similar to that of a regular building. Other potential returns to consider include a higher renewal rate at the end of each lease, lower insurance costs, tax credits and deductions for investing in energy-saving and renewable energy technologies.

Hotels in Hawaii could save nearly 40% of their energy use through very simple and cost effective methods (Rezacheck, Martinac, and Bohdanowicz, 2001). The study reflected a total monetary savings in excess of \$93,000 with a payback period of less than three years. According to Bohdanowicz, Churie-Kallhauge, and Martinac (2001), “Properly planned, designed and operated hotel facilities offer convincing environmental and socio-cultural advantages, as well as attractive opportunities for sustainable business.”

There is evidence that hotel facilities are one of the most energy and resource intense branches of the hospitality industry. The consumption of energy is substantial in providing the comfort and service levels that guests are accustomed to (Bohdanowicz, et. al., 2001). This was the case for many years, especially in the United States, and in the last decade, the green movement has shifted the dynamics of the hospitality industry. Today, many hotels have formed green committees and energy and resource conservation is taking place at an increasing rate within the entire hospitality industry.

Claver–Cortes, Molina-Azorin, and Pereira-Moliner (2007) concluded in their research study that when hotels commit to becoming more environmentally friendly, they gain a competitive advantage in comparison to hotels that do not. First, the hotel has the ability to work in conjunction with the destination towards a long term strategy to conserve the destination’s own natural environment by ensuring the focus on recycling, energy, water and waste conservation. The second aspect ensures that the hotel itself was up to date and followed the conservation program, meaning that the hotel also focused on what could be done inside the hotel itself.

According to Enz (1999) the Hyatt Regency in Chicago saved \$91,000 in 1997 and \$77,000 in 1998 from environmentally friendly changes in their operations. The hotel chain, Scandic Hotels in Sweden, has been a research topic for many years (Bohdanowicz, 2005). According to Bohdanowicz (2005) Scandic has taken numerous actions that have created a much healthier bottom line by focusing on green practices. One hotel in Denmark uses solar panels for 20% of its energy usage and most of the remaining 80% comes from wind power. The hotel also has bicycles in the recreational area that creates energy when used. As a token of appreciation, guests who have used the bicycles receive a dinner coupon worth 30 Euros (BBC News, 2011).

In contrast, a negative impact example of what happens when tourism develops is in Goa, India. Several hotels were built in anticipation of the increasing tourism in the area and 66,000 gallons of water from wells and other local resources were consumed. The end result was that many of the wells and rivers in the area went dry (Alexander, 2002). Unfortunately, this is a common problem when tourism increases and economic development takes over small local areas.

### Restaurant Facilities and Energy Usage

Energy is a primary topic that should be addressed when discussing restaurant facilities. This resource is extremely expensive and, if provided from a non-renewable resource, negatively impacts the environment. Food and Beverage establishments have therefore focused on energy conservation to lower costs while, at the same time, become greener. Energy conservation and energy audits are two of the prevalent topics when discussing green restaurants.

After labor and cost of goods sold, energy is one of the largest cost factors of operating a restaurant. The fundamental significance of energy conservation involves actively making an effort to reduce the consumption of energy. It may be done through various actions such as efficient energy use and reduction of energy amounts consumed from non-sustainable sources.

Energy conservation may result in a healthier financial bottom line of the operation/establishment, increased environmental quality and national security, for example, the various political issues regarding the oil reserves in the Middle East. Personal security may be impacted in various ways, and finally human comfort may be impacted positively when utilizing less energy. Every year, the Earth's population increases along with the need for electricity. Since the earth's population currently utilize a substantial amount of fossil fuels, it is believed that this is detrimental to the environment, the need to conserve energy is crucial. Currently this is partly regulated by individual countries' energy policies. There is a wide variation in the level of restrictions between each country's policies.

The key to successful energy conservation is the move towards renewable energy sources rather than non-renewable energy sources. However; numerous opinions exist on how this will impact the future. For example, the Jevons Paradox describes when technological improvements are made to improve energy efficiency, yet lead to the increase in the use of energy instead of the original goal of decreasing it. It is believed the reason for this is that energy costs are lowered which encourage increased utilization. Subsequently, energy efficiency may lead to the increase of economic growth.

Currently, one of the main focuses amongst architects around the world is to construct zeronet buildings. The US Green Building Council has come up with the Leadership in Energy and Environmental Design (LEED), a certification that emphasizes the focus on green building. The key to LEED certification when building a facility is to utilize a process that is responsible towards the environment that optimizes resources to their peak usage with a minimum of waste throughout a facility's lifecycle. This includes everything from the design, construction, operation, maintenance, renovation and finally demolition (Green Building Council, 2011). This is a change from the former focus on economy, utility, durability and comfort. It can be likened to adding a second story on top of the foundation of a house; it builds upon the foundation and enhances the entire facility. The main objective of the development and creation of a green building is to reduce the overall impact of the environment. Managed properly, the energy cost can create a major impact to the operations' financial bottom line.

The next step from LEED is to build zeronet energy buildings which consume zero net energy and zero carbon emissions annually. These buildings harvest on-site energy through technologies such as solar and wind power, and focus on reducing and conserving the overall use of energy with extremely efficient HVAC and lighting technologies.

The zeronet design principle is the way of the future as traditional fossil fuels are increasing in costs and have a negative impact on the planet's climate and ecological balance. A major goal of sustainability should be to reduce the current energy consumption while at the same time improving, or at least maintaining, the current human comfort, health and safety. According to Krarti (2000), there have been numerous audit procedures for non-residential

buildings that identify the most efficient and cost effective Energy Conservation Opportunities (ECOs) or Measures (ECMs). These opportunities, whether they are energy conservation or measures, can consist of more efficient use or of partial or global replacement of the existing installation. The main reason for a facility audit is to analyze building and utility data and which includes installed equipment and energy bills. Secondary, nevertheless important factors taken into consideration for a facility audit include: to survey of the true operating conditions of the facility; the understanding of the building behavior and of the interactions the facility have with weather, occupancy and operating schedules; the selection and evaluation of energy conservation measures; the estimation of energy saving potential; and the identification of customer concerns and needs.

### Building Audits

There are four levels of audit analysis. The first is benchmarking which involves a preliminary analysis of a building's energy use (wbeu) based on the analysis of historic utility use and costs, and the comparison of performances of other similar buildings.

The outcome of the initial benchmarking audit determines the necessity of future audits. The second level of audit is a walk through. A preliminary analysis is made to assess the opportunity of building energy efficient changes and to identify simple and low cost improvements. For a more detailed audit, a list of energy conservation measures is developed. An audit at this level focuses on visual verifications and studying installed equipment and operating data. Recorded energy consumption figures collected during the benchmarking phase are then analyzed. Level two audits are more general and detailed than the first. Based on the

initial audit, this audit consists of energy use surveys to provide a comprehensive analysis of the studied installation. Additionally, a more detailed analysis of the facility is conducted and a break down is provided.

### The Restaurant Industry

The restaurant industry is chosen as the research context of this study. According to the National Restaurant Association the restaurant industry was expected to reach sales in excess of \$604 billion dollars in the year 2011. That figure accounts for 4.1% of the entire US GDP.

### Restaurant Segments

According to the National Restaurant Association (2011) there are five restaurant segments involved with vague variations differentiating one from another. The best way to distinguish the segments, however, is to rank or prioritize the various restaurants' service standards from low to high. By differentiating by these standards, all restaurants have been fairly included and factored in to the various following segments:

1. Quick Service Restaurant (QSR)
2. Fast Casual
3. Casual Dining
4. Family Dining
5. Fine Dining

The first segment of the restaurant industry is the Quick Service Restaurant. This category is regarded as the lowest form both from the service and cost aspects. Guests generally



order select items, and pay before eating their food. The check average is normally in the range of \$3 to \$6, and examples of restaurants in this category include McDonald's and Subway.

The second segment, Fast Casual, is described by the following factors: food is made to order; freshly prepared; of wholesome quality; and authentic. The restaurant provides limited service or self-service in a reasonably fast service manner, with a slightly more upscale décor than the fast food segment. The average check amount is \$7 to \$9, and examples of restaurants in this category are Panera Bread and Au Bon Pain.

The third segment is Casual Dining. These restaurants provide serving staff and table service where the order is taken while the patron is seated. The average guest check is between \$10 and \$25, and examples of restaurants in this segment are Applebee's and Chili's.

The fourth segment is Family Dining. These restaurants have a full service, serving staff, and the orders are taken while the guests are seated. The average guest check is \$10 or less and examples of restaurants in this category are IHOP and Friendly's.

The fifth segment is Fine Dining and it includes restaurants with full service, serving staff, table service and guest checks of \$25 or more. Examples of restaurants in this segment are Brio or any other upscale restaurant.

There are numerous current restaurant trends. One of the most common trends is that most of the restaurant industry moves towards less "made from scratch" production, and instead purchases pre-fabricated food items. The reasons for this are to increase consistency, lower production costs and provide faster service.

## Impact of Restaurants on Society

Restaurants are a major engine in a nation's economic development. According to the National Restaurant Association (NRA), a large portion of today's overall workforce in the United States have actually worked in a restaurant in some way, shape or form, whether it was high school or in college. More than 25% of the adult population, according to the NRA (2011), was employed by a restaurant as their first job.

In the restaurant industry an advanced level of education is not necessary to perform the various job opportunities, and turnover is usually high as employees tend to "move on" to find "bigger and better" places to work. Restaurants, however, are very important for all stakeholders involved. Research retrieved from the figures from the US Commerce Department's Bureau of Economic Analysis (BEA), eating-and-drinking places support a far greater number of jobs – directly and indirectly – than most other industries in the nation's history (BEA, 2011). The Bureau suggests that eating and drinking establishments account for the second largest private sector in the nation, highlighting the economic impact that the industry has on the nation's economy.

According to the NRA's 2011 Restaurant Fact Sheet, the restaurant industry is the largest employer in the US, other than the government, employing around 12.8 million people in 2011. This is approximately ten percent of the total workforce of the United States. In California, each dollar spent at eating and drinking establishments results in additional \$1.30 sales for other industries within the state (NRA, 2011). Each dollar spent by consumers in the entire United States in restaurants generates an additional \$2.05 spent in our nation's economy (NRA, 2011).

Growth in the restaurant industry affects a wide variety of industries, including agriculture, construction, manufacturing, transportation and wholesale trends. According to the NRA (2011), Americans spend 49% of their food dollars eating out. In 2006 it is estimated that restaurants around the world generated around \$800 billion in revenue and employed more than 60 million people. The overall economic impact that the restaurant industry has on the US economy cannot be emphasized enough, as restaurant sales numbers on a typical day equate to 1.7 billion dollars (National Restaurant Association, 2011).

The restaurant industry has 960,000 different locations with 12.8 million employees which is almost 10% of the entire work force of the United States. Due to the continuing growth of the industry, the restaurant industry is expected to add 1.3 million jobs over the next decade, with employment reaching 14.1 million by 2021. Each additional million dollars in restaurant sales generates 34 new jobs for the economy.

Another way of illustrating the economic impact of the restaurant industry is the amount US consumers spend overall on food. When the total amount spent is calculated and analyzed, the results show a strong trend towards money being spent while eating out. In 1955 US consumers spent 25% of the food dollar eating out while today the restaurant industry claims 49% of the food dollar (National Restaurant Association, 2011).

