EMPLOYEE PERCEPTION OF ENVIRONMENTAL

MANAGEMENT SYSTEMS IN SELECTED HOTELS IN

PUERTO RICO

By

LUZ LA FONTAINE

Bachelor of Arts in Social Sciences
University of Puerto Rico
Rio Piedras, PR
1967

Master of Arts in Higher Education
New York University
New York, NY
1984

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
May, 2016

EMPLOYEE PERCEPTION OF ENVIRONMENTAL

MANAGEMENT SYSTEMS IN SELECTED HOTELS IN

PUERTO RICO

Dissertation Approved:

Dr. Bill Ryan

Dissertation Adviser

Dr. Lisa Slevitch

Dr. Sheila Scott-Halsell

Dr. Cosette Armstrong

DEDICATORY

"Unless you have something to die for, you don't have anything to live for."

-   Dr. David Jeremiah

To my two reasons to die and live for:

    Michelle, my dear daughter and best friend

    Hector, my loving son and first born

To my beautiful grandchildren, so that they constantly remember that you should always follow your dreams, and be perseverant, no matter how long it takes:

    Angel, the passionate musician,

    Isabel, the dedicated equestrian,

    Veronica, the fearless gymnast and athlete,

    Little Sasha and Camila, who are just starting to live.

To Juan Manuel, my partner in life, for all his love, support, and for making sure that I had all the time, space and resources that I needed.

To my inspiring brother Angel, always an example to follow.

To my dear friends who have been my cheerleaders, giving me encouragement, emotional support, and wise advice along this long journey:

    Angel, Mayra, Carmen (Chere), and Manuel

ACKNOWLEDGEMENTS

"Live as if you were to die tomorrow. Learn as if you were to live forever"

- Mahatma Gandhi

This learning process has been a long and enlightening journey for me, and I have taken it as if I was going to live forever. The knowledge acquired will serve me for the rest of my life, to be a better professional and educator, to serve my country's hospitality development, and to continue being a sustainability advocate.

This journey could not have been possible without the support and valuable advice of all the members of my dissertation committee. First, I will like to acknowledge, Dr. Bill Ryan, my dissertation chair and academic advisor, for accepting the challenge to guide my steps through the process, for all his patience, consistent encouragement and valuable expertise. I will also like to show my gratitude to Dr. Sheila Scott-Halsell for sharing her research projects with me, and for making sure that I was well assisted during my stay in Stillwater. My deepest appreciation to Dr. Lisa Slevitch for showing me what hospitality truly means, and for her expert advice in designing the correct statistical method. I will always be grateful to Dr. Cosette Armstrong for her knowledge and inspiring passion towards sustainable developments.

Last but not least, I will also like to recognize the work of Dr. Hailin Qu as coordinator of the Puerto Rico cohort. Through his consistent efforts, a group of Puerto Rican professors were able to study in such a prestigious program and university.

Name: LUZ LA FONTAINE

Date of Degree: MAY, 2016

Title of Study: EMPLOYEE PERCEPTION OF ENVIRONMENTAL MANAGEMENT
     SYSTEMS IN SELECTED HOTELS IN PUERTO RICO

Major Field: HUMAN ENVIRONMENTAL SCIENCES

Abstract: This study explored hotel employee's perceptions about the implementation of environmental management systems (EMS), and its consequent increase in workload. The service profit chain (SPC) model (Heskett et al., 1994) was used as theoretical base to measure internal service quality, job satisfaction, tenure and intentions to stay. The research was conducted in six selected hotels in Puerto Rico, which represented two types: green certified and non-certified facilities. Workers in the two different types of hotels were surveyed and data collected was compared to assess groups differences in SPC internal service and environmental practices perceptions. A structural equation modeling (SEM) method was used to evaluate SPC variables, and a pair wise test was conducted to compare the two groups of employees. Internal service quality (ISQ) was found to be important among workers in green certified hotels, while job satisfaction was found to be higher among employees in non-certified facilities. Implications for management and recommendations for future research were presented.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Problem Background

Environmental protection is a growing concern nowadays among government

leaders, civic organizations and business managers. This is mostly due to significant

climate change and increased greenhouse gas (GHG) emissions that are endangering the

world environment (WTTC, 2009). The Millennium Ecosystem Assessment (2005)

warned that nearly two thirds of the services provided by nature, to humankind, are found

to be in decline worldwide. The Intergovernmental Panel on Climate Change (IPCC)

reported in 2007 that observations on the increase of air and ocean temperatures, the

ice/glacier melting around the globe and the constant rising of the ocean level, confirm

the alarming situation that the climate is changing in a negative way for the world

population (Pachauri, 2007). The IPCC Fourth Assessment Report expands the

information by confirming that "access to food, water, health and the use of our

surrounding environment is under threat from climate change" (Solomon et al., 2007,

p.7). These scientific reports address the need to take immediate actions to preserve the

world's natural and social resources for communities and future generations. Public and

private organizations are paying greater attention on setting policies and strategies to

mitigate this situation that is consistently affecting humanity (Hotel & Resorts, 2008; WTO, 1999, 2008, 2009; WTTC, 2007, 2009)

Tourism and the travel industry are some of the most impacted economic activities by the rapid climate change situation, affecting the important financial and social contribution they represent for many countries (WTO, 2008). According to statistics reported by the WTTC (2015) for the year 2014, the tourism industry contributed 9.8 % of the world's total GDP, representing an economic investment of US $7.3 trillion. It accounted for over 277 million jobs, a 9.4% of total employment worldwide, and at the time of the report it was expected to increase another 2.6% by the year 2015. Tourism and travel contribution to the world GDP for the year 2014 grew faster (3.2%) than the total growth of the world economy (2.3%), and even more rapidly than other important industries such as manufacturing, financial and business, services and retail. This significant contribution to the global economy is being threatened by the climate change and environmental depletion. Intensive efforts are required to adopt friendly environmental policies to protect the most cherished asset: the environment that surrounds the tourism destination (Dolnicar, 2008). Without an attractive environment, there is no tourism or hospitality industry (WTO, 2008). In the U.S. alone, the U.S. National Travel and Tourism Office (USNTTO, 2015) reported that tourism represents a total of 31% of service exports, and 9% of total exports. In 2014 U.S. tourism attracted 75 million international visitors, representing a 6.6% share of world travelers, second only to France. These visitors generated $220.8 billion in international expenditures, representing a prevailing 15% share of global traveler spending, well ahead of leading destinations

such as Spain and France (USNTTO, 2015). The tourism industry generated 7.8 million U.S. jobs in 2013, every 1 in 18 jobs were supported by the industry (USDC, 2016).

The Caribbean region, a principal tourism destination in the Americas, is highly dependent on tourism as a primary economic activity, mostly in the sun, sand and sea tourism category. The Caribbean Tourism Organization (CTO) reported in 2016 that international arrivals grew from 4 million in 1970 to 28.7 million in 2015, a seven-fold growth during these four decades. Total arrivals have experienced a steady 4.2% increase from previous year, as well as the tourists' expenditures, which increased by 6%. The cruise ship industry, an important source of income for all countries in the region, also increased by 4.2% since previous year (CTO, 2016).

Puerto Rico was the site of interest for this study. Located in the touristic Caribbean region, the island is the smallest of the Greater Antilles ranking third in tourism activity in the region, following after Dominican Republic and Cuba. According to the World Travel and Tourism Council (WTTC) (2015) statistics, tourism and travel contribution to the national GDP in 2014 was $7.5 million, which represented a 6.1% of total contribution, and is expected to increase to 6.4% by the year 2025. In terms of employment, tourism and travel generated 66,900 direct and indirect jobs, representing a 5.2% of total employment in the island. This employment contribution is expected to increase 4% by the year 2015, and 6.8% of total employments by the year 2025. Puerto Rico attracted 3.8 million international visitors during 2014, which generated approximately $3.9 billion in foreign visitor's expenditures; this contribution is expected to grow 2.6% by the year 2015. The island depends mostly on the North American traveler, which represents an 89% of total visitors. It is a Commonwealth of the U.S. and

commercial activities are conducted in U.S. dollars. Puerto Ricans, born on the island, share the same citizenship as U.S. residents, thus no passport is required to travel to the island from the United States (U.S.). Although Spanish is the official language, English is widely spoken in all hospitality facilities. Tourism is the third largest economic activity in Puerto Rico, after manufacturing and construction (CTO, 2016). According to the WTTC (2015) travel and tourism contribution to the island's economy is expected to grow significantly by the year 2025. Employment will increase by 2.8% and expected international tourist arrivals will be 5.8 million, a 4% increase. Most of the tourism expenditures in the island's economy are represented by the leisure traveler (82.4%), as compared with business traveler (17.6%). Leisure travelers are attracted by nature, historic sites and people. Sustainable practices and environment conservation strategies are important to maintain Puerto Rico's projected growth in tourism and travel.

Based on the importance that tourism represents to many geographical regions, and to developed and underdeveloped countries,

> "there is a need to establish a low climate 'risk economy' that "combines the concepts of climate change mitigation and climate change adaptation, the need to reduce greenhouse gases other than carbon (e.g. methane), and recognizes the imperative to address the risks of the current economy into which we are now locked" (WTTC, 2009, p.7).

This type of approach to the world economy guides government, public and private investment into implementing low carbon initiatives that will promote significant global employment, stimulate economic growth and reinforce the much needed mitigation efforts (WTTC, 2009).

The concern for climate change and environmental exhaustion led to multiple conferences among industry leaders and government representatives to discuss strategies

to prevent this global debacle (DeSombre, 2006). The significant efforts to overcome this situation can be traced back to two decades, when the World Tourism Organization (WTO) and the WTTC celebrated the Rio Earth Summit in 1992. The strategies discussed in this conference were later published in a document widely known as *Agenda 21 for travel and tourism: Towards environmentally sustainable development,* a comprehensive action plan to be adopted globally by all governments and organizations members of the United Nations (WTTC, 1996). The document reported on the evaluation of the impacts caused by travel and tourism organizations on environment, and presented a guide to reduce these effects (Meade & Pringle, 2001). Following the guidelines established in Agenda 21, the International Standards Organization (ISO) created in 1996, a set of standards and a certification system for the hospitality industry was created: ISO 1401. In 1997, the WTTC also established a standard system and business certification, Green Globe 21, which has been widely adopted in the hospitality industry with the purpose to develop a sustainable way of managing the business. Other certifications followed, such as Green Key, Green Swan, Green Seal, Smart Voyager, Leadership and Energy Environmental Design (LEED), created by the U.S. Green Building Council, among others. Some are international certifications; others are local governmentally developed programs (DeSombre, 2006; Miller & Washington, 2008; WTO, 2008), but they are all geared towards the implementation of a more sustainable and responsible business operation.

A sustainable way of management must be based on sustainable principles (Butler, 1999). Sustainability has been defined in different ways. Butler (1999) analyzed various definitions of the sustainability concept establishing that the original definition

was provided by the Brundlant Commission: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987, p. 43). According to Bramwell et al. (1996) there are seven dimensions of sustainability: environmental, cultural, political, economic, social, managerial and governmental. Some documents have referred to these dimensions as the 'triple bottom line': economic, social and environmental achievements that sustainable corporations must achieve (Henriquez & Richardson, 2004). However, sustainability definitions are based mostly on physical environment conservation, such as determining the carrying capacity of a destination, and pay minimal attention to the human and social side of the sustainability concept which includes communities, employees and travelers (Butler, 1999).

Tourism travelers, consumers and communities can influence the way that tourism suppliers get involved in mitigating the industry's environmental impact by demanding more environmentally adequate infrastructure, selecting green certified accommodations and facilities and favoring tourism destinations that embrace sustainability efforts (Kirk 1998; Swarbrooke, 1995; Wahab & Pigram, 1997; WTO, 2008). In relation to this trend, Andrew Cosslett, Chief Executive Officer of Inter-Continental Hotels Group, expressed "customers are seeking a quality hotel at a competitive price, while increasingly demanding ethical and environmental business practices that make them feel good about their hotel choice" (As cited in UNTWO, 2008, p.167). In relation to travelers' preferences, the WTO authorities have expressed that "guest's perception about the accommodation service quality level is influenced by such factors as the state of the conservation of the environment, pollution levels. Therefore,

achieving individual improvements does not suffice to improve tourism quality; environmental factors should also be adapted to customer expectations" (WTO, 1998, p. 344). Many tourism suppliers are still not aware of this trend and are more concerned with delivering quality service and fulfilling customers' expectations as a means to obtain their loyalty and continuous sponsorship. A survey conducted by the American Automobile Association (AAA) in 2007 (Miller & Washington, 2008), designed to determine travelers' preferred hotel features, concluded that eco-friendly or green programs ranked among the ten most desirable features. Some studies have also suggested that travelers are willing to pay up to 6% more to stay in hotels with environmental management systems, and that hospitality managers can charge more for the services rendered (Choi et al., 2009). Other investigations contradict this conclusion by stating that customers are not willing to relinquish their comfort, or pay more, for sustainable practices (Gustin & Weaver, 1996; Kasim, 2004). In addition, Kasim (2004) contended that even though tourists are aware of the importance of sustainable operations, they are not 'caring' enough to base their hotel selection on socio-environmental practices. Despite these contradictions in relations to tourist intention, there is a general agreement in the literature that a growing number of travelers are opting to stay in environmentally responsible facilities (Butler, 2008; Bohdanowicz & Martinac 2003; Choi et al., 2009; Gordon, 2001; Miller & Washington, 2008; WTO, 2008).

The Environmentally Friendly Tourists (EFTs) is a market niche that is identified as environmentally conscientious and willing to stay in hotels that practice sound environmental policies (Dolnicar et al., 2008; Choi et al., 2009). A study conducted by Kasim (2004) concluded that international tourists were more predisposed

7

to environmentally friendly behavior while on vacations, as opposed to domestic tourists. The researcher found that these tourists cared more for the promotion of local culture and local cuisine, the knowledge, the happiness and friendliness of hotel staff and the fairness of employee compensation. This means that they pay more attention to the human side of tourism activities, than to environmental practices, most of which they are not fully aware. Other studies found that tourists' inclination towards green practices depends on their overall orientation towards nature and environmental protection (Andereck, 2009). Nevertheless, EFTs were profiled by Dolnicar et al. (2008) as more educated, earning more money, willing to pay higher prices and interested in engaging in educational experiences. These particular characteristics indicate a growing market niche that can bring profitability to suppliers in the hospitality industry that implement environmental protection management systems, and that appeal to this trendy market segment.