Unfortunately there is also a stark trend that American farmers are gradually receiving a decreased share of the food dollar while corporate agribusiness increases their food share dollar. For example, during the 1990s agribusiness increased their share by 98%, while also receiving major subsidies from taxpayers. US consumers help improve sustainability by purchasing

directly from local farmers to ensure that the money does not go to agribusiness. Most local farmers will reinvest within the region, which in turn leads to economic prosperity for that region. Buying fair trade products ensures that farm workers and producers elsewhere are paid a decent wage and enjoy safe living and working conditions.

### Economic Impact of Restaurants

Both Schumpeter and Porter discuss and explain in detail, their theories of the importance of the entrepreneurs. Both authors' theories are supported by the fact that 93% of eating and drinking establishments employ fewer than 50 staff members. This means that out of the 960,000 current establishments, 893,000 have less than 50 employees which label the restaurants as small businesses. According to unit sales in 2008, full-service restaurants averaged \$862,000 and quick service restaurants averaged \$737,000 (NRA, 2011).

Regarding employment in the restaurant industry, the NRA (2011) gathered information through numerous surveys. They concluded the following: more than one out of four adults got their first job experience in a restaurant; restaurant owners surveyed stated that 80% began with an entry level position in the industry; and out of the restaurant employees surveyed, 94% said that the restaurant industry is a good place to get a first job and learn basic working skills.

Regarding upward mobility or career advancement in the restaurant industry, 88% of employees said that restaurants often provide the opportunity to start at the bottom and move up to management. In addition, 81% of restaurant employees felt that the restaurant industry is a place where people of all backgrounds and experiences can open their own business. In terms of restaurant ownership, the survey claims that 46% of restaurant employees said that they would

like to own a restaurant someday. The same survey showed that 57% of first line supervisors / managers of food preparation and service workers in 2009, were women and 16% were of Hispanic origin and 15% were African American.

The NRA (2011) also surveyed frequent guests at restaurants. Nearly 88% of the respondents said that they enjoy going to restaurants while 43% mentioned that restaurants are an essential part of their lifestyle. About 62% of adults reported that their favorite restaurant foods provide flavor and taste sensations which cannot easily be duplicated in their home kitchens and 86% of the surveyed adults' claim that going out to a restaurant is a pleasant break from the monotony of daily life. To summarize the findings of the NRA, 25% of the American populations have, at one point in life, worked in a multicultural restaurant environment where they learned basic skills.

### Sustainability in the Restaurant Industry

According to Gummesson (1994), becoming green has for some business become the key to survival. This can be viewed from the three perspectives of legislation, marketing and values. Empirical evidence exists reflecting that consumers select products based upon their impact on the natural environment (Mohr and Webb, 2005; Tilikidou, 2007).

There is little evidence that the environment has been a concern in the restaurant industry until recently, however, there have been discussions regarding the industry's reduction of solid waste, water consumption and energy consumption (Johnson, 2009; Butler, 2008; Carbonara, 2007). The industry has realized that by reducing its use of resources, the bottom line is

positively impacted. Furthermore, the theme for the National Restaurant Association's annual conference in 2008 was Green Restaurants ([www.restaurant.org](http://www.restaurant.org)).

According to Dutta, Umashankar, Choi, and Parsa (2008), the major and most immediate environmental challenges facing the restaurant industry currently are the massive amount of solid waste produced, assurance of food safety, high energy consumption, and the use of chlorofluorocarbons in refrigeration. Various research studies show different results as to the amounts of solid waste produced, from 15.5% up to 30% (Kirk and Osner, 1981). These results indicate that with proper managerial systems in place, the reduction of solid waste may have a very strong impact towards a healthier financial bottom line. The food and beverage area may create a positive financial impact through lower purchasing costs and reduced transportation costs of waste removal as a result of portion control, furthermore, these reductions would save on labor since less food needs to be prepared, cooked and thrown away. A 1994 research study conducted by the Florida Energy Extension Service and Miller (1994) resulted in an annual usage of 512,000 BTU per square foot. It was determined that among all commercial buildings, restaurants use, by far, utilize the most energy. Air conditioning accounts for the largest amount of energy consumed, at about 40% of the total energy usage in a restaurant.

According to the definition of Lorenzini (1994, PAGE #), a green restaurant consists of "new or renovated structures designed, constructed, operated and demolished in an environmentally friendly manner." A traditional restaurant focuses on increasing revenue and reducing overall costs, whereas a green restaurant focuses on the three Rs and the two Es -- Reduce, Reuse, Recycle and Energy and Efficiency, respectively (Gilg, Barr, and Ford, 2005).

In 2008, Choi and Parsa developed a conceptual framework for green practices in the restaurant industry. The model will be presented below in detail and is the foundation of this research study.

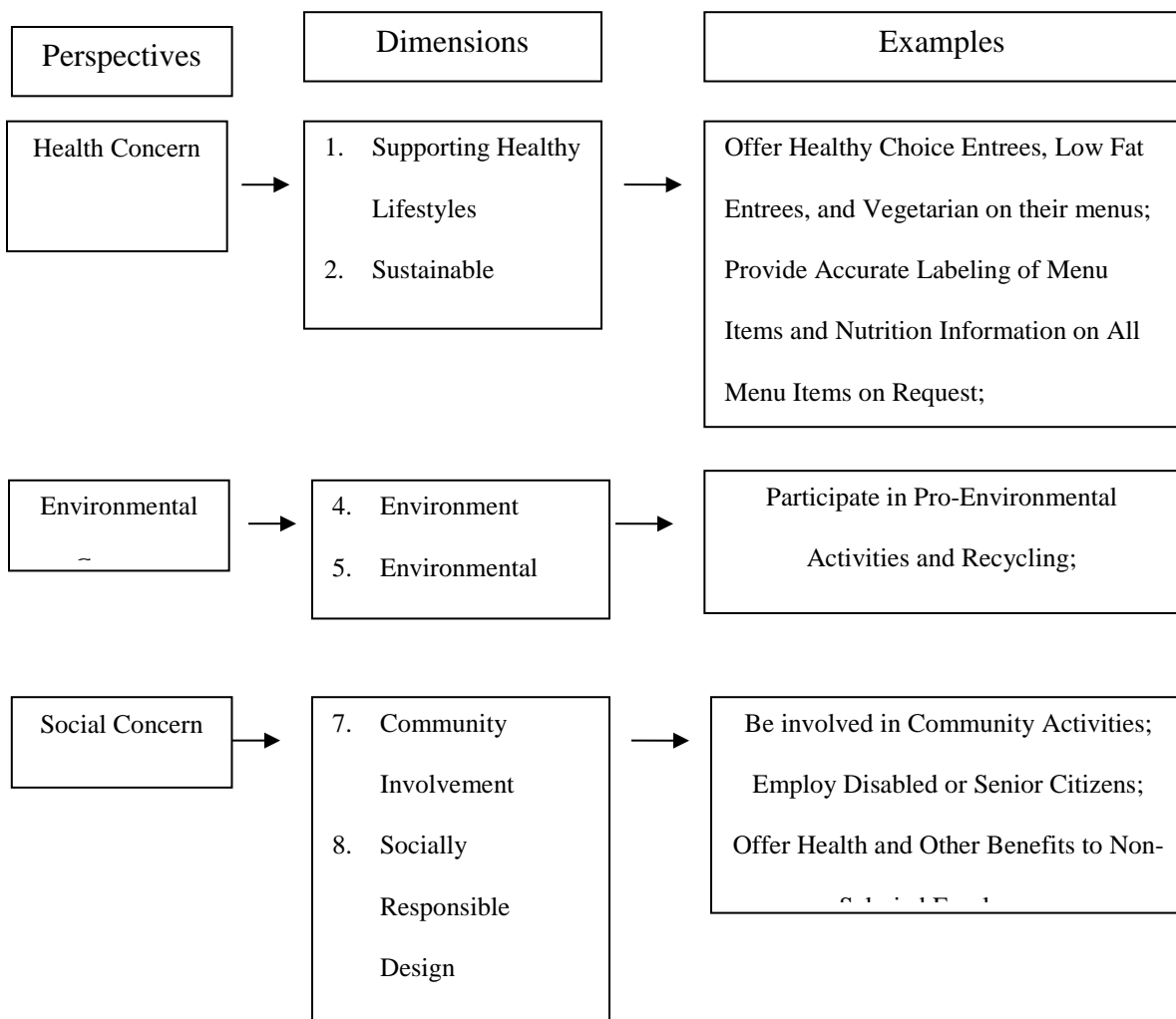


Figure 4: A Conceptual Framework for Green Practices in the Restaurant Industry (Choi and Parsa, 2008)

Knowledge is the key to proper decision making according to Kaplan (1991). Various research studies have produced contributions regarding environmental knowledge, socio-demographics and culture-based attitudes when it comes to properly comprehending and estimating the impact on the ecosystem by society (Tilikidou, 2007; Diamantopoulos,



Schlegelmilch, Sinkovics, and Bohlen, 2003; Laroche, Bergeron-Forteco, 2002). In numerous other studies from around the world the same results are shown. Environmental awareness generally motivates ecologically and environmentally responsible consumer behavior (Haron, Paim, and Yahaya, 2005; Lee and Moscardo, 2005; Fryxell and Lo, 2003).

Environmental concern may be defined as “the degree to which people are aware of problems regarding the environment and support efforts to solve them and indicate the willingness to contribute personally to their solution,” (Dunlap and Jones, 2002). There are numerous areas of focus when discussing green restaurants. Choi and Parsa (2008) divide the areas into three groups including Health Concerns, Environmental Concerns and finally Social Concerns.

The first group, Health Concerns, discusses supporting healthy lifestyles, sustainable agriculture and safe food practices. The second group, Environmental Concerns, discusses the environment and environmentally friendly practices. The third group, Social Concerns, discusses community involvement, green activism, socially responsible design, fair human practices and socially responsible marketing.

### Supporting Healthy Lifestyles

The problem of obesity in the United States is of growing concern in society. More and more restaurants are displaying the nutritional values of their food items, and fast food chains such as McDonald’s, etc. have the information readily available inside their restaurants. Seasons 52 does not serve portions larger than 420 calories, which is much smaller than regular sized meals served in other restaurants. According to Allison (2004), restaurants should take

responsibility in serving nutritionally balanced food. Cavanaugh (2004), King (2003), and David (2003) suggest that restaurants serve organic, healthy and low-fat foods and eliminate the use of antibiotics in livestock.

From a sustainability point of view, it is true that the organic share of the overall market is increasing since people tend to purchase more organic food today versus a decade ago. At the same time, the production of organic foods is less efficient than the mass production of non-organic foods. The latter is much more efficient with the use of large production equipment that utilizes fossil fuels. Another factor is the communication between customers and restaurants regarding nutritional labeling and the need for the customer to effectively comprehend the label.