Within the hospitality industry, hotels are service organizations that operate 365 days a year, 24 hours a day, never closing operations. Due to the business nature, hotels are intensive consumers of resources (Bohdanowicz & Martinac, 2003; Miller & Washington, 2008). Bohdanowicz (2003) argued that "hotels have been found to have the highest negative impact on the environment of all commercial/service buildings, with the exceptions of hospitals" (p.1). There are two stages when a hotel can cause harm to the environment: during construction and during the operation (Kasim, 2004). According to Miller and Washington (2008) the U.S. hospitality industry energy consumption is approximately $3.7 billion a year, which accounts for 60 -70% of total utility costs. Other important resources that hoteliers must manage efficiently are water conservation and

waste disposal. According to studies conducted by the California Green Lodging Program, hotels typically consume 218 gallons of water, and generate approximately 30 pounds of waste daily per occupied room (Hotels & Resorts, 2008). These high levels of industry consumption have led some researchers to appoint service firms, including hotels, as the 'silent destroyers of the environment', because their activities have a visible impact on the environment (Claver-Cortes, 2007). This negative image that the hospitality industry is projecting must be overcome in order to attract the growing EFTs market segment.

The number of independently owned and chain hotels that have been obtaining green certification is growing rapidly. Many hotels owners and managers recognized the importance of environmental conservation in the success of their operations. The outlook is that "in the future, only companies that make sustainability a goal will achieve competitive advantage. That means rethinking business models as well as products, technologies and processes" (Nidumolu et al., 2009, p.1). However, many hotel operators are not totally convinced about the financial advantages that implementing environmentally responsible practices (ERPs) can bring to their businesses (Choi, et.al., 2009). A survey conducted by Lodging Hospitality (2008) found that hotel owners recognize the following green design benefits: lower resources operating costs (83%), reduced impact on the environment (80%), meeting expectations of hotel guests (56%) and ability to differentiate in marketing (54%). The same survey concluded that hotel owners gave less statistical importance to such operational factors like return on investment, higher occupancy, higher rates and ease of resale, implying that they do not consider that going green will improve business growth (Miller & Washington, 2008).

There is a need to provide evidence that will help hotel operators to understand that environmentally responsible practices are sound business strategies. Actually some researchers have referred to sustainability practices as being a part of Corporate Responsibility Systems (CRS), a recent trend in corporate policies (Njite et al., 2011). Other authors combined the terms by calling it Environmental Responsible Practices (ERP) (Choi et al., 2009), and others have conducted concluding studies demonstrating that ERP improve employee satisfaction and customer loyalty, reduces cost and increase competitiveness (King & Lenox, 2001; Klassen & McLaughlin, 1996).

Another area of concern regarding green operations is the additional amount of work that is required from hotel employees (Chan & Hawkins, 2010). They are usually required to sort rubbish to separate recyclable items such as plastic bottles; laundry staff is assigned with tearing unusable linen to smaller pieces that can be used in other tasks such as cleaning; and food and beverage personnel must monitor room temperature to adjust air conditioning to efficient levels, among other additional tasks (Green Hotelier, 2001).

Little has been researched on how this work overload could affect employee satisfaction levels, and the effect that these additional tasks have on employee organizational perception and attitudes towards quality of internal services. Gil et al. (2001) concluded that the employee attitudes and behavior must be taken into consideration when implementing Environmental Management Systems (EMS) because these are particularly important determinants to the success of the system once it is being operated. In the same line of thought, Withiam (1997) proposed that employee satisfaction is a very important advantage in the implementation of environmental

programs, but this has been overlooked by many hoteliers. Although many studies

concluded that the adoption of environmental responsible practices improves the firm's

performance by reducing costs, saving resources, increasing customer retention and

loyalty, and improving employee morale (Holt, 1998; Kirk, 1998; Potsinkas et al., 2003;

Rondinelli & Vastag, 2000; Withiam, 1997), it is evident that a gap in the literature exists

because "only a few studies have attempted to investigate the relationship between EMSs

and key internal stakeholders: employees, especially the impact on these stakeholders"

(Chan & Hawkins, 2010, p.642). Employees are expected to voluntarily embrace the

additional duties for the business sake, but little is known about how they perceive this

additional workload that the implementation of environment protection policies imposes

on them. There is a need for in-depth investigation of hotel employee perception of

environmental management systems "as hospitality employees may experience additional

difficulties in balancing good quality service to hotel guests and the required

environmental performance" (Chan & Hawkins, 2012, p. 643).

Employee satisfaction is an important concern for hotel operators, since it has

been positively and strongly related to customer satisfaction in studies conducted in

multiple types of organizations (Koys, 2001; Scheneider & Bowen, 1985, 1993, 1995;

Scheneider et al., 2000; Schlesinger & Heskett, 1991; Tornow & Wiley, 1991; Ulrich et

al., 1991). Schlesinger and Heskett (1991) identified this reciprocity between customer

and employee satisfaction as the 'mirror effect', meaning that there is a strong probability

that if employees are satisfied with their work environment, customers will also feel

satisfied with the service quality delivered. Many organizations have adopted this

principle to their service policies. Other studies named this relationship as 'mechanism of

11

emotional contagion' (Hatfield et al., 1993; Schoenewolf, 1990). This concept can be explained as "employees who feel positive about their emotions are perceived and absorbed by the customer, who, as a result, experience pleasant service encounters" (Gelade & Young, 2005, p. 4). Another important relationship identified is the strong inverse relationship between customer satisfaction and employee turnover rates (Heskett, 2010). This could be explained by the connection and attachment that develops between customers and employees during a long period of service interaction; customers tend to identify themselves with particular employees (Heskett et al., 1994; Koys, 2001). All these identified relationships between customer perceptions and employee attitudes, exposed a need to fill the literature gap in relation to the way that hotel environmental programs affect employee perceptions of work environment.

Heskett et al. (1994), and Schlesinger and Heskett (1991) developed a model that explains the relationship between employee satisfaction and customer satisfaction and loyalty, and the way these concepts relate to business growth and profit: The Service Profit Chain (SPC). Figure 1.1 presents all variables included in the model:
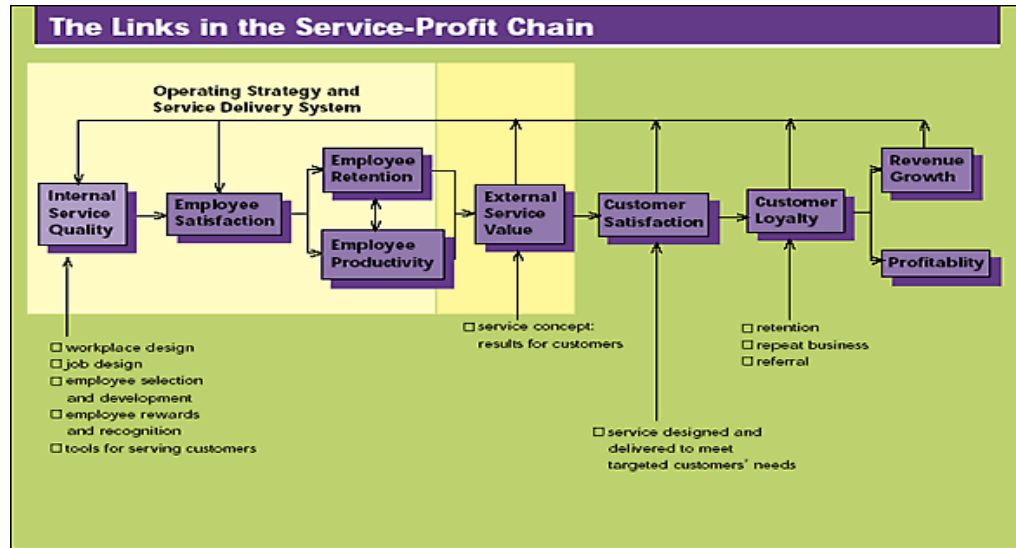
Figure 1.1: The Service Profit Chain Model (Heskett, et al., 1994, p. 166)

The application of the SPC model has been widely researched in different types of organizations, such as banks, retail stores and financial institutions (Gelade & Young, 2005; Kamakura et al., 2002; Pritchard & Silvestro, 2006; Silvestro, 2000; Xu & van der Heijden, 2005). Nonetheless, few studies have investigated the model's effect in hospitality organizations and specifically in hotels that have environmental protection programs (Kassinis & Soterious, 2003). Kassinis and Soterious (2003) studied the external service quality part of the SPC, related to customer perception of value and satisfactions. The authors left out the operating strategy and the service delivery system, related to the way employees perceive their work environment, their levels of satisfaction, retention and productivity, which has been associated with customer satisfaction and business performance growth (Heskett et al., 1994, 1997; Schlesinger & Heskett, 1991a, b, c). The SPC model was used in this study to assess the perception of internal service quality that employees in certified green hotels have about their work

environment, and how this perception is related to their level of satisfaction, loyalty and business growth.

Problem Statement

Hotels are considered as intensive resources consumers, having one of the highest negative impacts on the environment among commercial and service buildings (Bohdanowicz & Martinac, 2003). The high costs of consumed resources, as well as the expectations of the increasing amount of friendly environmental tourists, are pushing hoteliers to implement good environmental practices in their daily operations. Employee attitudes and behavior are determinant factors in the success of EMSs implementation in any organization (Chan & Hawkins, 2010). Without the employee commitment towards standards compliance, the organization will not be effective in complying with green certifications (Gil et al., 2001). The implementation of environment protection strategies usually implies the assignment of additional duties to hotel employees.

Employees are expected to voluntarily embrace the additional duties for the business sake, but little is known about how they perceive this additional workload that the implementation of environment protection policies imposes on them. There is a need for in-depth investigation of hotel employee perception of environmental management systems "as hospitality employees may experience additional difficulties in balancing good quality service to hotel guests and the required environmental performance" (Chan & Hawkins, 2010, p. 643). There is a gap in the literature related to the effects that this additional workload has on employee perception of their work environment (Withiam, 1997).

The adoption of green certifications and the implementation of EMSs in the hospitality industry are primarily focused on the economic and marketing benefits that the industry can achieve, without taking into consideration the human factor of the operation and the effects that additional duties can have on employee perception of the organization's ISQ and their job satisfaction and loyalty.

Purpose of the Study

The purpose of this exploratory study was to examine how the implementation of environmental management systems and the consequent increase hotel employee workload, affect employee perception of their internal service quality (ISQ); work environment, levels of job satisfaction, loyalty and tenure. The researcher also compared employee perception of the different ISQ's variables contrasting results from two types of hotels, certified green hotels and non-certified hotels, to determine the differences between both groups of employees. In order to achieve the study purpose, the SPC model was used as the theoretical framework of the study.

In particular, the study adopted the following three main purposes:

1. To examine the relationship that environmental management systems standards have on employee perception of work environment, ISQ, job satisfaction, loyalty and tenure (SPC's employee factors)

2. To assess the validity of the SPC model among employees working in selected hotels in Puerto Rico, with environmental management systems.

3. To compare employee perceptions of internal service quality, their levels of job satisfaction, loyalty and tenure, among employees working in two types of

hotels: green certified hotels and non-certified hotels, to determine if there is a difference between groups.

Research Questions

The questions that guided this study among green certified and non-certified hotels were the following:

1. What is the relationship between environmental practices implementation and employee perceptions of the organization's internal service quality, and their job satisfaction, loyalty and tenure?

2. What is the relationship between employee perceptions of the organization's internal service quality and their level of job satisfaction?

3. What is the relationship between employee job satisfaction and their level of loyalty?

4. What is the difference between employee perception of internal service quality, level of satisfaction, loyalty and tenure among workers in green certified hotels and non-certified hotels?

Research Design

Figure 1.2 presents the research design related to SPC's ISQ in green certified and non-certified hotels.
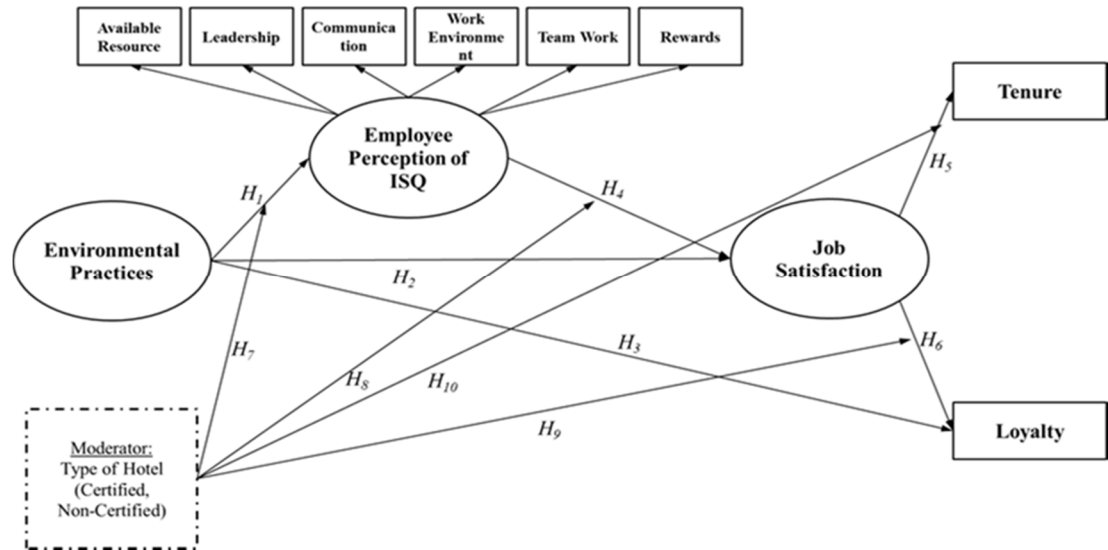
Figure 1.2 – SPC's Internal Service Quality in Hotels

Significance of the Study

This study intended to contribute to both the research literature and to practitioners' managerial strategies.

Theoretical Contribution

First, the study aimed to contribute to fill the gap in the literature related to the application of the SPC model in the hospitality industry, specifically assessing the internal service quality among employees working in certified green hotels. It aspired to increase the validation of the SPC model in other service industries than those already studied: banks, insurance firms and retail stores, by focusing on the employee factors of the model.

Second, the study adopted other researchers' recommendations to assess the effect of employee demographic variables on the SPC model and to assess its application in different cultural settings.

Finally, the study expanded the wealth of knowledge about tourism studies on sustainability, by researching employee perception of environmental best practices and how these affect their work environment. The so called three pillars of sustainability: economic, social and environment factors, consider employees as the human side of the triad, and the most important of the three factors because the implementation of the strategies lies in their hands (Henriquez & Richardson, 2004). This study aimed to contributes to expand the comprehension of employee behavior in particular work environments.

Practical Contribution

The results of this study were expected to assist practitioners in the hospitality industry understand the effects that the implementation of EMSs have on employee perception of their work environment and thus, their attitudes towards cooperation and commitment. It also intended to help to understand the relationship between environmental practices and employee job satisfaction and loyalty, in order for them to take more informed decisions about the implementation of EMSs.

The study provided guidelines in terms of the work environment areas that should be reinforced in order to maintain employees performance and work satisfaction. It contributed to the development of human resources strategies to increase employee level of satisfaction and loyalty and to reduce turnover rates.

<div align="center">Definitions of Terms</div>

Corporate Social Responsibility

A commitment to improve community well-being through discretionary business practices and contributions of corporate resources (Kotler, 2001).

Environmental Audits

"A management tool comprising a systematic, documented, periodic and objective evaluation of the performance of the organization, management system and processes designed to protect the environment" (Goodall, 1997, p. 30).

Environmental Management System (EMS)

A systematic framework for integrating environmental management into an organization's activities, products and services. EMS differentiates from environmental performance standards, in that it focuses on the organizational aspect and the process for determining appropriate levels of environmental performance, rather than prescribing specific technology criteria (Meade & Pringle, 2001).

Employee Satisfaction

"A pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976, p. 1300).

Employee Loyalty

Is an expressed commitment to tenure (Xu & van der Heijden, 2005).

Green Hotels:

Are environmentally friendly properties whose managers are eager to implement programs that save water, save energy and reduce waste – while saving money – to help protect our one and only Earth (Green Hotel Association, http://greenhotels.com).

Hotel Employee

All fulltime and part-time employees working in the hotel, except those working with concessionaires.

Internal Service Quality

The feeling that employees have towards their jobs, colleagues and companies; ability and authority of service workers to achieve results for customers, ability to meet customers' needs; attitude that people have towards one another and the way people serve each other inside the organization (Heskett et al., 1994).

Service Profit Chain (SPC)

A service quality model that establishes the relationships between profitability, customer loyalty and satisfaction, and employee satisfaction, loyalty and productivity (Heskett et al., 1991, 1994, 2004, 2010). An assertion that satisfied and motivated employees produce satisfied customers, and satisfied customers tend to purchase more, which increases the business profit (Gelade & Young, 2005).

Environmentally Friendly Tourist (EFT)

A person (tourist) with the desire to minimize or eliminate any harmful effect and maximize the long run positive effects to the society and the environment in selecting, acquiring, consuming and disposing of products and service in hotels (Kassim, 2004).

Socio-environmentally Friendly Hotel

A hotel that takes into account socio-economic factors as well as environmental management issues in its daily operations. Shows responsibility towards its employees, the local community, the local culture and the surrounding ecology (Kassim, 2004).

Sustainability

"Development that meets the needs of the present without compromising the ability of future generations to meet their future needs" (World Commission on Environment and Development, 1987, p. 48).

Sustainable Tourism

"Tourism that meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future" (WTO, 1993, p.7).

Organization of the Study

Chapter I introduces the background of the problem, as well as the specific problem statement and purpose of the study. It also includes the general and specific study objectives and research questions. The research design that derives from the research objectives and research questions are included in this chapter. The significance of the study is discussed in terms of its contribution to theory and practice. It ended with the operational definitions that were used throughout the research.

Chapter II presents a literature review of the most relevant research that has been conducted in relations to the variables of this study, and that serve as precedents to the research assumptions. Chapter II also presents the hypothesized assumptions that underlie the study and the research design model.

Chapter III presents a detailed analysis of the research methodology: (1) the development of the survey tool, (2) the sampling and survey procedures, and (3) the statistical analyses applied to the data and the statistical results.

Chapter IV reports the statistical analysis applied in the research and the findings after hypotheses testing. A structural equation modeling (SEM) statistical package, AMOS 20 (part of the SPSS statistical package), was used to assess the validity of the SPC model in green certified hotels, and to test the proposed relationships in the study design.

Chapter V discusses the findings and conclusions, including a summary of the study, analysis of hypotheses outcomes, limitations and delimitations of the study and managerial implications.

CHAPTER II

LITERATURE REVIEW

Introduction

Tourism's impact on environment has been widely reported, and as the

consumption of valuable natural resources increases, the lodging sector recognizes the

need to implement environmental management systems and sustainable practices to their

operations (Butler, 2008; Middleton & Hawkins, 1998; Trauer, 1998). The increase in

green certification applications is an example of this novel trend (Buckley, 2002).

Although it has been noted that hoteliers are mostly seeking economic and marketing

benefits (Bohdanowicz & Martinac, 2003; Dolnicar & Matus, 2008; Nidumolu et al.,

2009), some aspects of sustainability are being left out in the process. Sustainability

includes a triple bottom line: economic, environmental and human factors (Elkington,

2004). The human factor refers to employee benefits and communities' participation in

profits. This factor has been overlooked in the sustainability literature (Chan & Hawkins,

2010; Leslie, 2001)

This chapter critically reviews contemporary and relevant studies regarding the

employee factor in hotel implementation of environmental management systems (EMSs)

and conservation practices to become sustainable businesses. Early studies in the area of employee perception of work environment (e.g. Heskett et al., 1994, 1997), generally concluded that there is a causal relationship between employee satisfaction and customer satisfaction (mirror effect). Silvestro (2000) and Pritchard and Silvestro (2006) concluded in their studies that the relationships proposed by the 'mirror effect' are weak and dependent on other external factors that might influence customer and employee satisfaction. The Service Profit Chain (SPC) model (Heskett et al., 1994) explains the relationships between employee's performance, customer's satisfaction and loyalty, and business growth and profit. Although this model has been amply contended in the literature, it has also been confirmed through much research in different scenarios, including hotels with environmental management practices (Gelade & Soteriou, 2005). Later studies assessed these contradictive findings, and are the focus of the review that follows. The initial sections of Chapter II discuss the definition and preferences of environmentally friendly tourists (EFTs) as a marketing niche, the increase in sustainability practices and green certifications, as well as reasons that operators argue for not adopting EMSs. The literature review concludes with a summary and critique of existing literature on the employees as an important factor in EMS implementation, followed by a discussion of the specific research design and hypotheses examined in this dissertation as suggested by current literature.

Environmentally Friendly Tourists

In general, hoteliers have been implementing environmental conservation strategies primarily to attract a different market niche and to reduce their operational costs (Dolnicar, 2008). To obtain marketing advantages and to differentiate their product,

hotel operators must understand the characteristics and expectations of the EFTs (Dolnicar & Matus, 2008). Dolnicar and Grun (2009) established that a market segmentation strategy is needed to identify the elements that make these travelers different, not from the supply side or dominant product orientation, but from the demand point of view. Kotler and Amstrong (2006) defined segmentation as "dividing a market into smallest groups of buyers with distinct needs, characteristics or behaviors, which might require separate products or marketing mixes" (p. 207). The authors also established that the following criterion needs to be present to assess if the segment is useful for managers marketing strategies: attractiveness, measurability, accessibility, substantiality, differentiability, action ability, and it has to fit the business. Little is known about the characteristics, behavior and preferences of EFTs in the general tourism context (Dolnicar, Crouch & Long, 2008).

A Distinct Market Segment

Several studies tried to describe the EFT profile, and to understand their particular characteristics, in order to provide useful information to practitioners in the hospitality industry (Andereck, 2009; Choi et al., 2009; Dolnicar, 2008; Dolnicar & Grun 2009; Dolnicar & Matus, 2008; Heung et al., 2006; Jacobsen, 2007; Kasim, 2004; Lee & Moscardo, 2005; Millar & Baloglu, 2011). These studies have focused on issues such as attitudes, knowledge, awareness, behavioral intentions, preferences and willingness to pay, among other EFT's characteristics. In the following paragraphs relevant studies related to EFT's characteristics are discussed, as well as their particular contribution to the definition of this particular market segment.

Various survey studies demonstrated the substantiality of environmental conscientious travelers. In 2002, the Small Luxury Hotels of the World organization conducted a survey among American travelers (Guadalupe-Fajardo, 2002). Findings included that 55% of Americans are more likely to book a hotel that is environmentally friendly, 64% of these travelers believed that hotels should share their resources (e.g. water, energy) with communities, and 70% were willing to pay as much as $150 or more per day, in a two week stay in a hotel with environmental protection strategies. These findings point out that there is a substantial group of travelers who prefer hotels that are sensitive to environment when selecting an accommodation, and they are willing to pay higher rates, which are positive market characteristics that hoteliers must take into consideration when investing in environmental protection strategies. Another study that reflects the substantiality of EFTs as a distinct market segment is the 2009 North America Hotel Guest Satisfaction Index Study, conducted by J.D. Power & Associates among 66,000 guests who stayed in a hotel between May, 2008 and June, 2009. The survey found that guests' awareness of a hotel's environmental protection program is 66% higher than the previous year. They also concluded that 'green' programs have a strong effect on hotel guest satisfaction, since satisfaction levels were 160 point higher among those guests who were aware of the hotel's environmental protection practices than those that were not aware.

Some empirical studies supported the satisfaction levels theory, while others contradict them. Lee and Moscardo (2005) studied visitors to a resort in Australia that had environmental conservation practices, through a pre-visit and a post-visit survey. They found that visitors preferred to do business with environmentally responsible tour

operators and accommodations. Results from this study showed that visitors were willing to pay an average of $10 to $20 higher rates for more environmentally sensitive accommodations. The authors also divided their sample (638) in three categories: low involvement (27.6%), moderate involvement (23.7%) and high involvement (48.7%), finding that visitors in the high involvement category were more satisfied and aware of the hotel's environmental practices, and that they had higher intentions to purchase. Lee and Moscardo's study may have been compromised by the sampling methodology since the pre-visit group was different than the post-visit group, thus, a comparison among groups and probable measure of differences after the experience, might not have been reliable.

The investigation conducted by Andereck (2009), among visitors to the Arizona Welcome Center, found that visitors with a strong orientation towards nature had more positive perception of environmental protection practices than visitors without a nature orientation. The author adopted Lees and Moscardo's (2005) concept of 'preaching to converts' (p. 562) to explain that from a marketing standpoint, it is easier to attract nature lovers to an environmental conscientious hotel or facility, than those guests that are not inclined to nature conservation. This finding also applies to Kotler and Amstrong's (2009) segmentation criteria that the targeted market must fit the business, thus marketing promotional efforts must be geared towards those nature converts. Dolnicar and Grun (2009) found that travelers have systematic differences in behavioral patterns while on vacations. The researchers used a permission-based internet panel to conduct their study to find out 'heterogeneity' among travelers in relation to attitudes and behavior with environmental protection practices. The sample was comprised by individuals

27

representing the general population (p. 798), categorized into six different segments according to their responses to a survey measuring their pro-environmental attitude. Segment 1 (15%) was the most environmentally friendly category, engaging in all pro-environmental behaviors more frequently, either at home or on vacations. Segments 2 (25%) and 3 (22%) demonstrated an average profile of environmental friendliness, except for not participating in certain environmental practices such as composting or doing actions that could damage the environment such as littering and damaging trees. The remaining segments showed some type of environmental conscientiousness, but not in a consistent way.

Demographic Characteristics

Andereck's (2009) study found specific demographic characteristics among Segment 1 (the most environmentally friendly): they were mostly women (64%), the oldest group among sample with an average age of 49 years, mostly living in smallest communities (median 32,500 residents), had the strongest feelings of belonging/attachment to the region they live in and is the group that watches television and reads newspapers more frequently (4.3 time per week). This profile could give hospitality operators specific ideas on promotional strategies. This study confirms Kotlers et al.'s (2009) segmentation concept of differentiation by describing specific EFT characteristics.

The most significant studies trying to describe the EFTs were conducted by Dolnicar (2004, 2008, 2010), Dolnicar, Crouch and Long (2008), Dolnicar and Grun (2009), Dolnicar and Matus (2008) and Dolnicar and Patrick (2009). Dolnicar et al. (2008) used a systematic review of 29 articles published in four, first tier, and peer

reviewed tourism journals, where environmental friendly tourists were defined. The following 14 characteristics had the highest frequencies in the EFTs operationalization:

Table 2.1 – Environmentally Friendly Tourists Characteristics

Characteristics		Frequency	Percent
Higher/tertiary education	Yes	8	50
Age	Middle	5	31
	Older	2	13
Interest in learning	Yes	6	38
Income	High	5	31
Environmental concern	High	3	19
Higher expenditure	Yes	2	13
High environmental awareness	Yes	2	13
Interest in culture	Yes	2	13
Gender	Female	2	13
Health concerns	Yes	1	6
Physically active	Yes	1	6
Adventure seeking	Yes	1	6
Professional occupation	Yes	1	6
Willing to forgo comforts	Yes	1	6

(Source: Dolnicar, Crouch & Long, 2008, p. 2005)

Although this study has several limitations, such as the minimal number of journals reviewed and articles coded, the findings are a starting point in trying to operationalize EFTs for further research and marketing purposes.

Willingness to Pay

For lodging operators, it is important to know the economic benefits that a new market segment can bring, before trying to attract it. Empirical studies confirmed environmentally friendly tourists' willingness to pay more to stay in a green hotel, while others have contradicted this characteristic. For example, Choi et al. (2009) conducted a

study comparing Greek and North American travelers and found that both types of consumers were influenced by environmental responsibility when selecting accommodations, demonstrating more willingness to patronize them. They also found that these consumers were willing to pay 6% more to stay in green facilities. A recent study conducted by Cornell University found that a substantial number of guests would pay more for sustainable rooms (Susskind & Verna, 2011). Kasim (2004) also confirmed that tourists understand the importance of many environmental and social issues, but they do not use these issues as the basis for a hotel selection. The author expressed that, "Reflecting on the findings, it seemed that most tourists still choose a hotel based on price, service quality and a hotel's physical attractiveness, rather than socio-environmental behaviors" (p. 22). The researcher also concluded that tourists are not inclined to pay more, thus contradicting other studies.