### Sustainable Agriculture

Sustainable agriculture is farming by means following the values of ecology -- the study of interactions between organisms and their environment. It may be defined as “an integrated system of plant and animal production practices having a site-specific application that will last over a long term,” (Gold, 2009). Gold (2009) suggests the following criteria for practicing proper farming:

- a) Satisfy human food and fiber needs
- b) Enhance environmental quality and the natural resource base upon which the agricultural economy depends
- c) Make the most efficient use of non-renewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls
- d) Sustain the economic viability of farm operations

e) Enhance the economic viability of farmers and society as a whole

#### Safe Food Practices

In a 2005 study, the following seven food practices were considered to be the most important: hand washing; cross contamination prevention; glove use; determining food doneness; holding; cooling; and reheating (Green and Selman, 2005). According to the World Health Organization (2011), the following five principles are critical to follow: the prevention of food with pathogens spreading from people and pets; the separation of raw and cooked foods to prevent contamination of the cooked foods; foods should be cooked for the appropriate length of time and at the appropriate temperature to kill pathogens; food should be stored at the proper temperature; and the usage of safe water and raw materials should be applied.

#### Environment

In the past, most restaurant managers failed to consider the environment while operating their restaurants. Instead, the primary thought process included the bottom line, which most of the time resulted in high employee turnover due to poor morale and constant pressure from management.

In another hospitality arena, the current trend amongst hoteliers is to focus more on sustainable practices, which directly affects the bottom line. The results from hotels that have focused on sustainable practices have far outshined hotels that have followed the old bottom line model.

## Environmentally Friendly Practices

Restaurants that utilize environmentally friendly practices experience a healthier bottom line according to Swedish research at the two largest hamburger chains. McDonald's and Max are the leading hamburger chains in Sweden and have worked extensively with the Swedish organization, The Natural Step, to create environmentally friendly operating practices and processes that also create a healthier financial bottom line. Another point is that by utilizing environmentally friendly practices, restaurants are saving the macro environments as well as the micro environment -- meaning that restaurants are helping to protect the Earth on both a local and global scale.

## Social Concerns

A restaurant may show social concern in many different ways (Choi and Parsa, 2008). Examples include senior citizen programs, donations to the community (Paul, 1998) and design practices (Winchip, 2003) to minimize ecological disasters (Greenbuilders.com, 2012)

## Community Involvement

McDonald's promotes its employees' participation in community service in areas such as tutoring children and painting classrooms (PR Newswire com, 2000). Outback Steakhouse received the Restaurant Neighborhood Award for its outstanding community involvement practices ([www.restaurant.org](http://www.restaurant.org)).

## Green Activism

Many restaurants are showing an overall interest in being and becoming green. Also, the impact of green restaurant certifications has grown increasingly the last few years (Green Restaurant Association, 2011).

## Socially Responsible Design

Socially Responsible Design is a strategic issue which is related to changing the present towards the preferred future (Simon, 2001). Designs are focused on a vision of how things can be different and on changing strategic objectives so that preferred futures can become reality (Socially Responsible Design Organization, 2011).

## Fair Human Resources Practices

More restaurants hire senior citizens and disabled employees. Furthermore, restaurants may also offer health care and other benefits to non-salaried employees, and strictly follow Equal Employment Opportunities guidelines (Choi and Parsa, 2008).

## Socially Responsible Marketing

Researchers also suggest that consumers may demonstrate more positive attitudes towards companies demonstrating socially responsible marketing than their counterparts (Murray and Vogel, 1997; Creyer and Ross, 1997; Bhattacharya and Sen, 2004; Lord, Parsa, and Putrevu, 2004). Based on the aforementioned research which suggests that consumers prefer restaurants that are green (Choi and Parsa, 2008), there is a need for organizations, associations and certifications focusing on Green Practices, setting up green standards and communicating Green

Knowledge. These organizations, associations and certifications encompass a variety of areas, criteria and details, ensuring that standards are upheld and the green movement is credible and trustworthy (Rome, 2004). Additionally they act as a vehicle to promote sustainable tourism and ecotourism as quality products rather than just green wash (Font, 2001). Currently eight major Green certifications are being practiced around the globe. These include: 1) Green Associations and Certifications; 2) Green Building Council; 3) The Natural Step; 4) Coalition for Environmentally Responsible Economies (CERES); 5) The Nordic Swan; 6) Green Seal; 7) The Florida Lodging Green Palm Certification; and 8) Green Restaurant Association. Each of the major Green certifications is discussed below.

#### Green Associations and Certifications

Eco-labeling and certification are highly regarded in many countries, and these innovative environmental policies can now be found around the globe. Even though eco-labels should complement the regular governmental policies, they have been regarded as more important -- at least for now and in the near future (Harrison, 1999; Potter and Hinnells, 1994). Research finds that eco-labels are gaining ground faster than any other “second generation” policy mechanism, such as environmental policy plans, sustainable development strategies or eco taxes (Kern, Roller, and Wey, 2001). The following green certifications may or may not be profit oriented. For this study the author will only reiterate the certifications claim of being either for profit or not for profit and finding the correct answer is beyond the scope of this study.

Numerous associations have developed their own environmental standards. Font (2004) writes about the opportunities that exist in a certification process regarding being green. The following associations are specifically integral to this research study:

- 1) The Green Building Council
- 2) The Natural Step
- 3) CERES
- 4) The Nordic Swan
- 5) The Florida Green Lodging
- 6) Green Seal
- 7) The Dine Green Association

#### Green Building Council

The US Green Building Council (USGBC) is an organization which focuses on making green buildings available for everyone (Green Building Council, 2011). USGBC developed the Leadership in Energy and Environmental Design (LEED) rating and certification and also Greenbuild, a conference and expo presenting and promoting the green building industry. Greenbuild includes environmentally responsible materials, sustainable architecture techniques and public policy.

USGBC promotes buildings that are profitable, environmentally responsible and healthy places to work. To accomplish this goal, the USGBC has developed a variety of programs and services that explain, in detail, how to create, develop and build sustainable facilities. The organization also works closely with federal, state and local governments as well as with key

industry and research organizations. The various programs include various educational workshops and web-based seminars to educate industry professionals and the public. For the purpose of this study, parts of the LEED certification regarding the building will be incorporated into the new certification.

### The Natural Step

The Natural Step places emphasis on the various ways businesses can conduct themselves to better care for the environment. All of these associations are currently working towards a sustainable future within their own circle of influence and various state legislations.

In 1989, The Natural Step started in Sweden by Karl Henrik Robert with the goal to “develop a society in which natural resources are not consumed faster than they can be replaced,” (Robert, 1997). The organization is constantly growing and now exists in Sweden, the USA, the UK, Canada, France, Japan and New Zealand. What differentiates this organization is that it operates from consensus rather than threats, meaning that it invites countries and organizations to dialogues and seminars to gain better understanding of what is actually happening around the world and how things can be changed.

Many companies have been involved with the Natural Step. Companies, such as Scandic Hotels in Sweden and others, including McDonald’s, Sweden, Starbucks and in the 2010 Winter Olympic City of Whistler, British Columbia, Canada, have utilized the Natural Steps principles.

There are four “systems conditions” that the Natural Step follows:

- 1) *Extracted substances from Earth’s crust must not systematically increase in the biosphere.*

This means that under a sustainable society, the current use of fossil fuels, metals and



other minerals cannot be taken from Earth's crust faster than Mother Earth can replenish it. That means, one should not change or disturb the eco-system. In practicality, this insinuates that the mining of scarce elements in nature should halt to an absolute minimum and the consumption of consuming fossil fuels without any control must be stopped.

2) *Substances produced by human society must not systematically increase in the biosphere.*

Since the substances are man-made it is very hard for nature to break the substances down. This, will in turn, change the eco-system.

3) *The productivity and biodiversity of the Earth itself must not systematically be physically deteriorated.* Basically, we cannot keep on taking from nature.

4) *Human needs must be met with a fair and efficient use of energy and other natural resources.* There cannot be such a divide where on one side of the world, people are starving and on the other side of the world, live in an abundance of food and resources. All humanity must strive to improve technical and organizational efficiency across the globe, and to live using fewer resources -- even in affluent areas. "If we continually convert non-renewable resources into garbage, the prices of those resources and the costs of managing waste will inevitably rise."

To accomplish this in a systematic manner, The Natural Step organization utilizes a strategy called back-casting (Holmberg, 2000). As shown if figure 5 back-casting is described as "framing your goals in terms of sustainability, locating these goals far ahead in the future, and determining the short-term decisions and investments needed to achieve that long-term goal."

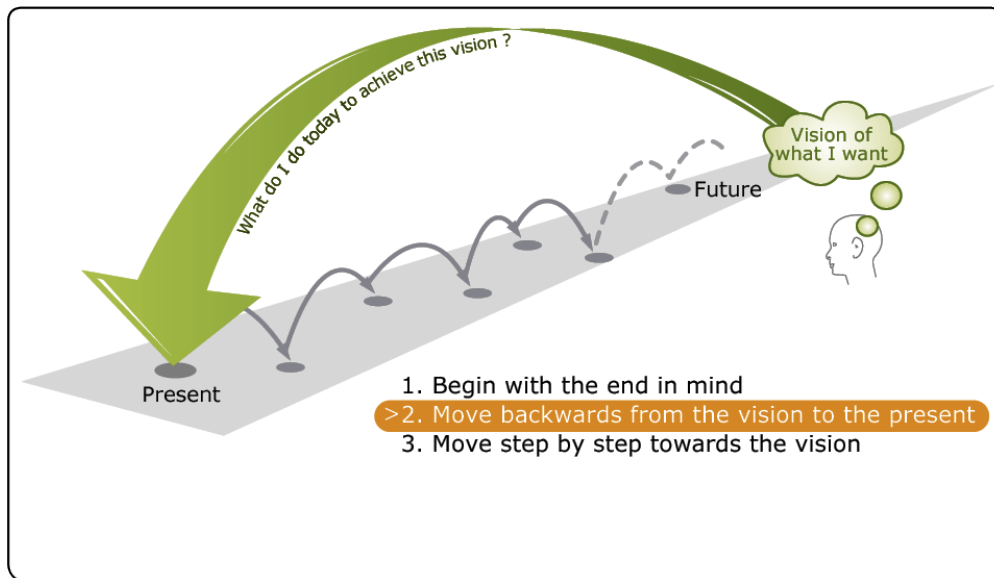


Figure 5 Back-Casting (The Natural Step, 2011)

## CERES

The Coalition for Environmentally Responsible Economies (CERES) was founded in 1989 by Joan Bavaria and is the best known coalition of investors and environmentalists. The name CERES was inspired from the Roman goddess of fertility and agriculture. The organization's mission is to integrate sustainability into capital markets for the health of the planet and its people. CERES serves as a national network of investors, ecological organizations and various other public and commercial interest groups that address global climate change and other sustainability challenges.

CERES is founded on ten principles. They are as follows:

1. Protection of the biosphere

2. Sustainable use of natural resources
3. Reduction and disposal of wastes
4. Energy conservation
5. Risk reduction
6. Safe products and services\Environmental restoration
7. Informing the public
8. Management commitment
9. Audits and reports

To mention a few of the accomplishments:

1. CERES launched the Global Reporting Initiative (GRI)
2. Founded and manages the Investor Network on Climate Risk (INCR)
3. Coordinated the 2008 investor summit on Climate Risk
4. Publishes a series of reports each year geared toward helping investors understand the implications of global warming

CERES also has numerous programs that the organization is highly involved with such as:

1. CERES Coalition
2. CERES Companies
3. Investor Network on Climate Risk
4. Industry
5. Engagement and Disclosure
6. Business for Innovative Climate and Energy Policy (BICEP)

## The Nordic Swan

The Nordic Swan was established in 1989 by the Nordic Council of Ministries. The purpose is to have an official Nordic Eco label that is voluntary and common and contributes to reducing the impact of everyday consumption on the environment. The Nordic Eco label scrutinizes the effect of goods and services on the environment through the entire lifecycle from raw ingredients to waste. The label guarantees that climate requirements are taken into account, and that CO<sub>2</sub> emissions are limited where it is most relevant.