A previous study by Watkins (1994) confirmed travelers' unwillingness to pay more, and indicated that frequent travelers would stay in hotels with environmental strategies, but they would not be willing to pay a premium for the rooms. Millar and Baloglu (2011) performed a study to assess guests' preferences for green hotel room attributes, and to find out their willingness to pay more. They used a database provided by an online research company, representative of leisure and business travelers. They found that both groups of travelers would prefer accommodations with environmental sensibility, but they are not willing to pay more to stay in such facilities, actually they expected to pay less since EMSs should help to run a more efficient operation and make substantial savings. Only 18% of the business travelers (probably because they do not have to personally pay for their expenses), and 9.8% of the leisure travelers were willing

to pay more for sustainable practices. The researchers found that green hotel certification was the most influential attribute on overall preference to select a hotel, and that among room attributes both groups of travelers conceded that they prefer having a shampoo dispenser, key cards that control power, energy efficient light bulbs, towel reuse policy, and sheets changed on request only. The study also confirmed the EFT's demographic characteristics identified in previous studies: mostly female, older age in average, especially among leisure travelers (50 years or older), some college education (35%) and the majority (61%) are married (Dolnicar et al., 2008). The study had several limitations regarding the sample compositions, they only surveyed business and leisure travelers that were willing to stay in environmentally friendly facilities, therefore their findings cannot be generalized to the entire population of both market segments. Another study limitation was the number of room attributes, only seven, presented in different scenarios that could have included multiple other attributes.

Socio-Cultural Characteristics

Finally, another area that has been marginally researched are the EFTs cultural or socio-demographics characteristics, in relation to preferences for green accommodations. Choi et al. (2009) in their study among North American and Greek students, concluded that cultural and social structure determines consumers' green orientation. Students in Greece showed more awareness, attitudes, involvement and behavioral intentions towards facilities with environmental responsible practices than their North American counterparts. Although his study was limited by the sample composition and cannot be generalized to the entire traveler population. Their findings were supported by Heung (2006) in a study conducted among consumers and employees in China, where varying

perceptions were found among different categories of visitors and hotel employees. Jacobsen (2007) also found cultural differences while studying motorists traveling on highways, border crossings and seaports, using secondary information taken from the Norwegian Foreign Visitor Survey. The author found that the motorists' perception on environmental practices depended on the participant's national background and culture. For example, Norwegians rated energy conservation as a lower environmental concern compared to other travelers, mostly due to the low energy prices from hydroelectric power plants used in Norway.

In conclusion, "visitor's perception towards environmental practices has been presumed rather than systematically analyzed" (Hardy & Beeton, 2001, p. 176). The majority of studies conducted to describe the EFTs as a differentiated market segment, were performed using different samples and methodologies. Operationalization of EFTs was inconsistent mostly because studies have focused on eco-tourist's profiles, using the supply side of the business in heterogeneous approaches in the empirical studies, resulting in equally heterogeneous profiles (Dolnicar, 2010). This gap in the literature leaves an ample area for research to correctly define EFTs and give practitioners a more specific profile to use in marketing strategies.

Sustainability

Definition

Concern for sustainability is the driving force of certifications, policies and regulations enforcement to prevent the environment depletion. Particularly in tourism-dependent economies, such as small islands with fragile environmental structures, the sustainability principles are of utmost importance to maintain tourism growth and

preserve natural attractions and communities' benefits (Mycoo, 2006). Nevertheless, sustainability is defined in conflicting ways and interpreted in multiple forms that lead to confusion among policy makers and practitioners, principally confusing the concepts of sustainable tourism and the development of sustainable tourism on sustainable principles (Butler, 1999). Sustainability definitions and concepts are discussed in the next section.

The Brundtland Commission presented, in the document Our Common Future what is considered to be the first accepted definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987, p. 43). This definition is interpreted in different ways and used depending on the tourism context were it is being applied, thus creating an inconsistent application of the concept to fit the objectives of decision makers, practitioners and public as well (Butler, 1999). Table 2.2 gives an idea of the different assertions of sustainable tourism.

Table 2.2 – Sustainable Tourism Definitions

Author	Definition
World Tourism Organization (1993, p. 7)	Tourism which meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future.
Eber (1992, p. 3)	Sustainable tourism is tourism and associated infrastructure that: both now and in the future operate within natural capacities for the regeneration and future productivity of natural resources; recognize the contribution that people and

Author	Definition
	communities, customs and lifestyles, make to the tourism experience; accept that these people must have an equitable share in the economic benefits of local people and communities in the host areas.
Countryside Commission (1995, p. 2)	Tourism which can sustain local economies without damaging the environment on which it depends.
Payne (1993, p. 154-155)	It must be capable of adding to the array of economic opportunities open to people without adversely affecting the structure of economic activity. Sustainable tourism ought not to interfere with existing forms of social organization. Finally, sustainable tourism must respect the limits imposed by ecological communities.
Woodley (1993, p. 94)	Sustainable tourism in parks (and other areas) must primarily be defined in terms of sustainable ecosystems.
Bramwell et al. (1996a, p. 10-11)	Tourism that respects the environment and as a consequence does not aid its own disappearance, this is especially important in saturated areas, and sustainable tourism is responsible tourism.
Bramwell and Lane (1993, p. 2)	Sustainable tourism is a positive approach intended to reduce the tensions and frictions created by the complex interactions between the tourism industry, visitors, the environment and the communities which are host to holidaymakers. It is an approach, which involves working for the long-term viability and quality of both natural and human resources. It is not anti-growth but it acknowledges that there are limits to growth.
Lane (2001)	Sustainable tourism is a concept designed not to

Author	Definition
	stop tourism but to manage it in the interests of all three parties involved: the host habitats and communities, the tourists, and the industry itself. It seeks a balance between development and conservation. It seeks to find the best form of tourism for an area taking into account its ecology and its culture. It may mean limits to growth or in some cases no growth at all. It seeks not just to plan for tourism, but also to integrate tourism into a balanced relationship with broader economic development and with conservation goals. A well thought out long term vision is essential. That vision should be thought out with the people, not just for the people.

(Source: Butler 1999, p. 10; Mycoo, 2006, p. 490)

These definitions somehow include the seven dimensions of sustainability identified by Bramwell et al. (1996a): environmental, cultural, political, economic, social, managerial and governmental. The conflicting interpretation of the sustainability concept is evident in the lack of balance of the sustainability dimensions when developing tourism facilities. Butler (1999), argued that:

> "It is unlikely, therefore, that there will ever be a totally accepted definition of sustainable tourism that is universally applied, because the very success of the term lies in the fact that it is indefinable and thus has become all things to all interested parties" (p. 11).

In other words, stakeholders interpret sustainability principles according to their own interests and benefits and do not maintain the necessary balance between the economic, physical and human dimensions of sustainability (McElroy & de Alburquerque, 1991). Many proponents give more importance to the physical aspects of

sustainability such as carrying capacity, while others emphasize the economic development opportunities (Butler, 1999). There is a need to measure what is called the triple bottom line, in order to achieve the equitable economic, environmental and social benefits required to have a sustainable tourism destination or facility (Leslie, 2001).

Due to the continuous growth of mass tourism, especially among destinations with a fragile and finite ecological environment, McElroy and de Alburquerque (1991) identified five factors that underlie the structural dysfunction of those economies dependent on tourism, particularly on fragile ecosystems: (1) resources imbalance due to the large international tourist economy interacting with fragile environments, (2) the disequilibria found between the mass tourism consumption that generates waste that clashes with the slow assimilating capacity of eco-systems, (3) the seasonality aspect of some touristic regions, which produces overload consumption during peak periods, (4) the decision makers focus on number of tourists arrivals, instead of focusing on visitors expenditures and economic contribution, and (5) the tendency to satisfy income and profit criteria among tourism suppliers, which tends to increase visitors density irrespectively of geographical and social carrying capacity of the destination. Carrying capacity was defined as "the maximum number of tourists who can be successfully accommodated, but successful has not been defined and we are still looking for a magical number" (Butler, 1999, p. 15). All these expressed conflicts make sustainability a difficult goal to achieve in a consistent and systematic way in order to maintain tourism growth in the future. According to Prat (1996) mass tourism continues to be very popular and will not disappear to alternate tourism, thus the difficult formula is how to convert existing mass tourism destinations into sustainable tourism developments. There should

be a balanced state between environmental exploitation and consumer utility (Wallis & Woodard, 1997). The adoption of one specific sustainable tourism definition would help to achieve this difficult balance and would allow for specific criteria to reliably measure sustainability achievements.

Historic Development

The global warming and climate change has promoted numerous efforts to reduce their impact on natural resources and human's quality of life, from governmental agencies, private enterprises and civic organizations. The WTTC proposed a goal to reduce carbon emissions by the year 2035 to half the measured levels during 2005. To achieve this goal, the agency recognized that partnerships among all stakeholders are important (WTTC, 2009).

The following time line gives an idea of the most significant efforts adopted through decades towards the establishment of sustainable tourism policies and practices, as found in the work of several authors and governmental agencies:

Table 2.3 – Sustainable Tourism Efforts Time-line

Year	Activity
1970	First Earth Day celebration on April 22, marks birth of environmental movement.
1980	Manila Declaration on World Tourism - declares that tourism does more harm than good to people and societies in the third world.
1989	Hague Declaration on Tourism - calls on states to strike a harmonious balance between economic and ecological considerations.
1990	The Ecotourism Society (later called The International Ecotourism Society) was

Year	Activity
	founded.
1992	First World Congress on Tourism and Environment was held in Belize.
1992	Rio Earth Summit – Agenda 21 for travel and tourism: Toward environmentally sustainable development, sponsored by WTO & WTTC. Defined a broad array of environmental and social impacts associated with tourism operations and the principles for minimizing these impacts.
1993	The Council of European Communities adopted the Eco-Management and Auditing Scheme (EMAS) as 'Regulation 1836/93'. An international environmental management system adopted to help organizations to comply with all relevant environmental regulations.
1995	*Lanzarote Charter for Sustainable Tourism* document was issued by WTO and the UN Environmental Programme, UNESCO, and the Commission of European Communities.
1996	*Agenda 21 for the travel and tourism industry: Towards eco-friendly sustainable development.* – In co-operation between WTTC, WTO and the Earth Council.
1996	ISO 14001 Certification – developed by the Geneva based International Standards Organization. Is the international environmental management system standard, which requires recertification every 3 years.
1997	Green Globe 21 – the WTTC created this international standard and certification program for hotels and other travel and tourism companies that combine the Agenda 21 principles and the ISO 14001 environmental management system. This is a worldwide certification program dedicated exclusively to helping the travel and tourism industry to develop in a sustainable way. It is open to companies and communities of any size, type, or location, and is based on an ISO style certification. It is also based on environmental management systems procedures and requires an annual re-certification.
1999	The World Bank and World Tourism Organization agree to cooperate in

Year	Activity
	encouraging sustainable tourism developments.
2000	Mohonk Agreement sets out terms for international ecotourism certifications.
2000	World leaders gathered in New York to adopt the *United Nations Millennium Declaration,* which committed them with a series of targets to reduce gas emission and extreme poverty by the year 2015.
2002	International Year of Eco-tourism celebrated – the UN together with the WTO, and numerous other international (industrial and public) stakeholders arranged a series of conferences and events worldwide to highlight and promote the need for greater environmental responsibility in the tourism industry.
2003	First International Conference on Climate Change and Tourism was organized by the UNTWO and several other UN agencies. *The Djerba Declaration on Climate Change and Tourism* was published. It highlighted the contribution of the tourism to gas emissions and recognized the two-way relationship between tourism and climate change.
2007	Second Conference on Climate Change and Tourism was held in Davos, Switzerland. The *Davos Declaration* was emitted including firm recommendations for clear commitment to take actions to respond to climate change including the adoption of sustainable tourism policies.
2007	The UNWTO launched a Climate and Tourism Information Exchange Program to enable stakeholders to access research information and data. The organization has published several guidelines: *Climate Change and Tourism: Responding to Global Challenges; Climate Change Adaptation and Mitigation in the Tourism Sector: Framework, Tools and Practices.*
2008	The World Economic Forum Task Force on Low Carbon Prosperity was established after the Kyoto Conference, were G8 leaders listened to recommendations of CEO's representing every industrial sector across the world.
2009	World Economic Forum (WEF) Task Force on Low-carbon Prosperity was

Year	Activity
	launched. They produced the *Towards a Low Carbon Travel and Tourism Sector* report.
2009	15th Climate Council celebrated in Copenhagen (http://www.copenhagenclimatecouncil.com/). Negotiations were conducted to adopt a new climate change agreement to ensure that global temperature does not rise above specific dangerous rates.
2012	3rd Earth Summit, celebrated in Brazil. A total of 192 state representative members of civil society and private sectors were present to discuss climate change. Several new strategies were developed and a document written as guidelines: *The future we want*, outlining aspirations for the sustainable future that everybody wants. A process was initiated to substitute the Millennium Development Goals (MDGs) for Sustainable Development Goals (SDGs).

(Sources: Cox, 2006; De Sombre, 2006; Freestone, 1994; Mowforth & Mud, 2016; Meade & Pringle 2001; Oluoch-Wauna, 2001; WTO, 2009; WTTC, 2009)

In the Caribbean region, the focus of this study, "climate defines the length and quality of the tourism season, impacts natural resources that attract visitors, and affects tourism operations, thus it is considered a highly climate sensitive region" (WTO, 2009, p. 2). To handle this situation, several attempts to establish sustainable tourism policies and practices have been made. In 1997, the Caribbean Hotel Association (CHA) formed the Caribbean Alliance for Sustainable Tourism (CAST) (http://www.caribbeanhotelandtourism.com/CAST.php) to undertake collaborative environmental activities in the hotel and tourism sector, to promote effective management of natural resources, and to help operators to achieve the goals of Agenda 21 for sustainable tourism (Meade & Pringle, 2001). CAST is the region partner of Green Globe 21 environmental management system certification. Two additional efforts were implemented in the region to address policies failures and to translate policies into

actions: (1) training sessions to assist coastal and environmental management, sponsored by the Caribbean Environmental Program, in collaboration with the UN Environmental Programme (UNEP), and (2) the development of a Caribbean regional training manual on solid waste and wastewater management for the tourism industry (Mycoo, 2006).

According to the literature, the majority of the environmental protection efforts are being made by the governments of each Caribbean island by conducting their own, independent strategies to respond to environmental protection, establishing policies, implementing certification programs or supporting the international certifications implementation (Meade & del Monaco, 2001; Mycoo, 2006). For example, Puerto Rico launched its own green certification program in May 2012, called the Green Lodging Program (http://www.seepuertorico.com/green-hotels) sponsored by the Puerto Rico Tourism Company (PRTC), to recognize and certify hotels with environmental management programs. The certification granted by the PRTC has offered additional benefits to hotel operators in terms of additional promotion and publicity in the media, sponsored by the agency.

The sustainable tourism time-line described in Table 2.3 demonstrates that the majority of the efforts to implement policies and practices on environmental protection are led by governmental organisms or professional organizations, at least at the international level (WTO, 2009; WTTC, 2009). There is a need to study the individual and local contributions of private enterprises, investors and operators to prevent the damage done to the environment by private facilities and accommodations (De Sombre, 2006; Mycoo, 2006).