The Nordic Eco label believes that everything has a lifecycle and serves as an effective marketing tool that symbolizes the organization's work towards sustainable consumerism and production. These two aspects are the main factors necessary to achieve a sustainable society. The criteria taken into consideration include energy, water and chemical use, climate aspects, source of raw materials, hazardous effluents, packaging and waste.

## Green Seal

Green Seal is a non-profit organization established in 1989 whose mission is to work towards environmental sustainability by identifying and promoting environmentally responsible products, purchasing and production. The organization is dedicated to setting environmental standards, certifying products, and educating the public and adheres to the following:

1. Identifies products that are designed and manufactured in an environmentally responsible manner

2. Offers scientific analyses to help consumers make educated purchasing decisions regarding environmental impacts
3. Ensures consumers that any product bearing the Green Seal Certification Mark has earned the right to use it
4. Encourages manufacturers to develop new products that are significantly less damaging to the environment than their predecessors.

Green Seals' requirements intend to reduce the impact that manufacturing has on the environment. The Green Seals Environmental Standards focus on significant opportunities to reduce a product's environmental impact and if standards are met, the product is certified. To complete the process, manufacturers submit their products for assessment by Green Seal and those that comply with the Green Seal requirements may utilize the Green Seal Certification Mark. The certification indication on products enables companies to market and promote their products as green certified. Manufacturers that are authorized to utilize the Green Seal Certification Mark on their products are still under obligation to continual testing, random inspections and rigorous enforcement of requirements.

#### The Florida Lodging Green Palm Certification

In 2004 the Florida Department of Environmental protection established the Florida Green Lodging program. Its mission was to persuade the lodging industry to become more conservative in their utilization of Florida's natural resources. A main incentive was that Governor Crist signed into law three executive orders to reduce Florida's greenhouse gas emissions, increase and improve energy efficiency, and remove market barriers for renewable

energy technologies such as solar and wind energy. In January 2008, Governor Crist also introduced a policy in which state agencies and departments could not arrange a meeting or conference with hotels or conference facilities that had not been awarded the Florida Department of Environmental Protection (DEP) Green Lodging program designation for best practices in water, energy, and waste efficiency standards, except when no other viable alternative existed.

The frontrunners of the Florida Green Lodging Certification Program have confirmed their dedication to succeed in protecting Florida's resources while at the same time saving money and creating good publicity around their corporate name. Vast environmentally friendly resources are now available to lodging facilities. Cost reductions through partnerships, free technical support and advice are all available to encourage and enable facilities to make the process as easy as possible (Green Lodging Program, 2001).

#### The Green Restaurant Association

In 1990, the Green Restaurant Association (GRA), a non-profit organization providing certifications for restaurants, began. The organization's mission is to "Create an Environmentally Sustainable Restaurant Industry." Since the GRA was founded, the association has positively influenced the restaurant industry by providing convenient and cost-effective tools to help reduce its sometimes harmful impact on the environment.

The GRA provides consumers with faith in restaurants that claim to be green. The GRA certification takes into account seven factors that together create a focus on green and sustainable operation of the restaurant. These include: water efficiency; waste reduction and recycling;

sustainable furnishings and building materials; sustainable food; energy; disposables; and chemical and pollution reduction (GRA, 2011).

For a restaurant to gain access to GRAs' vast resources and knowledge and promote itself as GRA certified, it needs to become a member of the GRA. After the restaurant has paid its dues, it may start utilizing the available resources. In most instances, the restaurant will follow governmental regulations and program standards that GRA promotes, and the GRA will then help the restaurant implement a minimum of four environmental steps per year. GRA does this through simple tools such as on-site consulting as well as granting access to a vast database complete with environmental solutions and practices (Wallace, 2005).

To truly emphasize the need for a GRA certification, one only needs to view the financial results. By following the GRA guidelines, a restaurant may create savings by becoming more energy and water efficient. It is estimated that a GRA member will have savings of as much as 10 to 20 percent of its energy bill. The restaurant member will also be able to utilize the GRA logo in its promotional material (Wallace, 2005).

GRA focuses on four main constituents who are:

1. Restaurants and other foodservice facilities
2. Manufacturers
3. Consumers
4. Distributors

Restaurants and other foodservice facilities have the ability to access the largest database in the world to enable the proper understanding and implementation of sustainable practices as well

as green products (GRA, 2011). The restaurant industry is currently answering the demand from consumers around the world to become a sustainable operation. Thus, restaurants are increasingly requesting an array of environmentally friendly products. According to GRA, the most important things a manufacturer can do are “establish a strong line of environmental solutions for its customers”, and “submit one or more of those products to the GRA for endorsement so that claims are credible to distributors and the end user.”

The GRA provides a web-based guide of Certified Green Restaurants that includes presents and promotes all the environmental undertakings achieved by each restaurant. The GRA facilitates the understanding and importance for distributors to provide restaurants with the best possible environmentally friendly products. GRA also helps distributors become more effective and create sustainable operational environments by educating their sales staff on the most important environmental issues of the day.

#### Green Certification Criteria

There are numerous ways to measure how green or sustainable a restaurant is. The following criteria are the most commonly used among green certification associations:

1. Water Efficiency  
Landscaping, Kitchen, Restrooms, Other
2. Waste Reduction and Recycling  
Recycling & Composting, Construction Recycling, Hazardous Waste, Waste Reduction – Office, and Waste Reduction – Disposable Products
3. Sustainable Furnishings and Building Materials



Reused or Salvaged, Post-Consumer Recycled Content, Pre Consumer Content, and Rapidly Renewable

4. Sustainable Food

Organic Food & Beverage and Sustainable Seafood, Meat & Dairy, Meat Free, and Local Food

5. Energy

Heating, Cooling, Ventilation, Water Heating, Miscellaneous, Lighting, Kitchen Equipment – Cooking, Kitchen Equipment – Refrigeration, Annual Maintenance, and Office Equipment

6. Disposables

No Disposables, Foodservice Disposables, and Other Recycled Paper Items

7. Chemical and Pollution Reduction & Indoor Air Quality

Site Selection, Storm Water Management, Transportation, Petroleum Reduction, Chemical Reduction, Pest Management, Light Pollution, and Chemicals

8. Environmental Management

Organization and Responsibility, Legislation and Regulatory Requirements, and Documentation of Certification Association (Swan) Requirement

The aforementioned criteria are the most commonly used among the green certifications that the author has researched. The three green certifications that focused on restaurants utilized all of the criteria, some of the criteria, or a combination of criteria. It is crucial to the successful outcome of this research study that all criteria questions be answered properly. The three green

restaurant certifications were chosen because they solely focus on restaurants. The objective of the study will be achieved by analyzing the outcomes of the first three certification audits of 30 restaurants, and an additional questionnaire that the managers of these restaurants will complete.

### Summary

This chapter included an extensive review of early definitions of CSR. The main pillars of which CSR stand on are: 1) Economic Responsibilities; 2) Legal Responsibilities; 3) Ethical Responsibilities; and 4) Philanthropic Responsibilities. The two primary CSR models are the American and the European.

One of the reasons for the introduction of CSR is the environmental aspect of social responsibility. During the 1990s, Wackernagel, et al. presented the Ecological Footprint -- a way to measure the impact that industries and humans have on the environment. The ecological footprint introduces sustainability as an important issue. With the population increase on Earth, sustainability questions are being raised in the political arena which regulates business. NGO's have been more creative and successful in enforcing environmentally friendly practices into the business industries.

The 4 Es of Sustainability were just recently introduced. Initially, three Es, or the triple bottom line effect, that was discussed in literature, were the primary model until the recognition that Education, the fourth E, was just as important. With regulation and a stronger consumer interest in green practices, the hospitality industry has responded rather quickly. The lodging industry especially has made significant leaps towards operating in a more sustainable manner, in particular, in the operational expenses areas of facilities and landscaping.

The restaurant industry is a large part of the American private sector and a very important factor in the American economy. Thus, operating restaurants in an efficient manner, particularly since the margins are very small, is crucial. Unfortunately, the restaurant industry has been slow to embrace green practices. Choi and Parsa (2008) recently focused research on consumers and green practices and the results were very clear -- consumers are willing to pay more and frequent restaurants that focus on green practices. The research also introduces a broader concept that consumers are welcoming a stronger sense of health and social concern from restaurants, especially since the Earth's overall population is increasing in weight every year.

The last part of the chapter focuses on various organizations and certifications that are important in today's business environment. It is essential that organizations function as facilitators rather than regulators and inspectors, since business responds better to suggestions and recommendations than to regulations and threats.

Lastly, the three certifications are introduced and their importance in the restaurant industry in various parts of the world is highlighted. Their verification process varies with the targeted concept and the local health and environmental regulations. Audits using these certifications have proven to benefit the restaurants utilizing the certifications. The new instrument will be even more focused on the potential benefits to the restaurants that strictly adhere to the certification step-by-step process and implementation.

## CHAPTER THREE: METHODOLOGY

### Introduction

The research design and the various procedures used in the study are presented in this chapter. The chapter has been structured to discuss the following: (a) objectives of the study; (b) research questions, and (c) research procedures; (d) design of the study; (e) research protocols; (f) study population; (g) sample selection; (h) instrumentation; and (i) limitations of the study.

### Research Questions, Hypothesis, and Research Procedures

#### Research Question 1

Are there current prominent Green restaurant instruments?

H<sub>0</sub> Current prominent green restaurant instruments exist.

Research question 1 was tested by examining literature for green restaurant certifications. The literature examination was conducted by database query reports. The results will be presented in chapter 4. The certifications most recognized in scholarly journals were chosen to be part of this research study.

#### Research Question 2

Are there differences between the existing green restaurant certifications?

H<sub>0</sub> Differences exist between existing green restaurant certifications.

To answer question 2, two instruments were developed. The first instrument was named “Managers Comparison Questionnaire” (Appendix A) and the second instrument was named

“Certification Attributes” (Appendix B). Managers Comparison Questionnaire was developed to compare the three current certifications as to their overall benefit for the respondent’s restaurants whilst the Certification Attributes instrument focused more on the certifications presentation.

The manager’s comparison questionnaire has twenty four questions divided into a numerical Likert type scale with a range of seven numbers and a text portion where the respondents would be able comment in their own words what they thought of each certification. The number section was described as number one meaning strongly disagree and the number seven means strongly agree. Respondents were asked to allocate a number for each question. When the questionnaire was completed the numerical values were added and a mean was calculated. Certifications with a higher mean were viewed more favorable by the respondents. The text section was analyzed differently. Respondents wrote their own comments on the questionnaire and through reading the comments it was possible to understand how the respondents viewed each certification.

The certification attributes survey measures manager’s views of each certification for eleven attributes. The attributes were chosen from the pilot study’s comments of the three current green certifications on the manager’s comparison questionnaire. The attributes survey is based on a number scale ranging between the numbers one to five. Each certification was graded from the lowest number one to the highest number five. The certification scoring the highest mean value was favored by the respondents.