Environmental Management System

Awareness of tourism's environmental impact is being addressed by private enterprises through the implementation of environmental management systems (EMS) and the pursue of green certifications. An EMS, is a systematic framework for integrating environmental management into an organization's activities, products and services. It needs to have "two characteristics: (1) continuous improvement, and (2) defined best environmental practices or best practices" (Meade & Pringle, 2001, p. 151). These researchers argued that in order to implement an EMS, there needs to be a continuous, systematic process that is imbedded in the organization's products and services and permeates the entire operation. They also proposed the following process to define an EMS:
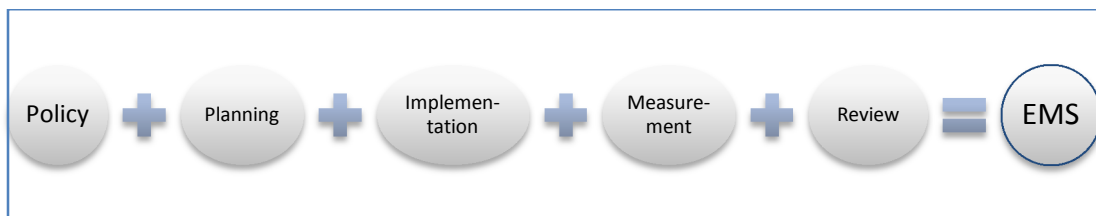
Figure 2.1 – The Environmental Management Process (Source: Meade & Pringle, 2001, p.151)

Various authors confirm the process approach to EMSs by describing six similar elements as those presented by Meade & Pringle: (1) policy, (2) planning, (3) procedures and control, (4) training, (5) communications, and (6) review and continual improvement (Bansal and Hunter, 2003; Conglianese and Nash, 2001; Hilson and Nauyee, 2002; Savely et al, 2007).

Some studies concluded that EMS enhance a destination's marketability (Hassan, 2000; Huybers & Bennet, 2003; Mihaliċ, 2000). Nevertheless, studies show that the majority of tourism operators are not convinced of the economic benefits of environmental practices implementation, they are under the belief that it is a non-returnable investment. Nidumolu et al. (2009) expressed "executives behave as though they have to choose between the largely social benefits of developing sustainable products or processes and the financial costs of doing so" (p. 5). The researchers evaluated several corporations, including IBM., CISCO, FedEx and Clorox, which have been environmentally pro-active and have saved millions of dollars in operational expenses through business innovation and environmental conservation, demonstrating that implementing environmental management systems is a good investment. In these evaluations, the authors found that employee job satisfaction increased since people who are happy about their employer's social and environmental responsibility, enjoy working for them, thus making recruiting and retaining the right kind of employees an easier task.

Butler (2008) argued that although the construction of a green building complying to Leadership Energy and Environmental Design (LEED) standards used to cost a premium, current studies have demonstrated that the cost of building these kind of properties is not higher than building conventional hotels, these facilities are healthier for visitors and employees as well, and less expensive to operate. Similar findings were achieved by Bondanowicz and Martinac (2003) when assessing the environmental awareness among European hotel industry, through an e-mail based survey among a chosen sub-set of hotel chains: Accor, Best Western, Radisson SAS, and Scandic Hotels AB. They surveyed a sample comprising 2,198 hotels and found that "the greatest barrier

preventing hoteliers from becoming more 'green' is a widespread belief that

environmental measures are prohibitively expensive" (p. 1). The authors also contended

that operators believed that advertising environmental concerns was not an attracting

marketing tool among their guests, and that they feared that environmental practices

might affect customer comfort and satisfaction. To contradict the operators' position, the

authors cite the Italian National Agency for the Protection of Environment (APAT, 2002)

stating that recent studies have shown that environmental concerns are increasingly

influencing customer behavior in Europe, and that this may soon substantially affect the

choice of accommodations.

A study completed by Bailly (1999) among Jamaican hoteliers, aimed to find out

which were the reasons to become environmentally friendly. The researcher found that

there were two main reasons: (1) a genuine concern about the impact the operation causes

on the environment, and (2) the possibility of generating operational costs savings. A

second question was asked in relation to the reasons for not implementing environmental

practices, and the majority pointed to the up-front costs of making a transition, and the

high costs of financing the implementation. Nevertheless, the researcher found that hotels

that operated with environmental management systems had lower implementation costs,

rapid payback periods and relatively easiness of implementation.

In relation to the concern that to become environmentally friendly a big

investment is needed, Meade and del Mónaco (2001) recommended that there should be

models that could serve as benchmarks for other hotel operators and that incentives

should be implemented. Based on the Jamaican experience, the authors recommended

governments of other countries: implement incentives such as awards and other

recognitions, support certifications and re-certifications, demonstrate the local benefits using results from positive audits, create environmental champions in industry that can serve as advocates of environmental practices, publicize the results using the international press and documentary videos, and house the program in a hotel association or similar organization that can follow through with the achievements. There is a need in research to demonstrate the benefits that environmental management systems have, not only on society and communities, but particularly on reducing operational costs, in order to convince owners and operators that EMS mean sound business practices.

Certifications and Eco-labels

Some confusion seems to stem in relation to the difference between EMSs and green certifications, which may affect the decision process when addressing environmental best practices. Tourism companies increasingly are participating in voluntary certification programs that provide a seal of approval to businesses that demonstrate environmentally or socially sound practices (Mastny, 2001). Nevertheless, there are approximately one hundred different certifications, according to Katie Maschman a spokeswoman for the International Ecotourism Association (As cited in Cox, 2006, p. 873). This multiplicity of certifications makes it difficult for tourism operators to decide which certification to adopt, in terms of the benefits that will provide to the organization.

Certification is defined as:

"A voluntary procedure, which accesses, monitors, and gives written assurance that a business, product, process, service, or management system conforms to specific requirement. It awards a marketable logo or seal to those that meet or exceed baseline standards, that is, those which at a minimum comply with national and regional regulations, and typically

fulfill other declared or negotiated standards prescribed by the certification programs" (Honey & Rome, 2001, as cited in Mycoo, 2006, pp. 493-494).

When comparing both EMS and certification definitions, it can be concluded that EMS are the means to achieve a sustainability goal, while certifications are the confirmation that the goal has been achieved. Once the certification is obtained this achievement is recognized by the logo or seal granted by the certifying entity (e.g. Green Globe, Green Key) to the complying organization. Those recognition symbols are referred to as eco-labels. Fairweather et al. (2005) defines eco-labels as "any form of certification giving assurance that the tourist operation or activity is conducted according to a known standard that enhances the environment or at least minimizes environmental impacts" (p. 83).

Eco-labels are meaningful for tourism operators as long as they represent a marketing differentiation that will attract additional market segments or an economic benefit, through ways of saving on operational costs. According to Bodhdanowicz and Martinac (2003) the incentives capable of motivating operators to implement EMS are: (1) possibilities of reducing operational costs, and (2) corporate responsibility. The literature shows extensive discussions on issues such as, are visitors aware of eco-labels and environmental protection efforts? Are they willing to favor and pay additional rates to stay on environmentally sensitive accommodations? The following section will discuss the finding on these issues.

Hamele (2002) states that "studies have found that the vast majority of holiday makers are unaware of the existence of environmental certification schemes in the tourism sector" (p. 207). Although the author conducted the study in Europe, and it might not be generalizable to other parts of the world, there are other authors

that support the study findings. Lubbert (2001) surveyed 670 German travelers and found that environmental protection played a minor role in accommodation selection, and that eco-label's primary benefit was the information they provided on environmental best practices, and that they served as a way of comparing similar products. Maden (2006) stated that ecotourism certifications have a lot of problems, primarily that they are not a 'market driven' option, because they lack consumer demand, and stakeholders have been left out of the process, thus they do not feel certification enhances the business. He went farther by claiming that "some leading tour operators believe certifications and accreditation schemes are a scam that creates a cottage industry for consultants" (As cited in Cox, 2006, p. 881).

There have been other researchers that support eco-labels and certification efforts. Hingham et al., (2001) surveyed 967 visitors to 12 different eco-tourism places representing the diversity of places available, and concluded that over 75% of the visitors made a positive assessment of the environmental performance of places visited, while 6% reported a negative experience. Although this study could fall into what Lee and Moscardo (2005) called 'preaching to converts', the authors concluded that visitors care about sustainability efforts and the use of eco-labels to recognize which facilities practice them. Khan (2003) developed an ECOSERV scale to determine if eco-tourists have distinct service quality expectations. The researcher surveyed a random sample of eco-tourists and found that among the service quality dimensions preferred by these travelers, eco-tangibles and assurance ranked highest. Eco-tangibles indicated that tourists expect service without ecological strain to the environment and assurance of being provided with the right

information, showing that eco-labels are valuable to concerned eco-tourists. Martha Honey, Executive Director of the International Ecotourism Society, expressed that "without certification, the danger of 'green washing' – business that use the 'eco' language in their marketing but don't fit any of the criteria of ecotourism – greatly increases" (As cited in Cox, 2006, p, 881). This leader also expressed that certifications provide an opportunity to differentiate genuine ecotourism businesses from the scams and the shams. Service quality and environmental management could have a favorable impact on a company's operational and marketing efforts in terms of cost saving and service differentiation (Belohlav, 1993; Grant, 2002).

As discussed earlier in this chapter, tourists' willingness to pay additional money to stay on environmental friendly facilities has been questioned. Some studies support tourists' behavioral intentions to pay a premium for green facilities (Choi et al, 2009, Susskind & Verona, 2011), while others sustain that traveler favor environmentally conscientious operations, but are not willing to pay higher prices to sponsor them (Bolaglu, 1999; Kasim, 2004). Becken (2002) also found that if a green product is of inferior quality, costs more, and involves more effort to experience, then environmental values are deemed to be of little influence in consumer decision making. This conclusion supports Kasim's (2004) argument that tourists are not willing to sacrifice comfort during vacation periods, and that they assess the quality of the product and the equivalent value for what they are paying. Another study conducted by Bergin and Jago (1999) showed that customers favor certification but are not necessarily willing to buy an accredited product over a non-

accredited product. This is an important finding for hoteliers who are looking towards obtaining a green certification, in terms of marketing advantages.

There is little data on the environmental awareness in the hospitality industry, but it is obvious that there is a need for education and training to empower all stakeholders with the knowledge they need to make the right decisions (Bohdanowicz & Martinac, 2003). Hoteliers and tourism associations have an important role in educating and raising environmental awareness and best practices. Bohdanowicz et al. (2003) studied four chain hotels in Europe and found that the majority of hoteliers advertise the facilities locations (82.2%) and the diversity/quality of services (96.8%) they have to offer, but do not advertise their best environmental practices. Eco-labels and green certifications will help in elevating travelers' awareness and willingness to pay more for green accommodations.

The Employee Factor

Sustainability's triple bottom line requires a balance between environment, economy and social elements, as noted before in this chapter. However, relatively few researchers focused attention on the application of the sustainability concept to human and social elements and the necessary work environment for a successful implementation of sustainability principles (Bramwell et al., 1996b; Briguglio et al., 1996a, 1996b; Nelson et al., 1993; Squire, 1996; Xu, 2004). The human factor in sustainability applies to tourism employees, residents in tourism destinations and communities, and everything related to the conservation of society's values, culture and traditions. Kasim (2004) found that EFTs cared more for the promotion of local

culture and local cuisine, the knowledge, the happiness and friendliness of hotel staff and the fairness of employee compensation. This means that EFTs pay more attention to the human side of tourism activities, than to environmental practices, most of which they are not fully aware.

The tourism industry is a labor-intensive industry and "labor costs of goods and services produced are very high. It means that labor expenses have an important share on total expenses (almost 40%)" (Demir, 2004, p. 293). Thus, employees are another important operational resource that management must study in order to reduce or control costs, but most important because employees have been related to quality service delivery and customer satisfaction, two of the main goals of hotel operations nowadays (Abdullah, 2011; Heskett, 2010; Heskett et al., 1991, 1994, 1997).

The Human Resources Department is the organization's division in charge of planning, organizing and controlling labor resources. Human resources planning is defined

"as the process used by organizations to: analyze anticipated events in their external and internal environments, assess their human resource implications and formulate action plans that will – if properly implemented – contribute to future organizational success through improved human resource management" (Henenman, Schwab, Fossum, & Dye, 1989, p. 242).

Employees must be considered as a valuable resource in any tourism organization in terms of business growth and profit. There is extensive literature regarding the impact of employees on customer satisfaction, and the relationship between customer satisfaction and business growth and profits (Gelade & Young, 2005; Loveman, 1998; Walker et al., 2006; Xu & van der Heijden, 2005); but, there

is a limited amount of research related to the effect of employee perceptions and attitudes about work environment, in relation to business growth and profits. This section of Chapter II addressed the importance of employee perception of internal service quality, levels of job satisfaction, loyalty and tenure.

As previously stated in Chapter I, hotels are considered one of the highest consumers of resources and the environment. Since they are dependent on those environmental attributes to attract customers to their facilities, hoteliers have been urged to implement environmental management systems that will both save in operational costs, and attract environment conscientious guests. Nevertheless, the emphasis has been placed on measuring the physical aspects of sustainability, such as energy and water consumptions and waste management, but little has been studied about the relationship between employee perception of environmental management systems and certification standards compliance (Butler, 1999). Meade and Pringle (2001) argued that during the first year of EMS implementation, properties focus on fixing leaks, water conservation techniques and changing staff practices, such as towel and linen reuse programs. The authors also stated that people make the difference in EMS success, and there is a need for sound leadership and employee commitment. When implementing EMS employees must assume more work and responsibilities, which represents a common problem on programs similar to EMS, such as Quality Management (QM) programs (Lam, 2002). Other employees might feel threatened when their usual job design suffers significant changes (Gurtoo & Tripathy, 2001). Chan and Hawkins (2010) found that the housekeeping and engineering departments were the most impacted by the

implementation of EMS in a property, since the employees in these areas must implement the majority of certification standards. The authors expressed that "there are far more studies on issues like planning, motivation, and in EMS in different industries, than on EMS stakeholders, such as employees" (p. 641). There is a need to study how EMS affect employee attitudes towards their job, in terms of how they perceive that additional workload imposed by environmental best practices, and how it relates to their job satisfaction, loyalty and tenure.