### Research Question 3

Is there an efficient instrument to effectively measure aspects of green practices?

H<sub>0</sub> There is an efficient way to measure green practices.

To answer question 3, the three current green restaurant instruments were analyzed, thus, an analysis of each of the three restaurant instrument metrics and corresponding areas of focus was done. Each certification instrument measures a restaurant’s use of green practices utilizing a survey instrument that poses numerous questions for the restaurant to answer in order to measure specific areas of green practices. Table 1 presents categories measured by each of the existing instruments. Table 1 show that each of the four certifications may be used to measure restaurants willingness to utilize green practices.

Table 1 Certification Analysis

<b>CERTIFICATIONS</b>	<b>MEASURED CATEGORIES</b>
GRA	Energy, Water, Waste, Disposables, Chemical and Pollution Reduction, Sustainable Food, Sustainable Furnishings and Building Materials
GS	Responsible Food Purchases, Energy Conservation and Management, Water Conservation and Management, Waste Reduction and Management, Air Quality, Cleaning and Landscape Management, Environmentally and Socially-Sensitive Purchasing, Transportation, Training and Communication Requirements, Continuous Improvement
NORDIC SWAN	General Requirements, Food and Beverages, Chemical Products and Consumables, Energy and Water, Waste and Transport, Environmental Management
NEW GREEN CERTIFICATION	CRS, Energy, Water, Waste Management, Recycling & Bio-Based Disposables, Chemical & Pollution Reduction, Sustainable Food, Sustainable Furnishings & Building Materials

#### Research Question 4

Do restaurant segments and category classifications influence the propensity to engage in green practice implementation?

H<sub>0</sub> Restaurant Segments do not influence the propensity toward implementing green practices.

To answer question 4, SPSS 20 was used to analyze as noted in table 1, the New Green Restaurant Certification answer results. The statistical significance showed that there was no difference in the utilization between restaurant categories or restaurant segments. Each respondent completed the new green restaurant certification. Utilizing SPSS 20 factor analysis was utilized to find out if restaurant segments influence the propensity toward implementing green practices in restaurants with statistical significance.

#### Research Question 5

Are managers aware of the importance of green practices?

H<sub>0</sub> Managers are not aware of the importance of green practices.

To answer question 5, the new green certification was utilized. By adding up the total amount of points for each survey a mean could be derived and then statistically analyzed in SPSS 20. The results from the SPSS 20 outcomes from the estimated marginal means of new certification average were analyzed and two basic presumptions were acted upon. It was presumed by the researcher that all participating restaurant managers are knowledgeable in financial accounting, that the goal of each restaurant was to maximize profit; restaurant managers

were involved in the monthly development of the restaurant's profit and loss statements and are engaged in decision making activities to increase revenue and reduce costs. The statistical results indicate that green practices were not utilized within participating restaurants providing evidence that restaurant managers were likely unaware of the importance of green practices since none of these appeared to be existent in practice.

### Design of the Study

The main study utilized a convenience sample of one hundred and twenty seven (127) restaurants mainly in the Central Florida area. A survey comparing green restaurant certifications was developed for restaurant managers. The survey questionnaire used a Likert-type scale technique in which respondents were asked to indicate agreement or disagreement with self-reported levels of importance attached to each factor within the survey (Veal, 1997). The purpose of the activity was to ascertain positive or negative tendencies toward the proposed factors. The point calculations were measured by using a seven-point (ordinal) scale. The measurement scale used the following allocation of values: (1) strongly agree, (2) somewhat agree, (3) agree, (4) neutral, (5) disagree, (6) somewhat disagree, (7) strongly disagree.

A pilot study focus group was conducted to ascertain salient factors contained within criteria of the existing instruments. These included three certification programs. The certification titles are: the Green Restaurant Association, the Green Seal, and the Nordic Swan. Restaurant managers responded to questions concerning each of the three certifications to the best of their knowledge. The total amount of points from each restaurant was calculated from the manager's comparison survey. These totals and mean averages within the manager's comparison survey



were calculated. The numbers in addition to the verbal responses for each question was part of the foundation of the development of a newly designed green certification.

The focus group discussed the factors relating to each of the existing instruments. Findings from the group resulted in additional information to facilitate quicker survey response times, as well as other recommendations concerning survey construction. One major contribution was the concept of utilizing parts of the existing Green Building Council's LEED certification criteria. The inclusion of the format provided quicker, easier and more in-depth processes for restaurant managers to complete a new and improved certification as well as implement daily green practices in an efficient manner. This criterion influenced the basis of the present study.

The study was conducted using multiple questionnaires. The Green Restaurant Association certification, the Green Seal certification and the New Green Restaurant certification were used to establish the degree of green practice compliance among restaurants in the Central Florida area. The managers' comparison survey was distributed to determine managers' perceptions concerning the existent certification programs. Based on these responses, prominent attributes were used in the construction of a newly developed survey. The survey was based on a five point scale.

The manager's comparison survey was calculated and analyzed utilizing the total number and the average. Higher numbers indicated a positive opinion from the managers. SPSS 20 was used to validate as well as find correlations between the three certifications.

## Research Protocols

The first phase of the methodology entailed the conduct of a pilot study. The purpose of the pilot study was to ascertain the strengths and weaknesses associated with the targeted existing certifications. The collected data from this phase formed the basis for the creation of a new green restaurant certification due to implications associated with the responses from pilot study protocol. The researcher used combined knowledge from the three pre-existing certifications (GRA, GS, and the Nordic Swan) as the basis for the development of a new certification instrument, which encouraged interest on the part of a number of restaurant practitioners that indicated a willingness to partake in the implementation of green practices.

Both the pilot and present studies were conducted in such manner that the availability of the restaurant managers increased the level of respondents. The importance of timing when dealing with active practitioners was a critical factor that influenced participation. The timing required to effectively conduct a study with these respondents occurred during non-peak operation timeframes. Each responding restaurant manager was approached in-between meal times. The time suited is in-between lunch and dinner or before lunch. Hence, respondents participated during timeframes in between high business volumes resulting in participant engagement with focused attention. An unexpected anecdotal inference on the part of respondents indicated they were enhancing self-awareness of sustainability activities by reviewing the procedural questions.

Each restaurant was approached individually and when asked to partake were provided the option to decline engagement in the research study. The voluntary respondents were

informed of what the study was researching and were for the most part very eager to partake in the required activities. There were a total of forty respondent restaurants. The pilot study was used to determine restaurant managers' perceptions concerning the strengths and weaknesses of the current certifications.

In this phase of the study managers were first presented with the Green Restaurant Association. The respondents read through the survey and when the participant had a question the answers were quickly provided for clarification. The questions asked regarding the green restaurant association certification involved the numerical allowance that was given by each answer. This question was difficult to answer since the survey itself nor did the green restaurant association website present such information. The logical answer provided by the green restaurant association when asked was that the numerical differences varied due to the environmental impact each questions answer. For the most part this survey was easy to complete within a set timeline. Upon completing the survey each respondent was asked if they wanted to add anything to the survey to place comments on the back of the survey.

They were then presented with the Green Seal certification. The same respondents read through the survey and if a question occurred it was quickly answered to the best of our knowledge. The green seal certification was very quickly completed with very few questions. The respondents were very pleased with the questions to which a yes and no was needed to answer the question. This survey was by a significance time difference much quicker to complete than any of the other surveys.

The third survey presented was the Nordic Swan. This certification is a very strong and detailed certification. In Scandinavia this certification is a great honor and something to strive for. Restaurants with the Nordic Swan sign as being certified develops a great reputation and their financial status and reputation escalates. The Nordic Swan certification is a very detail oriented certification. The point system is based on the environmental impact each question have. The main difference between the Nordic Swan and most of the other green certifications is that the Nordic Swan adds the complexity of bringing in the food and beverage distribution and the food processing into the pie.

The fourth survey conducted was the “Managers Comparison Questionnaire” this survey compared the three prior surveys (Green Restaurant Association, Green Seal, and New Green Restaurant). The analysis that will be conducted is a regular mean statistical analysis. The result will indicate with some significance which certification the respondents favor. This may or may not be of importance, however, from the point of view to find out how the respondents feel about the certifications this is of importance especially in terms of the respondent’s inclination to further surveys being conducted. It is also important to better prepare respondents for increasing the conditioning of the respondents to implement green practices.

When the four certifications were completed the pilot study was then individually discussed with an academic and professional focus group. As a result a new green restaurant certification was developed. Many questions in the new certification are similar to the GRA and the GS certification questions. The main difference between the new green certification is that it is based on a one to seven Likert type scale answering the manager’s opinion and belief. It is not,

as the others are, based on real factual knowledge. However, the advantage is that a quick overview of the completed survey may increase the possibility of a favorable implementation of green practices.

After the new green restaurant certification was developed it was time again to test the instrument. This time a total of one hundred and twenty seven (127) restaurants partake in the main study. Due to the extensive amount of questions of all the surveys there were only sixty five (62) respondents that fulfilled the statistical procedures to become significant. This is almost 50% response rate which is under the circumstances quite remarkable since there were almost six hundred and forty three questions to be answered some of which needs explanation and understanding.

The study followed the same outline and method conducted as the pilot study with two exceptions. The first exception was the discarding of the Nordic Swan due to its detailed background check. The second exception was the addition of the new green restaurant certification. The new green certification is shorter than the GRA and the Nordic Swan but longer than the GS. The answers are based on the manager's opinions on a seven scale Likert type scale. After each section of the survey the numbers completed by the managers will be added up and statistically measured.

The fifth survey conducted measured specific attributes of the three prior certifications. In this survey the respondents were asked to grade their input in how well each individual certification measures up. The statistical procedure proving the mean average is. The

certification recording the highest mean will according to the respondents be the most preferably green instrument.

When all the surveys are completed and gathered the research questions can be answered. Question number one is a simple Google scholar query for the mentioning of green restaurant certifications. The more times a certification is mentioned the stronger chance of people recognizing the certification. The total amount of point for each certification defines the best and strongest.

The second research question can be answered utilizing the manager's attributes survey. After gathering the completed surveys the analysis may begin. Adding the total sum of points for each survey will provide the information of which certification the respondents preferred.

The third research question may be answered by all the certifications researched. Utilizing simple statistical methods such as means and medians as well as more in-depth statistical methods such as factorial analysis may provide the researcher with information to decide which areas restaurants are strong as well as weak with statistical significance.

To answer research question four all restaurant certifications was used. In this instance SPSS factor analysis provides the best method to prove with statistical significance the outcome. In this study the new green restaurant certification was used.

To answer research question 5 no statistical method was used. The method used was a comparison with all the restaurants answers. Research question five is a plain discussion question and adds commentary information to the statistical outcome of research question four.

### Study Population

The target population for this study consisted of restaurants in the Central Florida area. A convenience sample was used due to the accessibility of restaurants in the Central Florida area, a region that is unique in the sense that the Metropolitan Statistical Area closely resembles the universal population. The advantage was to minimize the amount of time required to collect representative data.

### Sample Selection

This study utilizes a convenience sample population of one hundred- twenty seven (127) restaurants. Units from the two aforementioned categories of individually owned chain restaurants and Franchise owned restaurants. Within the two major categories utilized, the representative restaurants were from five industry-specific segments (Quick Service Restaurants, Fast Casual, Casual Dining, Family Dining, and Fine Dining) to broaden the level of inquiry.

### Research Procedures

All instructional material was delivered utilizing certification criteria printed on paper in which managers would respond to the questions by filling in blanks. Certification documents were delivered face to face so that possible questions from the restaurant managers could be addressed. After completing the surveys, data were recorded into an Excel database which included all survey questions and answers. Data were then entered into SPSS 20 for statistical analysis. Validity, reliability and correlations were statistically measured.

## Instrumentation

There were numerous instruments used. 1) The Green Restaurant Association certification; 2) The Green Seal certification; 3) The Nordic Swan certification, 4) The New Green Certification, 5) The Manager Comparison Survey, 6) The Attributes Comparison Survey. All these instruments were used throughout the study. Information concerning the characteristics of each instrument are presented in the following sub-sections.

### The Green Restaurant Association Certification

The Green Restaurant Association (GRA) Certification utilizes a point system. Numbers from .25 to 333 are used for this instrument. The more points the more green practices are in place. It is a lengthy and detailed survey.

### The Green Seal Certification

The Green Seal (GS) Certification instrument does not utilize a number system. The instrument utilizes yes, no and not applicable or neutral answers. The more questions answered yes the more green practices the restaurant uses. The instrument is short and to the point.

### The Nordic Swan

The Nordic Swan (NS) Certification utilizes the point system and word answers. The instrument is very lengthy and detailed. The instrument is focused on processes, manufacturing (growing and handling) and the distribution chain.



## The New Green Certification

The New Green Restaurant Certification (NGRC) is based on a Likert-type scale point system from 1 to 7. Managers answered questions to the best of their knowledge, but not in absolute terms as in the other certification instruments.

## The Managers Certification Comparison Survey

The Managers Certification Comparison (MGR. COMP) instrument is based on a Likert scale point system. The numbers 1 through 7 are used. It is made up of made up of 49 questions, and each question had two parts: 1) Answer the question with text (free response) and 2) Answer the question on a 7-point Likert-type scale.

## The Attributes Certification Comparison Survey

The Attributes Certification Comparison instrument compares the various certification instruments in one matrix based on numbers 1 through 5.

Table 2. Instrument Matrix

INSTRUMENT	NO. PGS	NO. QS	INSTRUCTIONS	FAMILIARITY
GRA	21	298	Yes	Very, in US
GS	10	91	Yes	Very, in US
NS	37	87	Yes	Very, in Scandinavia
NGRC	11	193	Some	No
MGR COMP	4	49	Yes	No
ATTRIBUTES	5	12	Yes	No

### Construct Validity

Construct validity may in a simple way be described as “we are in fact measuring what we think we are measuring” (Pennington, 2003, p.37). Construct validity is properly addressed if the research design is connected to the theoretical construct of a study (Miles and Huberman, 1994). In this case the theory was that we were generating a new and improved research instrument. The author’s research design was focused on the creation of a new and improved research instrument based on preliminary findings.

To determine correlation levels between the three certifications SPSS20 factor analysis was utilized. A Pearson level of .3 or higher is needed for a moderate sized level of correlation (Nunnally, 1994). The New Green Certification was statistically significant from the Green Seal Certification with a Pearson level of .309 and a significance level of .001; however, this was not

the case with the Green Restaurant Certification. The Green Seal and the GRA did not correlate with each other.

### Reliability

The purpose of reliability is to diminish errors and biases in research. Research can be reliable (repeatable) but not valid (inaccurate). Reliability can be tested when other studies exactly duplicate the design and technique of the prior study or the same study is segmented for testing. This is important since building trust in the statistical analysis and the obtained results is crucial. Thus, if the reliability is low, this is a result of difficulty in reproducing the experiment with similar results, in which case the validity of the experiments decreases (Creswell, 1994).

According to Nunnally's (1967) definition "the extent to which measurements are repeatable and that any random influence which tends to make measurements different from occasion to occasion is a source of measurement error." Nunnally (1978) recommends that instruments used in basic research have a reliability of .70 or higher and increasing reliabilities much higher than .80 is a waste of time with instruments used in basic research. The Cronbach alpha for the New Certification was .796 for the 62 valid cases. Sixty-five cases were excluded due to non-usability as a result of incomplete responses to all of the 181 questions.

### Ethical Considerations

The university's Institutional Review Board approval was obtained before data collection began. The study was voluntary. Data were analyzed and maintained in such manner that no individual or restaurant could be identified. All data records were secured and will remain in that

state for a minimum of five years. Study participants were informed that participation in the study was voluntary and that they were not required to participate. Those who did not wish to participate were thanked for their time.

### Limitations of the Study

There are numerous limitations to this research study:

1. Participants in this study were voluntary.
2. The study was limited to face to face interaction during the completion of five surveys.
3. The study utilized a convenience sample.
4. The area in which the study was conducted was in Central Florida which may not be considered significantly conclusive in comparison with the landscape of the overall American restaurants.
5. Generalization of this study is limited due to the specific population and content.

### Summary

This chapter began with a brief introduction of the methodology process employed in this research study. It included the study's objective and an in-depth explanation of the data collection process in a step-by-step manner. A convenience sample of one hundred-twenty seven (127) restaurant participants was visited and information was gathered by asking specific questions from the different green restaurant certifications. Upon completion of these questionnaires, the managers then answered another questionnaire that compares the presented three certifications with each other. Finally, the newly developed questionnaire was included in

another round of visits to a convenience sample of restaurants. Data from the three certifications were then analyzed with multivariate statistics to uncover differences and variance between questions and categories.

## CHAPTER FOUR: FINDINGS

### Introduction

Chapter 4 presents the outcomes of the data analysis for the five research questions. To answer the five research questions, both qualitative and quantitative methods were used. This chapter has been divided into four main sections including (a) an overview of the study, (b) the statistical power of the study, (c) demographics of the study sample, and (d) results and analysis of the research questions.

### Overview of the Study

The study examined current prominent green restaurant certifications. It also developed a new green restaurant certification and compared it with other current green restaurant certifications. Lastly, it surveyed the utilization of green practices in the restaurant industry.

The examination of the current prominent green restaurant certifications focused on U.S. based certifications with the exception of the Scandinavian sustainability certification, known as the Nordic Swan. The reason for this is that the study was being conducted in the Central Florida area. Furthermore, surveys were to be conducted with restaurant managers during their working hours and thus needed to be easily understandable, information needed to be easily accessible and the managers well informed of current operational procedures. The Nordic Swan was chosen due to its focus on green processes, attention to detail and its proven positive results. Restaurants in Scandinavia which have the Nordic Swan certification have better financial results and customer satisfaction than non-certified restaurants. Additionally, the notoriety associated with

being certified provides restaurants with proven positive marketing strategies and thus even greater financial results throughout these nations.

The contribution of this study's new green restaurant certification is to provide easily accessible criteria for managers to increase their use of green practices in the restaurant industry. To find out how restaurant managers perceived the various certifications, a manager comparison survey was developed and conducted. The results suggest that the certification chosen by restaurant managers should be short, to the point, and with Likert-type measurement scale. Furthermore, the New Green Certification survey includes a brief informational summary prior to each section. This is to ensure that managers properly understand the importance of each section and can with ease make changes in their own time or financial need.

#### Certification Correlation Testing

The first step of the process was to establish the correlation between the new green certification and the already existing certifications -- the Green Seal and the Green Restaurant Certifications. The correlation analysis was conducted utilizing SPSS 20. The results indicated that the new certification was very strongly correlated with the Green Seal certification with the result of .309 of the Pearson correlation. There seemed to be very little correlation, however, with the Green Restaurant Certification (GRE). Additional explanations may include the low sample size and human error in completing the form. Some managers left questions blank, possibly not fully understanding the questions, or did not provide usable answers.

Following are the correlation tables from various categories included in the various instruments. The statistical analysis conducted shows the correlation within each instrument as

well as with the other instruments. The sample size was too low to be able to statistically correlate with the Nordic Swan.

Table 3 Certification Correlations, Correlation is significant at the .01 level (2-tailed)

		New Certification Average	GRA Average	GS Average
	Pearson Correlation	1	-.047	.309
New Certification Average	Sig. (2-tailed)		.656	.001
	N	120	93	117
	Pearson Correlation	-.047	1	-.179
GRA Average	Sig. (2-tailed)	.656		.084
	N	93	94	94
	Pearson Correlation	.309	-.179	1
GS Average	Sig. (2-tailed)	.001	.084	
	N	117	94	121

As previously mentioned, table 3 demonstrates that the New Green certification correlates with the Green Seal. The correlation with the Green Seal is .309 with 99% significance. The New Green certification or the Green Seal did not correlate with the Green Restaurant Association certification. As previously mentioned, this may be due to the very different measurement scale used by the Green Restaurant certification. The overall result suggests that the New Green certifications may be utilized as a legitimate and valid certification.



Table 4. Case Processing Summary

	N	%
Valid	62	48.8
Excluded	65	51.2
Total	127	100.0

The next step was to confirm the New Green certifications reliability. To be able to statistically measure reliability the New Green certification document was scrutinized question by question and the answers to the questions that restaurant managers completed. The main concern in this case was the number of unanswered questions by restaurant managers. One concern was whether the non-answered questions would influence the reliability of the instrument. The results suggested that the non-answered questions did not impact the reliability significantly. To statistically verify if the New Green Certification was reliable SPSS 20 was utilized. As shown in table 9, to be statistically significant the results needed to be higher than .7 on the Cronbach Alpha. A value of .7 or above can be considered reliable (Pallante, 2005) and acceptable (Skearan, 2005). The statistical result of Cronbach Alpha being .7 suggests that the study is of good internal consistency. A total number of 62 valid cases were established, 65 cases were excluded (table 4) due to not answering all the questions for a total of 127 possible cases, and there were 181 questions in total of the certification.

Table 5  
 . Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.796	.970	181

To test research question one about prominent green restaurant certifications, an empirical query in mentioning of restaurant green certifications was made scholarly database queries from the year 1990 to current.

Table 6 Database query.

Certifications	From year to current	Query Hits
GRA	1990	49200
GS	1990	15200
The Nordic Swan	1990	1750

As described in Table 6, the Green Seal was mentioned 15200 times, the Green Restaurant Association was mentioned 49200 times, and the Nordic Swan 1750 times. These certifications were the most reputable and accessible restaurant certifications that were found.

To test for research question two, finding differences between the existing restaurant certifications, two instruments were utilized. The managers certification comparison survey and

certification attributes survey was utilized to gain an understanding of what restaurant managers preferred.

Table 7. Manager Certification Comparison and Preference for Green Certification

Certification	Average Mean
Green Restaurant Certification	4.412
Green Seal	4.222
New Green Certification	4.218

The manager's questionnaire was analyzed to better establish if the New Green Certification was a valid instrument from a manager's point of view. The results were clear. Manager's preference was in favor of the Green Restaurant Association (4.412), next preference was for the Green Seal certification (4.222) and last the New Green Certification (4.218) right behind. Table 7 shows the mean average of all questions asked from the restaurant managers from each survey. The results suggested that according to the respondent restaurant managers the Green Restaurant Association certification was most preferable. However, both the New Green certification and the Green Seal certification were very closely ranked which indicates that all three certifications posed somewhat similar perceptions. Some areas of the certifications were determined to be appropriate, while and others could become improved. The Likert-type scale utilized rating numbers from one to seven with all three certifications rated at averages in the lower number four range suggesting that all three certifications were perceived to be slightly

better than average. The overall result indicated that the presentation, the questions, and the way points and weights were accumulated were similar between the Green Restaurant Association certification, the Green Seal certification, and the New Green certification. The use of the Nordic Swan as a comparison certification when developing the New Green certification was more tedious and complicated to complete. The Nordic Swan certification is more detail oriented and focused more on processes rather than actual restaurant standards.