Internal Service Quality

Internal service quality (ISQ) is defined as the quality of work environment that contributes to employee satisfaction (Heskett et al., 1994). Hallowell, Schlesinger and Zornitsky (1996) defined internal service quality as the satisfaction employees have with the service that is received from internal service providers. The ISQ concept can be traced back to the history of total quality management (TQM) theory (Anderson et al., 1994; Dean & Bowen, 1994; Flynn & Saladin, 2001; Sila, 2007). Nevertheless, the focus has always been placed on external customer satisfaction, and relatively little attention has been given to the internal customer service quality perception and satisfaction (Berry, 1981; Stanley & Wisner, 2001). Internal customers can be defined as "individuals of other departments within an organization that an internal supplier serves. An organization can be conceptualized as a chain of individual units that are linked together to satisfy external customers" (Jun & Cai, 2010, p. 205). Internal customer service can be also viewed as "a two-way exchange process between individuals in different functional departments of a firm, in which the provider is charged with responding

to his/her internal customer" (Finn et al., 1996, p. 37). Gronroos (1981) recommends an 'internal marketing' view to managing personnel, managers should employ marketing techniques to convince employees to deliver quality service and to improve productivity.

One of TQM's postulates is customer-focused quality, which includes both external and internal customers, and proposes that to have satisfied external customers, each employee should treat each other as valued customers (Finn et al., 1996). The highly recognized research work conducted by Parasuranam et al., (1885,1988) developed a service quality model on customers perceived service quality based on expectations, and the confirmation or disconfirmation of expectations against perception of service received (P-E). They developed a measurement tool, called ServQual, which includes items to measure five service quality dimensions: tangibles, responsiveness, assurance, reliability and empathy (Parasuranam, et al., 1998). All of these dimensions, except for tangibles, are dependent on employee performance. The dimensions were used to evaluate external customer's evaluation of service quality, but it is somewhat questionable if these same dimensions can be used to measure perceived service quality among internal customers or employees (Marshall et al., 1998). Finn et al., (1996) established three differences between the external and internal customers of an organization: (1) internal customers are consumers of service alone (not products and services; (2) external customers usually have a choice of where to do business, internal customers do not; and (3) internal customers are professional consumers of the service they use, thus they are more knowledgeable about the services provided.

Jun and Cai (2010) conducted a survey study among 220 randomly selected employees in a purchasing company, and found six dimensions related to service quality: customer intimacy, reliability/competence, team based continuous improvement, requisition process, communication and tangibles. Among these dimensions they found that three were relevant to perceived service quality: customer intimacy (maintaining contact with external customers), team based continuous improvement (training and education), and requisitions process. There were other two dimensions that were related to internal customer satisfaction: customer intimacy and communication. Among all the dimensions, "customer intimacy showed the highest relationship to service quality perception and employee satisfaction" (Jun & Cai, 2010, p. 218). Although the data for the study was collected in only one organization, a significant study limitation, it is important to note the similarity of the internal service quality dimensions found by the authors and those dimensions of service quality identified by Parasuranam et al. (1988).

"High levels of service quality leads to satisfied internal customers, which leads to cooperation between client and customer departments, which in turn leads to high levels of productivity for the company" (Finn et al., 1996, p. 47). Companies should be concerned with internal and external customer service quality if they are going to adopt the widely proven TQM model (Azzolini & Shillaber, 1993).

Employee Satisfaction

Employee satisfaction is defined as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (Locke, 1976, p.

1300). Employee satisfaction is positively related to employee loyalty and customer satisfaction, and negatively related to turnover (Abdullah et al., 2011). It is important for hotel operators to understand which work environment variables contribute to higher employee satisfaction. Abdullah et al., (2011) conducted a study among hotel employees in Malaysia, and found that there were are eleven work factors that are conducive to employee satisfaction: benefits package, training and development, relationship with supervisor, working conditions, teamwork and cooperation, recognition and rewards, empowerment and communication. The authors also concluded that recognition and rewards, working conditions, teamwork and cooperation are highly correlated to employee loyalty to the organization, as measured by employment tenure, planning career with company and recommending employment. They were able to confirm Heskett's et al. (1997) SPC model, which proposes that the internal service delivery system of an organization is comprised by internal service quality, which produces employee satisfaction, which leads to employee loyalty in a causal chain effect. Heskett (1994) studied employees in a casualty insurance company and concluded that 30% of dissatisfied employees indicated that they intended to leave the firm, representing a potential turnover rate three times higher than satisfied employees. It was demonstrated that satisfied employees are more likely to be motivated and be more productive than employees who are dissatisfied (Chi & Gursoy, 2009).

A study conducted by Withiam (1997), in hotels with environmental management systems, concluded that hotel managers overlooked one of the most important aspects of EMS implementation: increased job satisfaction among

55

employees. In their study, they were able to identify that employees were willing to change their work routine in order to assist the hotel in implementing environmental practices.

Employee Loyalty

Employee loyalty has been measured in terms of expressed commitment to the company and the number of years with the company – tenure (Loveman 1998). Workers productivity has been related to high tenure, since employees with more years with the company have more skills and are knowledgeable of the organization's goals (Payne et al., 2000). It was demonstrated in the literature that long-term employees develop a closer relationship with customers, which develops a positive cycle of interaction between the service employee and the customer, which is positive for the organization's growth (Reichheld, 1993). Thus, employee retention can be seen as a precursor of customer loyalty as well (Berry, 1995). On the other side, employee turnover, the opposite of retention, influences negatively the quality of service and customer retention, reducing profitability, and the resources to invest in employee success (Berry, 1995).

In hotels that have implemented EMS, employee commitment can be expected to increase if management implements environmental best practices, not as another business strategy, but as an honest effort to protect the environment (Chan & Hawkins, 2010). Chan and Hawkins (2010) found a gap between hotel operators purposes for EMS implementation: saving costs and increasing market differentiation, and employee motivations: better working conditions and true contribution to conserve environment. In this sense, Ramus (2001) argued that

employees may have an intrinsic motivation that moves them to take measures to protect the environment, such as placing value on pristine environments, and that their loyalty is likely to increase if they feel that their employers share those same values. In other words, workers are more committed to their job when employer values are congruent with their own values (Mullins, 1985; Meglino et al., 1989).

In terms of labor costs, turnover has been one of the human resources management factors that affect costs in a hotel operation. Turnover is the ratio of workers leaving the job and employees available in the labor markets to replace them (Burgess, 1998). There are many studies related to the causes of employee turnover. According to Abbasi and Hollman (2000) some employee turnover causes are: hiring practices, managerial style, lack of recognition, and lack of a competitive compensation system. There might be other causes, such as characteristics of the firm, retirement plans, employee's age, gender and race (Bennett et al., 1993). What needs to be considered in relation to employee turnover are the high rates, 200-300% per year, in the hospitality industry (Kraus, 2000), and the high costs of substituting each employee: an average of $1,200 to $1,800, depending on the hotel category (Denton, 1992). Considering today's tight labor market, for highly skilled employees that can deliver service quality and produce customer satisfaction, hotel managers should be aware and assess all factors that might increase employee turnover rates and lower tenure periods.

Work Overload

Chan and Hawkins (2010) pointed out that employees working in hotels, that have environmental protection policies, have a work overload, due to the

additional duties that represent the accomplishment of EMS' standards. The authors also argued that employees have a difficult time balancing the added duties to conserve the environment, and providing quality services, which is an important management goal.

Employees can resist EMS implementation due to the additional tasks that the standards impose, and the lack of knowledge and skills necessary to implement them. Some employees might feel threatened by change and their own lack of knowledge to comply with required tasks. Chan et al. (2014) explained that almost all departments in the hotel are involved in standards implementation, although some departments are more affected by them (e.g., housekeeping, engineering). They gave the following examples: office staff are required to recycle and re-use photocopied paper, room attendants must continuously monitor temperatures, water leakages, and recycle rubbish; chefs will be required to turn on kitchen equipment only as needed, and not to leave it on in between shifts, since the equipment can consume 15% of the hotel's total energy expenses. In the purchasing department it is required to conduct extensive research to find products and suppliers that are environmentally friendly, and to involve the community as potential suppliers, all this while balancing the hotel's budget. There is no doubt that EMS requires more documentation and record preparation to audit and keep records of resources consumption and savings. These and many other additional duties are assumed by hotel employees working in environmentally friendly hotels. Chan et al. (2014) concluded that managers must be concerned with what they identified as the three triggers: environmental knowledge, environmental concern and environmental

awareness. They argued that paying attention to this three triggers will improve employee behavior and commitment with implementing environmental practices.

Another study, conducted among front line employees and managers in hotels in Romania, also confirmed that employees that have heavier workloads, showed more difficulty balancing work and family roles. Employees with these working conditions became emotionally exhausted, resulting in less job embeddedness and a display of poor performance in the service delivery process (Karatepe, 2013). This study concluded that emotional exhaustion functions as a full mediator of the effects of work overload, work-family conflict, and family-work conflict on job embeddedness and job performance. Supervisors and managers must pay attention to employee emotional exhaustion symptoms caused by work overload, particularly when adding environmental practices, since this condition can cause poor service delivery.

Stress is another psychological condition that can cause poor job performance, which can be costly for hotel employers and employees alike. The work of O'Neill and Kelly (2011), was conducted in 65 different hotels among164 managerial and hourly employees, who were interviewed for eight continuous days. The researchers identified the two most common work stressors: interpersonal tensions at work, and work overloads. Employee and coworker stressors were linked to more negative physical health symptoms. Also, interpersonal tensions at work were linked to lower job satisfaction and greater turnover intentions. These main causes of stress symptoms may cause employee absenteeism and increase payroll costs due to payment of sick leave and cost of substituting workers. Thus,

human resources managers must be observant of these stress causes to minimize their impact on employee's health and wellbeing, if they want employees to be productive and deliver quality service.

It has been demonstrated that role overload has a significant negative impact on the emotional intention and responsible spirit in service oriented employees. The study of Wei and Yan (2009), conducted among seven hotels in China, showed that the impact of role overload is significantly related to employee self- efficacy. The employees with high self-efficacy and self-confidence are more willing to explore new ways to solve problems actively, transform inner feelings, and meet customer demands innovatively. Since environmental practices is a recent and necessary trend in the hospitality industry, training and education is an effective way to enhance employee self-efficacy. Thus management must address the imperative need to implement personalized training programs for different employees related to environmental practices implementation, in order to reduce the negative effects of work overloading roles.

In conclusion, the implementation of an EMS may cause employee work overload, and this condition has proven to cause emotional exhaustion, poor health conditions and wellbeing, job role and family conflict, lower responsible spirit, job satisfaction and service quality. To reduce these consequences, managers, supervisors and human resources policies must address this issue and implement strategies to reduce these work overload consequences. One important strategy is to promote self-efficacy and self-confidence by implementing personalized educational and training programs to facilitate employee performance and

additional duties acceptance. Management can also implement stress reduction

programs such as fostering team work, recognition and fair reward systems, and on

the job exercising opportunities, among many other strategies.

The Service Profit Chain

The Service Profit Chain (SPC) is a model developed by Heskett et al.

(1994, 1997) after analyzing 20 successful companies. The model describes a

causal relationship between a series of factors that explain a company's growth and

financial performance. According to Heskett et al. (1994),

> "the links in the chain (propositions) are as follows: Profit and growth are
> stimulated primarily by customer loyalty. Loyalty is a direct result of
> customer's satisfaction. Satisfaction is largely influenced by the value of
> services provided to customers. Value is created by satisfied, loyal and
> productive employees. Employee satisfaction, in turn, results primarily from
> high-quality support services and policies that enable employees to deliver
> results to customer" (p. 1).

Figure 2.2 depicts the Service Profit Chain factors link.

The Links in the Service-Profit Chain
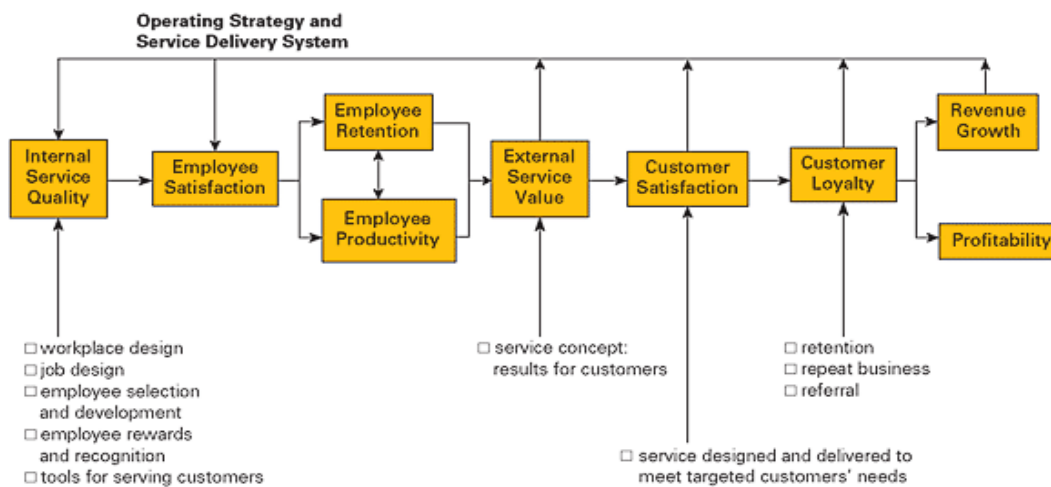
Figure 2.2 – The Service Profit Chain Model (Source: Heskett et al., 1994, p. 166)

The SPC model can be traced back to Schlesinger and Hestkett (1991) when

the authors proposed a new service paradigm to increase business growth, that was

opposite to the widely accepted industrial model. The authors explained how the

old mass production model degraded the quality of service and the employees.

They expressed that this old model led to a 'cycle of failure' among those

companies that practiced the old production model. The new model's principle was

based on the premise that people who deliver service to customers must be treated

as internal customers and must have managerial priority, while the old model

previously put service employees as the last resource. While the industrial model

started to substitute production people for machinery and technology, Heskett el al.

(1991) advocated for the use of technology to support employee performance. As

an example the researchers made reference to Marriott Corporation's study to

quantify the links among turnover, customer retention and profitability. They found

that "reducing employee turnover by 10%, yielded savings that were greater than

the operating profits of the two divisions under study" (p. 76). In the same line of

achievement, the authors mentioned companies such as Sears, Merck, Taco Bell

and Ryder describing their growth in sales and profit after application of the new

service model.

Heskett et al. (1994) published an article presenting the SPC model,

explaining its structure and its application to service firms. They emphasized the

importance of leadership in maintaining a corporate culture of service centered on

customers and employees. The SPC model was originally known as a 'self-

reinforcing service cycle' (Heskett, et al., 1990). Most recently, Heskett (2010)

created a new approach to the SPC model and called it the Strategic Service Vision (SSV), in which the framework evolved from "customers and employee satisfaction to customer and employee commitment (engagement), to ultimately 'ownership' as a better predictor of growth, profitability and organizational success" (p. 19). The authors explained that the SPC is a systematic way of thinking about an operation embedded in mangers' strategic service vision. In the article, the authors present two other related linkages in the SPC model: customer and employee value equation, and what they called the 'mirror effect'. In relation to this two related linkages, the researchers explained two different value equations:

(1) "Value to customer = (Results + Quality of the Customer Experience/ Price + Access Costs)" (Heskett et al., 2010, p. 21).

(2) "Value to employee = (Capability to Deliver Results + Quality of Work Experience) / 1/Total Income + Job Access Costs)" (Heskett et al., 2010, p. 22).

The customer value formula expressed that customers are not only buying services or products, but that they are seeking expected results with a quality experience of the service rendered, at a fair price and with easiness of access. The employee formula pointed out that employee satisfaction is related to the empowerment that the organization gives them to do the job right and the quality of the work environment, as well as the fair job compensation and job continuity and work-life balance.

The 'mirror effect', previously presented in Heskett's (1997) work, was also presented in the 2010 article, due to the continuous confirmation of the positive

63

relationship between customer satisfaction and employee satisfaction, as well as an inverse relationship between customer satisfaction and employee turnover. The author also proposed that the 'mirror effect' links are positively related to business growth and profit. The postulate has been challenged by several researchers (Gelade & Young, 2005; Pritchard & Silvestro, 2006; Silvestro, 2000). Nevertheless, it is a common managerial belief that if you treat your employees well, they will take care of your customers.

The SPC model is widely used in organizational research to explain the relevant factors in a business success (Xu, 2005). The model is quite complex in its structure and has been used in a wide array of business setting such as banks, financial insurance firms, hotels, restaurants, etc., obtaining different results depending on the type of business and the way the SPC model was applied. Table 2.4 presents a description of relevant research using the SPC model.

Table 2.4: SPC Model Relevant Research

Researchers	Study/Variables	Finding
Silvestro (2000)	Studied 15 large chain grocery stores in UK Internal service quality, customer value, customer satisfaction, customer loyalty and profit.	Disconfirmed 'mirror effect' (CS = ES) Confirmed relationship between CS, CL and Profit. Higher profits are negatively related to employee satisfaction in large stores.
Koy (2001)	Employees in restaurant chains. Employee satisfaction, employee loyalty, customer satisfaction and profitability	Employee satisfaction and loyalty (commitment) is related to business profit.
Kassinis & Soteriou (2003)	Environmental practices, customer values, customer satisfaction, customer loyalty and profit	Confirmed positive relationship between environmental practices and customer satisfaction, customer satisfaction and

Researchers	Study/Variables	Finding
	(External part of SPC)	customer loyalty, customer loyalty and profit.
		Did not confirm relationship between environmental practices and business performance.
Gelade & Young (2005)	Studied 4 bank brands in Europe, a total of 37,054 employees. Customer satisfaction as mediator between organizational climate, employee commitment and business sales and profits.	Customer satisfaction mediating effect was too small to be significant. Branches with favorable employee attitude and service climate have elevated levels of customer satisfaction and sales achievement. Confirmed path between employee commitment (loyalty) and customer satisfaction. Path between customer satisfaction and sales achievement was weak.
Xu & van der Heijden (2005)	Financial security firms in China Studied the employee factor of the SPC	Confirmed negative relationship between employee satisfaction and employee turnover intention. Profit is significantly influenced by employee tenure. Slight positive relation between employee satisfaction and profit. Confirmed SPC in Chinese culture. 70% employees believed that salary and promotion opportunity is highly related to their satisfaction.
Pritchard & Silvestro (2006)	Case study in a home improvement retail store in UK that had implemented SPC programs. Tested internal service delivery portion of the SPC.	Disconfirmed 'mirror effect', no correlation between employee satisfaction and customer satisfaction. Negative correlations between customer satisfaction and employee turnover A positive correlation between employee productivity and profit growth. A positive correlation between employee satisfaction and sales growth (not profit)

Researchers	Study/Variables	Finding
Abdullah et al. (2011)	Front- line employees in hotels in Malaysia. Employees satisfaction, employee loyalty and tenure, teamwork.	Absence of link between customer value, customer satisfaction and customer loyalty. Employee satisfaction correlates positively with employee loyalty. Employee satisfaction is positively correlated to employee perception of internal service quality.

Research Purpose, Questions, Hypotheses, and Model

Research Purpose

The purpose of this exploratory study was to examine how the implementation of environmental management systems and the consequent increase in hotel employee workload, affects employee perception of their internal service quality (ISQ); work environment, levels of job satisfaction, loyalty and tenure. The researcher also compared employee perception hotels, certified green hotels and non-certified hotels, to determine the differences between both groups of employees. In order to achieve the study purpose, the Service Profit Chain model was used as the theoretical framework of the study.

In particular, the study adopted the following three main purposes:

1. To examine the relationship that environmental management systems standards have on employee perception of work environment, internal service quality, job satisfaction, loyalty and tenure (SPC's employee's factors)

2. To assess the validity of the SPC model among employees working in selected hotels in Puerto Rico with environmental management systems.

3. To compare employee perception of internal service quality, their levels of job satisfaction, loyalty and tenure, among employees working in two types of

hotels: green certified hotels and non-certified hotels, to determine if there is a difference between groups.

Research Questions and Hypotheses

The research questions and hypotheses among green certified and non-certified hotels were developed based on an extensive literature review, particularly the studies conducted by Xu and van der Heijden (2005) related to the employee factor in the SPC model, and the work of Kassinis and Soteriou (2003) applying the SPC model in hotels with environmental management practices (although they only studied the market side of the model).

1. What is the relationship between environmental practices implementation and employee perception of the organization's internal service quality, their job satisfaction, loyalty and tenure?

   H_1: The use of environmental management systems leads to employee positive perception of the internal service quality.

   H_2: The use of environmental management systems leads to higher levels of employee job satisfaction.

   H_3: The use of environmental management systems leads to higher levels of employee loyalty.

2. What is the relationship between employee perception of the organization's internal service quality and their level of job satisfaction?

   H_4: Employee perception of internal service quality has a positive influence on job satisfaction.

3. What is the relationship between employee job satisfaction and their level of loyalty?

   H_5: Employee job satisfaction has a positive influence on employee tenure.

   H_6: Employee job satisfaction has a positive influence on employee loyalty.

4. What is the difference between employee perception of internal service quality, level of satisfaction, loyalty and tenure among workers in green certified hotels and non-certified hotels?

   H_7: The type of hotel moderates the relationship between the use of environmental management systems and employee perception of internal service quality, such that for certified hotels, the positive effect is stronger than for non-certified hotels.

   H_8: The type of hotel moderates the relationship between employee perception of internal service quality and job satisfaction, such that for certified hotels, the positive effect is stronger than for non-certified hotels.

   H_9: The type of hotel moderates the relationship between job satisfaction and employee loyalty, such that for certified hotels, the positive effect is stronger than for non-certified hotels.

   H_{10}: The type of hotel moderates the relationship between job satisfaction and employee tenure, such that for certified hotels, the positive effect is stronger than for non-certified hotels

Research Model
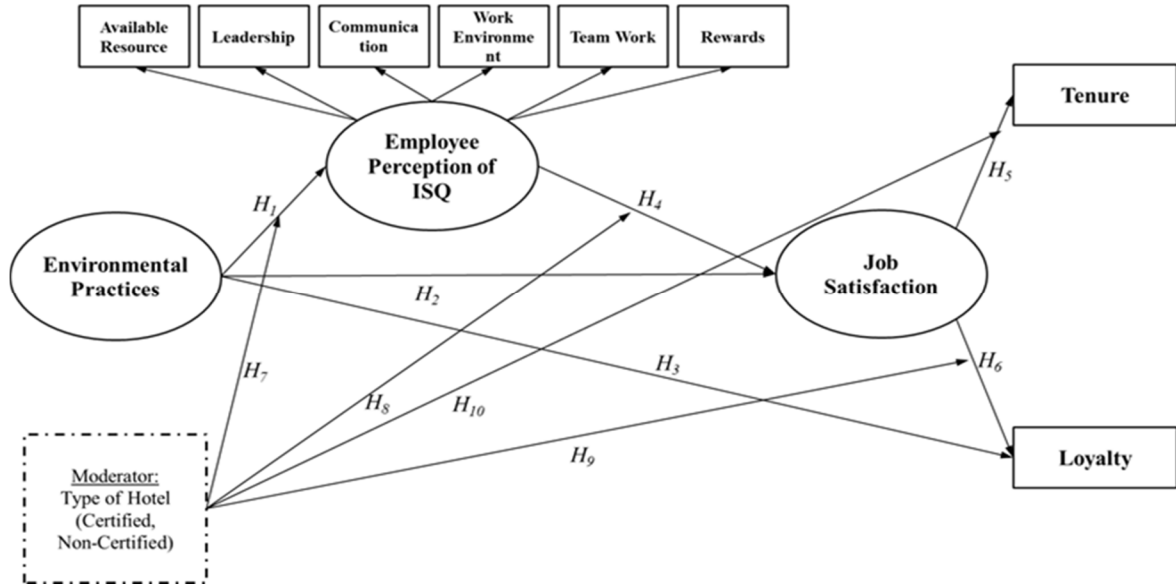
Figure 2.3 – Employee Internal Service Model in Hotels. (Based upon Heskett et al., 1994; Kassinis & Soteriou, 2003; Xu & van der Heijden, 2005)

Chapter III of this dissertation explained the methodology used to assess the proposed hypotheses. Particularly a description of the observed population, the sample size, the questionnaire development, and the statistical analysis used to measure the data obtained through the survey method.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this exploratory study was to examine how the implementation of

environmental management systems and the consequent increase in hotel employee

workload, affects employees perception of their internal service quality (ISQ); work

environment, levels of job satisfaction, loyalty and tenure. The researcher also compared

employee perception of the different ISQ's variables contrasting results from two types of

hotels, certified green hotels and non-certified hotels, to determine the differences

between both groups of employees. In order to achieve the study purpose, the Service

Profit Chain model was used as the theoretical framework of the study.

Following are the research questions that guided the study:

1. What is the relationship between environmental practices implementation and

   employee perceptions of the organization's internal service quality, their job

   satisfaction, loyalty and tenure?

2. What is the relationship between employee perceptions of the organization's

   internal service quality and their level of job satisfaction?

3. What is the relationship between employee job satisfaction and their level of

   loyalty?

4. What is the difference between employee perceptions of internal service quality, level of satisfaction, loyalty and tenure among workers in green certified hotels and non-certified hotels?

To assess the relationship between environmental standards implementation and employee perception of internal service quality (research question 1) the following specific questions were used:

a. What is the employee perception of the organization's commitment to environmental protection practices?

b. What is the employee perception of the additional duties required to implement environment conservation practices?

c. What is employee perception about their participation in the decision making process to implement environmental conservation practices?

d. What is the employee perception of supervisor's support to facilitate their compliance with environmental protection standards?

e. What is the employee perception of training programs to help them understand environmental protection practices?

Research questions 2 and 3 related to the SPC model adopted in this study, and the assessment of its validity and reliability in a different business setting. To measure this part of the study, specific questions were adopted from measurement tools utilized in previous studies conducted to test the SPC model in different settings:

1. Service quality perception (Heskett et al., 1994)

a. What is the employee perception of their work design?

b. What is the employee perception of their training program?

c.　What is the employee perception of their rewards and recognitions?

　　　d.　What is the employee perception of the leaders' support for serving

　　　　customers?

　2.　Job satisfaction (Loveman, 1988)

　　　a.　What is the level of job satisfaction with the company?

　　　b.　What is the level of job satisfaction with the job itself?

　3.　Loyalty (Xu & van der Heijden, 2005)

　　　a. What is the employee expected tenure in the hotel?

　　　b. What is the employee intention to stay on the job?

To answer research question 4, survey results were compared between employees working in two types of hotels: green certified hotels and non-certified hotels.

This chapter describes the methods used in assessing the research questions and how the data was collected and analyzed in order to achieve the study's main objective of understanding the effects that green practices implementation have on hotel employees.

Research Design

An exploratory approach using quantitative statistical methods was used to determine the relationship among variables in the SPC model, differences between environmental practices variables and the SPC model, and among employees working in two different types of hotels Structural equation model (SEM) was used to assess the relationship among the SPC model's factors. The ability of SEM to measure simultaneously the relationship among variables was deemed adequate for this study, as it has been used in several studies related to the employee internal service model (Kasinis & Soteriou, 2003; Xu, 2004, 2005).

In order to test the differences among groups of employees, working in two types of hotels, green certified hotel and non-green certified hotel, a pair-wise comparison method (t-test) was selected since this statistical method is "used to present a pair of stimuli to a respondent for evaluation, with the respondent selecting one stimuli as preferred" (Hair et al., 2006, p. 463)

The target population of the study was employees working in the hotel industry in Puerto Rico, during the assessment period. According to the Selected Statistics of the Tourism Industry (2011) published by the Puerto Rico Tourism Company, there were 12,610 employees working in the hotel industry, which represented a 22% of the total employment generated by tourism activities on the Island. There were 155 lodging facilities with a total of 14,388 rooms, including hotels, guest houses, apartment villas, condo hotels, and Paradores. Since Puerto Rico is a small island, there were are no significant differences between hotels in the Metro and Non-Metro areas, they all have similar categories (resorts, luxury, business), facilities and market segments (leisure and business). According to the WTTC's (2014) statistics the market segments investment in Puerto Rican economy was 86.2 % for leisure travelers and 13.8% for business travelers across the hospitality industry in Puerto Rico. For this study the researcher examined six hotels with similar characteristics, considered as competing among themselves within the same market segments. Three of the hotels were green certified by international organizations, and the other three were not.

The employee assessment was done using a survey method through a validated questionnaire that had been used in previous and similar studies (Heskett et al., 1994, Kassinis & Soteriou, 2003, Loveman, 1998, Xu & van der Heijden, 2005).