Table 8 Certification Attributes

Certification	Average Mean
New Green certification	3.323
Green Seal certification	3.256
Green Restaurant Association certification	3.215

The second survey utilized was the certification attributes survey. This survey focuses on the presentation of each survey. As shown in table 8, the total amount of points was computed and a mean average was calculated. According to the managers the New Green certification was the preferable choice, closely followed by Green Seal certification and then the Green Restaurant Association certification. Again, the result suggests that all three certifications are very similar to restaurant managers.

To test for research question three, the New Green certification was used. All restaurant categories and its restaurant segments total averages were added up and the results suggested that

most restaurants by a large extent do not utilize green practices. An average answer of 1 (strongly agree) or 2 (agree) to the questions would suggest that restaurants utilized green practices. As shown in the table beneath, no category or segment is even close to a one or a two average. The average of lowest 2.6 and highest of 3.4 shown in Table 9 suggested that most restaurants may utilize some green practices however; for the most part green practices are not utilized. The reason of why green practices are not being utilized in restaurants in Central Florida when it is strongly suggested in literature as well as from the green building council, one can only speculate. One reason may be that the managers may not have the authority to change standardized order guides which is common practice in larger restaurant chains however, this would not be the case for individually owned restaurants. In those cases a lack of awareness may be the reason for restaurants not going green. The author believes that there are numerous combining factors that hinder restaurants from going green. Knowledge is a very strong reason. If restaurant managers do not know how to go green or lack awareness of associated benefits, it seems likely the restaurant will not go green. If corporate offices lack related policies, the area restaurants will not go green. By customers “voting” with their dollar and going to green restaurants, there is an additional benefit for the restaurants to go green. The overall and fundamental issue is that green practices benefits restaurants financial bottom line and restaurant managers are strongly suggested to take charge of a transformation of the entire restaurant industry to become greener.

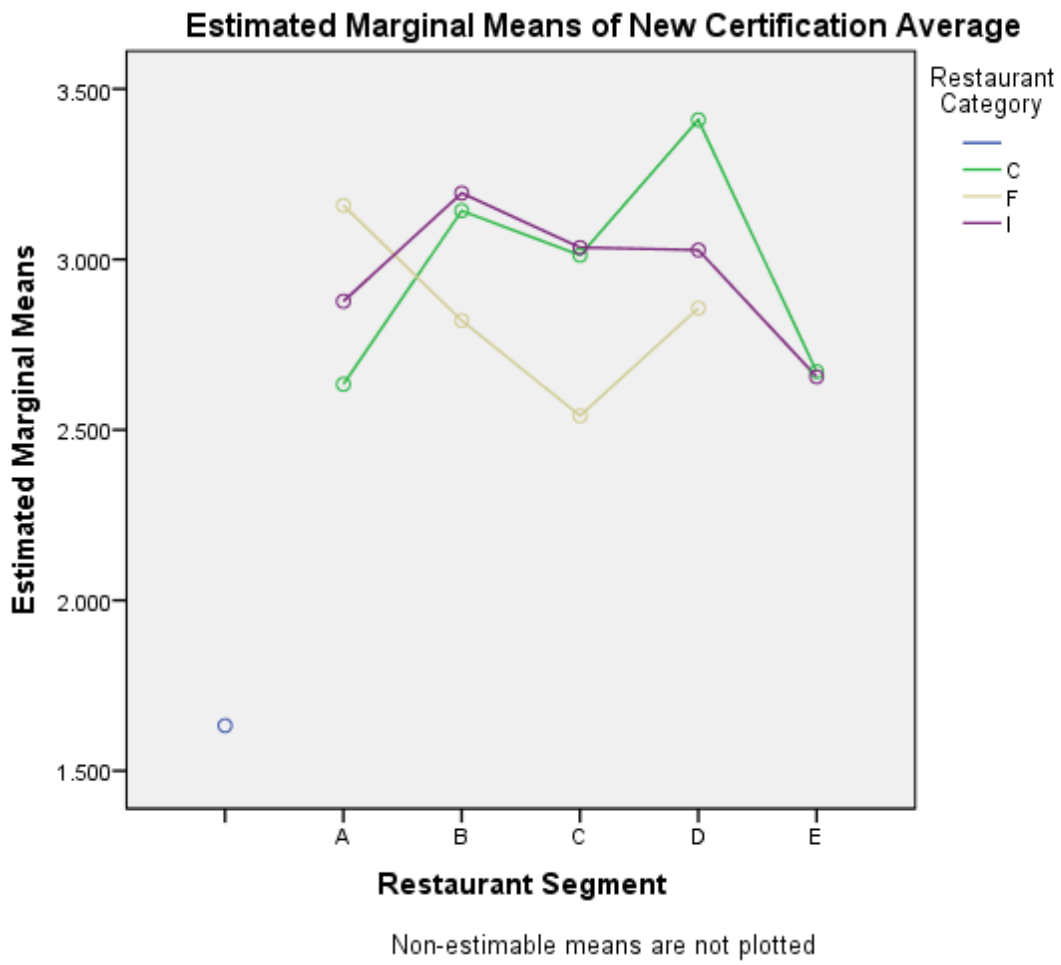


Figure 9. Estimated Marginal Means of New Certification Average

Table 9. Figure 9 Explanation

Rest. Segment	Fast	Fast	Casual	Family	Fine Dining
Rest. Cat	Food	Casual	Dining	Dining	
C. Corp. Owned	2.6	3.15	3.05	3.4	2.6
F. Franchise	3.2	2.75	2.5	2.8	
I. Ind. Owned	2.8	3.25	3.05	3.1	2.6

To test for research question four, to find out if restaurant segments and categories classifications influence the propensity toward green practice implementation, SPSS 20 was utilized to describe in a table the utilization of green practices in two categories and five segments.

As shown in table 9, there are some variations between restaurant categories and segments however, not to any significant difference. Only one hundred and twenty restaurants were analyzed, thus, it is difficult with certainty to claim that one category or segment is better than others in general. What can be shown is that in this study there are some variances between categories and segments however not as much to make a significant statement.

To test for research question five, finding differences between managers' awareness of the importance of green practices, the averages from the New Green certification was statistically measured in SPSS 20. The basic assumption is that all managers are well aware of financial

accounting and if they know of operational changes that would benefit the financial bottom line managers would encourage a change. Thus, a possible explanation as to why restaurants are not utilizing green practices may be that managers are not informed of the importance; they are not allowed to implement green practices, or that green practice implementation.

### Summary

The overall results indicate that the development of a new green certification poses viability in that the new instrument was demonstrated to be valid and positively received by respondent managers. Further, the results from testing the five research questions demonstrate that all three certification programs are viewed similarly by restaurant managers. Additionally, the results indicate no statistically significant variations among restaurant categories or restaurant segments.



## **CHAPTER FIVE: CONCLUSIONS, LIMITATIONS AND SUGGESTIONS**

This chapter contains a discussion of the overall results of this study, which were presented in the previous chapter. The overall outcomes are explained and connected to prior research. Suggestions of research limitations and areas for future research are deliberated upon. The chapter has been structured in such manner to include: (a) a summary of the results for each of the research questions and a discussion of the findings as they relate to prior research and the literature reviewed, (b) the significance of the study for hospitality educators, researchers, and industry professionals, (c) the constraints and limitations of the study, (d) conclusions, and (f) recommendations for future research.

### Research Question 1: Are there current prominent green restaurant instruments?

There are numerous green restaurant certifications around the world. The main reason that the Green Seal and the Green Restaurant Association certifications were chosen was due to the geographical location of the study as well as the number of times mentioned when a referential query was completed. The Nordic Swan was utilized to have a holistic frame of reference and a deeper sense of sustainability practices to serve as a benchmark example when managers were asked to compare the various certifications. The Nordic Swan provided an excellent reference as to what can be done in the future in the United States when the restaurant industry has become more accustomed to sustainable practices. It is a useful instrument that demonstrates a lifecycle process for food items prepared and served, as well as the processing

and distribution of products throughout the supply chain. The Nordic Swan provides an example of an aspirational certification program for future U.S. operations. At the conclusion of this study the evidence suggested that the majority of respondent restaurant managers were not informed of the supply chain processes from sourcing to processing through wholesale to brokerage to retail outlets for food items. Hence, there appears to be a lack of awareness concerning the distribution and development methods involved with the food products being served to customers at retail locations.

The restaurant industry in the United States has started to move towards more sustainable practices especially in the area of healthier food. The reason for this is the law that makes sure that all customers know the nutritional content in the food they consume. In the area of sustainable facilities operations management the restaurant industry has barely scratched the surface. For example, certain restaurants that were part of this study did not use energy-efficient light bulbs, a basic standard in commercial energy conservation.

Research Question 2: Are there differences between the existing green restaurants instruments?

Research question two focused on finding differences between the existing restaurant certifications in which two instruments were utilized. The reason for this was to see if managers would differ in their opinion regarding certifications when asked questions from two different surveys. In the first survey managers compared all certifications by answering twenty five questions on a Likert-type scale from one (strongly disagree) to seven (strongly agree). The

result suggests that all three certification were very similar with the Green Restaurant Association certification coming slightly ahead of the Green Seal certification and then the New Green certification. The margins between all three were very narrow even though the certifications themselves are different.

In the second survey there were only eight attributes in which managers had to allocate points. This range of points extended from one (very poor) to five (very good). In this instance the New Green certification came slightly ahead of the Green Seal certification and then the Green Restaurant Association certification. Again, the results were very similar.

### Research Question 3: Is there an efficient way to effectively measure aspects of green practices?

Research question three focused on the use of green practices by restaurants. Unfortunately, the results from the study strongly suggest that restaurants are not using green practices. This finding is based on statistical methods and is based on results with 99% significance. The results also suggest that there are no differences between the three restaurant categories (individually owned, franchise owned, and corporately owned) owned units. The same was true for the five classification segments (fast food, fast casual, casual, family, and fine dining) in the use of green practices.

Green practice areas of focus included; energy, water conservation, recycling, organic foods, and sustainable furniture and building material. It is possible for restaurants to be utilizing green practices in different categories. In the energy category, instruments look for the usage of

energy efficient light bulbs, sensors for lights, climate control and an overall lower utilization of energy over time and better energy habits of the overall staff.

Research Question 4: Do restaurant segments and category classifications influence the propensity to engage in green practice implementation?

Research question four discussed the propensity of implementing green practices. There may be an inclination to believe that corporately owned higher end restaurants and corporately owned fast food establishments would be more prone to utilize green practices. Unfortunately, the results from the statistical methods conducted suggest that there is no difference between categories or segments when it comes to implementing or utilizing green practices.

Research Question 5: Are managers aware of the importance of green practices?

Research question five elaborated on manager's awareness of the importance of green practices. It seems logical to presume that if managers knew the importance of green practices managers would automatically implement these practices. According to the multiple surveys conducted, green practices are, for the most part, not utilized. Thus, this suggests that managers are not aware of the importance of green practices. However, it may also suggest for corporately owned or Franchises that managers have no say in purchasing order guides and day to day operational decisions when it comes to green practices. This is not the case for individually owned restaurants and in its case knowledge seems to be the most logical assumption.

### Significance to hospitality educators, researchers and industry professionals

This study is significant to hospitality educators, researchers, and industry professionals by demonstrating two factors. The first is that utilizing green practices benefits the restaurants' financial bottom line and the other is that restaurants in the represented statistical metropolitan area of the study, to a large extent, do not utilize green practices.

### Significance to Hospitality Educators

This study is significant for hospitality educators by adding to the body of knowledge in terms of the amount of green practices observed by current restaurant operations. This information is important since it provides a baseline. With this knowledge, hospitality educators may now make certain suggestions to the restaurant industry to improve upon their use of green practices. Furthermore, educators may now provide restaurants with specific and measurable actions and timeliness for greater improvements of environmental actions.

### Significance to Researchers

The study is significant to researchers by adding to the research body of knowledge in terms of (a) restaurant researchers, (b) business researchers, and (c) sustainability researchers. The study should be useful to restaurant researchers who are engaged in the restaurant community to better communicate the importance of green practices both for the environment as well as for the restaurants own financial benefit. For business researchers it may be part of a larger scale research comparison between industry segments and finally for sustainability researchers it would also be comparable to other industries in terms of sustainability.

### Significance to Industry Professionals

The study is significant to industry professionals by adding to the research body of knowledge in terms of opportunities of increasing and improving a restaurant's financial net profit. The study provides industry professional with numerous websites as well as research studies in various industries that have with great financial gain grasped and empowered the concept of sustainability. The hotel industry overall have benchmarked numerous other industries in terms of how to financially improve the bottom line through conserve operational resources, empower employees to go above and beyond to go green , as well as utilize the great marketing tool which marketing "going green" have become. Additionally, governmental regulations such as former Governor Christ in Florida, who implemented the regulation that no governmental travel for stays at a non-green hotels were eligible for reimbursement. All reimbursed travel accommodation had to be with Florida green lodging palm certified hotels. These regulations provide partaking hotels with a sufficient amount of financial gain over non partaking hotels.

### Constraints and limitations

The following constraints and limitations were derived from the findings in the study.

1. Participants in this study were voluntary.
2. The study was limited to face to face interaction during the completion of five surveys.
3. The study utilized a convenient sample.

4. The area in which the study was conducted was in Central Florida which may not be considered significantly conclusive in comparison with the landscape of the overall American restaurants.
5. Generalization of this study is limited due to the specific population and content.

#### Recommendations for Future research

The following suggestions for future research are derived from the findings in the study.

1. Further research should be conducted in a manner in which the research design of the study would be modified to permit (a) restaurants to input their data on their own and (b) their data would be, for the most part, anonymous to enable continued statistical research.
2. Further research should be conducted utilizing a more interactive web module in which restaurants can receive immediate feedback as well as immediate contact with sustainable resources.
3. Further research should be designed to find out additional needs, in terms of support regarding sustainable practices, for restaurants.
4. Further research should be conducted which allocates additional time for the entire study.
5. Further research should enquire more personal questions of the restaurant manager's background, responsibilities, and ambitions.
6. Further research should be conducted to examine if the entire study could be completed through web modules or if personal contact is preferred.

### Contribution of Study

The author hopes to contribute to the body of knowledge in a statistically significant manner. The literature review tends to indicate that restaurants that focus on sustainable or green practices are financially healthier.

In conclusion, of this enormous task that was embarked upon during this research, there were throughout the study new ideas discussed and added. The reason for this was to improve the significance of the study results, to better understand the reasoning behind the results, and be able to explain with statistical significance that restaurants in the Central Florida area are, to a large extent, not utilizing green practices. To quote one chain restaurant “we will use one of our restaurants as a test to see if changing light bulbs will change the power bill.” The quote pretty much summons up the attitude that the restaurant industry has towards sustainability and green practices. One would believe that an industry with as small margins as the restaurant industry would jump on the opportunity to make serious savings and greatly improve upon the restaurant’s financial bottom line. Unfortunately, this study show with statistical significance that the restaurant industry does not think this way.

This study has made an effort to examine current green certifications, develop a new and improved green certification as well as determine whether or not restaurant managers understand that green practices benefit restaurants financial bottom line. Current certifications are well reputable. The hotel industry has been remarkably quick to address the use of green practices. Unfortunately, the restaurant industry has been slow at accepting of its benefits and not fully



accepted the many positive and possible benefits of green restaurant certifications or green practices.

**APPENDIX A: MANAGERS CERTIFICATION QUESTIONNAIRE**

	Criteria Description	Green Seal	Nordic Swan	Green Restaurant Association
Circle the number that BEST reflects your views where 1 = Strongly Disagree and 7 = Strongly Agree.				
1	What is the cost to be certified?			
	Is the cost within reach for your budget?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2	Is the certification feasible in all regions?			
	Is the current region suitable for green certification?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
3	Are the categories mentioned in the certifications feasible? Is the organizational structure of the certification good?			

	Are the categories in the certification correct?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
4	Is the certification specific or broad in its questions?			
	Is the certification specific enough?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	Is the certification broad enough?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
5	Are timelines mentioned? If so, how?			
	Are the timelines mentioned feasible?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
6	Are the certification category standards credible / feasible?			
	Are the certification category standards feasible?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

7	Are the certification questions detailed / in-depth? Enough or not enough?			
	Are the certification questions detailed enough?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
8	Are the questions weighted? Fairly?			
	Are the questions weighted fairly?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
9	Are points allocated to the questions? Fair?			
	Are the points allocated fairly?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
10	Is the certifications questionnaire too long or not long enough?			
	Do you agree with the length of the certification questionnaire?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
11	Is the certification instrument user friendly?			

	Is the certification questionnaire user friendly?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2	Is the certification easy or hard to pass? Is it fair or not?			
	Is the certification questionnaire hard to pass?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	Is the certification questionnaire fair?			
1 3	Is the certification achievable?			
	Is the certification achievable?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 4	Will the reputation of the restaurant benefit from being certified from this certification?			
	Will becoming certified benefit the restaurant?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

1 5	What will be the benefits for the restaurant by being certified?			
	Will becoming certified be positive for the restaurant?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 6	What are the potential pros / cons of being certified?			
1 7	Will being certified help in building consumer loyalty?			
	Will being certified help in building consumer loyalty	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 8	Does the restaurant have the resources to become certified if they wanted it?			
	Are there resource constraints in becoming certified?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 9	Is it possible to renew the certification? What needs to be done?			

	Is it easy to renew the certification?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2 0	Is the certification known by the restaurant manager?			
	Do you know about the certification?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2 1	How will the certification be enforced?			
	Do you agree with the certification enforced?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2 2	How will the restaurant be inspected?			
	Do you agree with the certification inspection process?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2 3	Are there any consequences for a restaurant if they don't pass the certification?			



	Should there be a penalty for failing certification?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	Should there be an award for passing certification?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2 4	How old is the certification? Or how long have the certification been in effect?			
	Does the length of the certification matter?	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

## **APPENDIX B: CERTIFICATION ATTRIBUTES**

### Attributes of the certifications

The following attributes have been found to be important to a successful certification.: 1.) Comprehensiveness; 2.) Credibility; 3.) Ease of Access; 4.) Goal-Oriented; 5.) Length; 6.) Measurable Results; 7.) Presentation; 8.) Specific Categories; 9.) Time Requirement; 10.) Transparency; 11.) User-Friendly

#### Comprehensiveness

The comprehensive standard implies that all categories or valuable information according to the certification developer is included in the certification, with no omissions. To accomplish this standard, three proven restaurant certifications will be benchmarked in addition to utilizing input from the expert focus group. The certification document will then be presented with the goal of becoming a comprehensive standard to which future green restaurant practices can be measured.

#### Credibility

The certification's success is dependent on credible standards. If it contains information that is incorrect or omitted, its credibility will be at risk. With this in mind, the goal is to provide full and correct information in the new certification. This will, in part, be accomplished with assistance from the focus group that can cover, in detail, all areas of importance. Furthermore, by following the recommendations of the certification, a restaurant may reap the financial benefits that may be accomplished by strict adherence.

#### Ease of Access

Accessibility relates to the level of access restaurants have to the new certification. Current certifications are often offered only through association memberships, which may discourage participation. It is the goal that the new certification offer easy online access for all interested restaurants.

#### Goal-Oriented

The certification will focus on achieving specific goals through strict adherence. Its primary goal is financial gain for restaurants becoming green to the standards set in place through the instrument and its recommendations.

#### Length

This is the overall length of the certification. How many pages and questions does the certification have? The length of the certification instrument matters since it takes time to complete the document in its entirety. The document must be read and understood correctly as well as the information asked for needs to be available. The number of questions to answer matters two-fold; the first is the total number of questions. The certification may have just a few questions in each category which makes the certification short and easy to complete however may not help the restaurant to come to any real conclusion as to find solution to lower its operational costs. The key is to find a middle ground where the correct number of questions, which covers the information needed, is asked. The second is to create questions that are short and to the point which is relatively easy to answer and cover all information need to find areas of improvement as well as cover each category completely.

#### Measurable Results

If restaurants follow certification recommendations, certain tangible results are to be expected. In many instances, these may lead to a variety of benefits within the company including: financial benefits; an increase in customer loyalty; a positive reputation; and a rise in employee morale.

#### Presentation

To achieve proper credibility, the Certification should be presented in a fashion that reflects an official document. This will enhance participants' confidence and trust in the research study. Plans for the new, full-color instrument include clear instructions, well-defined headings and a brief summary of findings for each section.

#### Specific Categories

For a restaurant to experience the greatest financial impact, the certification should focus on areas of utmost importance to the restaurant's financial bottom line.

The instrument will contain specific categories that outline the range of possible financial impact if adhered to strictly. Additional categories considered for inclusion are marketing and public relations and increased knowledge of the restaurant's green efforts. The latter may result in a small financial impact, an increase in customer base and an improved reputation for the restaurant.

#### Time Requirement

This question answer the question of "how long does it take to complete the certification?" The shorter time it takes to complete the certification the better Some questions

needs answers that only the corporate headquarters have and thus to be able to complete the document may take a long time.

#### Transparency

All available and pertinent information gathered and taken into account will be provided and discussed in the certification document, as it is important that the certification be completely transparent.

#### User-Friendly

It is essential for proper data collection, cooperation, and frequency of use, that the certification document be user-friendly. The author's goal is to develop an instrument that is both informative and user-friendly, by incorporating straight-forward and clearly explained questions.

CATEGORIES (1-5) RANK ON A SCALE FROM 1 TO 5 ONE BEING THE LOWEST AND FIVE BEING THE HIGHEST RANK	GREEN SEAL	THE NORDIC SWAN	GREEN RESTAURANT ASSOCIATION	NEW GREEN CERTIFICATION
COMPREHENSIVENESS				
CREDIBILITY				
EASE OF ACCESS				
GOAL ORIENTED				
LENGTH				
MEASURABLE RESULTS				
PRESENTABLE				
SPECIFIC CATEGORIES				
TIME REQUIREMENT				
TRANSPARANCY				
USER FRIENDLY				
TOTAL				

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