Survey Instrument

Operational Definitions of Measurement Scales

      Internal service quality (ISQ). ISW was assessed by using 6 distinct

dimensions: work environment (3 items dealing with the perceived quality and quantity

of the required work, and with the recognition given to performance), work resources (6

items related to time, staff, facilities and equipment available to perform the required

duties), rewards (6 items related with satisfaction with payment and rewards,

opportunities for advancement, training and promotion), leadership (5 items related to

level of satisfaction with leadership style), communication (3 items measuring

satisfaction with the organization's internal communication and the perception of the job

design as related with the adequate communication), teamwork (2 items related to the

employee's satisfaction with the teamwork within the department he/she is working for

and with other departments within the organization). All items were measured using a

five-points rating scale, ranging from 1, 'very dissatisfied', and 5, 'very satisfied'

      Employee satisfaction. Employee satisfaction was assessed by asking the

employee to evaluate their job and the company they work for as compared with other

companies they know or have previously worked for (2 items). The items were measured

using a five-point rating scale, ranging from 1, 'very poor' to 5, 'very good'

      Employee turnover intention (loyalty). Loyalty was assessed through the

following item: "If offered the same pay in another company, I would leave". Two

different answers were possible: 'yes I would leave' and 'no, I would stay'.

Tenure. Tenure was measured using the range of years working for the hotel, among the following categories: 'less than 1 year', '1-3 years', '4-6 years', '7-9 years', 'more than 10 years'.

Institutional Research Board Approval

Every higher education institution in the U.S. that encourages research projects, and receives funding from any federal agency or department, has a mandate to establish an Institutional Research Board (IRB) to assure the safety and wellbeing of human subjects under study. Oklahoma State University (OSU) ethical policies mandates the IRB to evaluate every research activity to assure that they do not compromise the anonymity, confidentiality, wellbeing and safety of humans under study, as well as maintaining public confidence in the research processes.

> "OSU's Federalwide Assurance with the Department of Health and Human Services (HHS) states that all research involving human subjects, whether funded or not, and regardless of source of funding, will be guided by the ethical principles delineated in the Belmont Report" (Institutional Research Board, 2014, p. 3).

This report delineates the three ethical principles that should be the cornerstone guiding research in the biomedical and human behavior disciplines: (1) respect for persons, (2) beneficence (maximizing benefits and minimizing harm), and (3) justice (USDHH, 1979).

Following OSU's ethical policies related to research with human subjects, the questionnaire used in this research along with a detailed explanation of the study's method was submitted to the IRB for approval before conducting the survey process. A copy of the letter with the IRB's approval can be found in Appendix A.

Survey Questionnaire

The questionnaire used for this research consisted of five sections: (1) internal service quality, (2) job satisfaction, (3) employee loyalty, (4) employee perception of environmental practices, and (5) employee demographics.

The first section included items related to employee perception of work environment, work resources, communication, teamwork, leadership and rewards. It included questions such as the feedback received for work done, necessary equipment and supplies, rating on internal communication, teamwork within your department, leaders' ability to listen and opportunities for advancement. The response scale in this section was a Likert-type format, with a range from 1, 'very dissatisfied' to 5, 'very satisfied'.

The second section measured employee job satisfaction with his/her job and the company. Job satisfaction was measured with a Likert-type scale, ranging from 1, 'very much dislike' to 5, 'very much like'. The question used was: "How do you like your job?" The satisfaction with the company was assessed also by a five points Likert-type scale, ranging from 1, 'very poor' to 5, 'very good'. The question used was: "How would you rate the company you are working for, compared to other companies you know, have worked for, or have heard of?".

The third section measures employee loyalty using two categories: intention to leave using the following category, 0 = 'I will leave', 1 = 'I will not leave'. Tenure was assessed using this category: 1= 'less than 1 year', 2= '1-3 years', 3= '4-6 years', 4= '7-9 years' and 5= 'more than 10 years'.

The fourth section measured employee perception with the hotel's environmental practices. It was assessed using questions related to their perception of company's commitment to environmental conservation, the impact that the conservation standards had on their job, and their satisfaction with their additional duties and training program. The questions were measured using a Likert-type scale with 5 points with the following categories: 1, 'very dissatisfied' to 5, 'very satisfied'. The final section focused on employee demographic characteristics: gender, age, educational level, marital status, type of position within the company (managerial, supervisory or line employee) and the department they work for. The number of years working for the company was included in the demographics section to measure the tenure variable present in the SPC model and related to research questions 1 and 4. (see Appendix B for a list of measured factors and scale items).

Translation of the Survey

The original questionnaire was developed in the English language and then translated to Chinese (Xu et al., 2004). Xu et al., (2004) recommended the instrument's translation to other languages in order to test its application in cross-cultural settings. For this study the instrument was translated to Spanish, Puerto Rican's official language, since the majority of the employees working in Puerto Rico's hospitality industry speak this language.

To avoid any possibility of poor translation or misinterpretation of survey's items, the translation was assigned to a professional certified translator, using the translation-back translation method (Brislin, 1986). Subsequently, the questionnaire was submitted to a committee of experts consisting of three fully bilingual professors in the School of

Hospitality and Culinary Arts, at Universidad del Este in Puerto Rico. The committee evaluated the translated questionnaire for content adequacy, and discussed among them the discrepancies for wording, content validity, and clarity of statements.

Pilot Study

The questionnaire developed by Xu et al. (2004) was tested for psychometric qualities through a pilot study conducted among employees working in one branch of the selected security financial firm that showed interest to participate in the study. The test also assessed wether the items were understood correctly by the participants. A total of 65 employees participated in the pilot study with a 100% response rate. As a second step, the responses in the pilot study were checked through face-to-face interviews with employees selected at random. The Cronbach's alpha exceeded the recommended level of .70 in all scales (Nunally & Berstein, 1994), demonstrating the internal consistency of the instrument.

Following the original instrument validation process, the survey used in this study was translated to the Spanish language and submitted to a pilot study to test for content consistency and easiness of interpretation. This process was deemed necessary since additional questions were included in the questionnaire to assess for employee perception of hotel environmental practices and for demographic characteristics, which were not present in the original questionnaire. Students in the International School of Hospitality and Culinary Arts at Universidad del Este, who were also working in hotels at the time of the study, participated in the pilot study. During the test the questionnaire was checked for reliability and readability. All items showed a reliability level of 0.897 to 0.905 (α = .05, n = 43) well over the accepted level of .70 (Hair, 2010). Participants were provided a

space in the questionnaire to check mark the readability of the instrument. All participants expressed that the questionnaire was easy to understand. The pilot test results are presented in Table 3.1.

Table 3.1: Pilot Study Results

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.904	.907	32

n = 43 (α = .05)

Sampling

Site Description

Puerto Rico is one of the most important tourism destinations in the Caribbean region. Its close political relationship with the U.S. a U.S. Commonwealth) gives the Island a competitive advantage over other destinations in the region, which are mostly dependent of the North American traveler. Travelers from U.S. do not need a passport to visit Puerto Rico.

The Island of Enchantment, as many called it, is strategically located between North and South America, and easily reached from Europe through the many airlines that fly to the island.
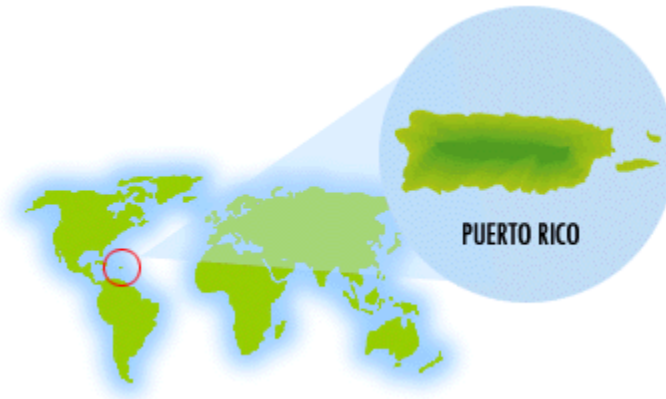
Figure 3.1: Puerto Rico in the Caribbean Region (Source: Puerto Rico's Tourism Company (http://welcome.topuertorico.org/geogra.shtml)

Some of Puerto Rico's tourism attractions are unique in the world. Besides its beautiful beaches and its constant summer weather, El Yunque is the only rain forest within North American territory. This natural attraction is actually being considered as one of the world's natural wonders by UNESCO's Heritage List. Puerto Rico's capital city, San Juan, still preserves the unique forts and walls that surround the city, built by Spanish conquerors during the 16th century. Various fluorescent bays are found throughout the island and municipalities, but are rarely found in other places in the world. This is a natural phenomenon caused by micro-organisms that live in the water and that discharges a ray of light when their habitat is disturbed, thus creating a spectacle of light in the water's surface, that simulate floating diamonds.

Economic Situation

Notwithstanding the continuous growth of the tourism industry on the island, Puerto Rican economy is presently suffering an economic crisis that is affecting citizen's quality of life. The National Puerto Rican Chamber of Commerce (NPRCC) published a

report in 2015 related to Puerto Rico's economic status. In the report the PRCC analyzes the economic development since 1980 when it was dependent on agriculture, to nowadays when is mostly dependent on manufacture and services exchange. The report points out to the fact that Puerto Rican economy is closely tied to that of the U.S., but being a weaker economy, it is more deeply impacted by recessionary periods. The public debt has grown substantially, doubling in the 1980s, and again in the 1990s, while tripling since 2000. Several new reforms and policy changes have been implemented to try to recover, nevertheless Puerto Rico has a number of economic hurdles that needs to overcome, such as: borrowing costs at high rates due to a poor credit rating, high unemployment (14%), a large informal economy, a high percentage of impoverished citizens, a shrinking labor pool due to emigration, and an immobile economy that is not growing.

CNN Money reported (June 25, 2015) the main four reasons why the island's economy is in a 'spiral death':

1. A massive government overspending, a big dependence on debt and a costly, inefficient energy system.

2. The government has been unable to promote investment and economy growth for more than a decade. Unemployment is going up, businesses are closing, and the island's population is shrinking as Puerto Ricans move to the mainland U.S. for jobs (48,000 between 2010 and 2013).

3. It is expected that Puerto Rico will be at default in paying its creditors as of

July, 2016. It would be the largest default in the history of U.S. municipal
bonds, which cities and states use to pay for basic services like repairs to
roads, building schools and other primary services to the community.

4. Since Puerto Rico is a U.S. Commonwealth, it cannot declare a bankruptcy
   under Chapter 9 to restructure its debts, like cities such as Detroit have done
   to recover from its declining economy. This mechanism is only available to
   U.S. cities. The actual federal administration has also stated that it will not
   bail out Puerto Rico.

5. The island suffers from an inefficient energy policy. It actually imports crude
   oil to provide electricity to its residents, at very costly rates, while other
   islands in the Caribbean use mix of solar and wind power, along with natural
   gas and oil, to keep costs down.

The Puerto Rican government officials, as well as civil organizations are
struggling to get the island out of this situation, and these efforts have been taken to the
U.S. Congress as a humanitarian issue that needs imminent attention.

In relation to the tourism industry, in recent years the island's hospitality industry
is looking at environmental practices as another competitive advantage, trying to attract
concerned tourists, and also to significantly cut operational costs. Nevertheless, these
efforts are only beginning as there are only four hotels that have been certified as green
hotels by Green Globe or Green Key, two international rating organizations. The four are
resort hotels located in scenic settings with access to beautiful beaches and sand stretches.
They offer unique attractions to the nature loving traveler.

Sampling Method

Sampling is a procedure that selects a subset of elements from a larger population with the objective of making inferences and understanding the characteristics of the population under study (Churchil & Brown, 2004). A population can be defined as the totality of the elements under study according to the research's purposes. Since the main purpose of this study is to examine hotel employee perception of their internal service quality as measured by the SPC model (Heskett et al., 1994), and to compare the relationship between the constructs that comprise the SPC model among workers in certified green hotels and non-certified hotels, the target population was employees working in the hotel industry in Puerto Rico during the study period. The sampling frame and the sample size are important in sustaining the representativeness of the population under study, and to increasing the validity of the collected data.

The sample frame was defined by a convenience sample of employees working in three hotels that had been granted green certifications, and workers from three additional hotels that were recognized as close competition to them by their category, services, market segment and location, but that did not have a green certification.

According to statistics published by the PRTC (2011), there are a total of 155 hotels, which represent an inventory of 14,388 rooms. The tourism industry generated 53,845 direct/indirect and induced employments, of which 12,610 were generated by hotels and other lodging places. There was no specific information available on the number of employees working in the selected hotels at the time of the study. It was necessary to estimate the number of employees working in each hotel by obtaining and average of employees per room in the hotel industry in Puerto Rico (12,610 employees,

divided by 14,388 rooms, equals .88 employees per room). The average of .88 employees

was applied to the amount per rooms in each of the selected hotels to determine the

approximate amount of employees per hotel. Table 3.1 shows the descriptive information

related to the selected hotels for the investigation and sample size.

Table 3.1: Selected Hotels for Data Collection

Hotel	Rooms*	Employees	Category	Market Segment	Location
Hotel A	645	568	Resort	Business/leisure	San Juan
Hotel B	570	502	Resort	Business/leisure	San Juan
Hotel C	400	352	Resort	Business/leisure	Isla Verde
Hotel D	386	340	Resort	Business/leisure	Isla Verde
Hotel E	598	526	Resort	Business/leisure/ conventions	Rio Grande
Hotel F	486	428	Resort	Business/leisure/ conventions	Rio Grande
Totals	3,085	2,716**			

*Source of information: Puerto Rico Tourism Company's Selected Statistics
(2011).
**Estimated using an average of .88 employees per hotel room.

Sample Size

Several alternatives to determine the adequate sample size for the study were

analyzed. The target population was defined as hotel employees working in the

hospitality industry in Puerto Rico in the category of hotels, which excluded facilities

such as villas, Paradores and guest houses. A total of 155 hospitality facilities existed on

the island by the time of the study. Since the island is geographically small (3,445 sq.

ml.) the difference between hotel operations in the metro and non-metro areas is not

significant. The elements of interest for the study were hotel employees working in the

existing three certified green hotels on the island, and employees from three non-certified hotels that represent competition to them. According to the information in Table 3.2, the incidence of employees under study or sample size (2,716) represents a 22% of the total hotel employees in Puerto Rico (12,610). This information helped the researcher determine the quantity of sample responses needed for the study.

A convenience sampling method was selected since it is very difficult to obtain employee lists with names and other personal information to perform a probability sampling method. Convenience sampling can be used when doing an exploratory study design aimed to generate ideas and insight about the general population. Using a non-probability method such as convenience sampling relies mostly on the procedure used, than in the sample composition, to resolve representativeness issues (Churchill & Brown, 2004).

There are three factors that affect the determination of sample responses needed: (1) the homogeneity of the population, (2) the degree of confidence that the researcher has that the estimates are close to true values (estimated population variance), and (3) the precision desired from the degrees of errors in the study (Churchill & Brown, 2004). The researcher used Churchill and Brown's (2004) suggested formula for determining sample size, when the size of population is known and the researcher is able to determine the sample quantity from an unbiased population proportion. The formula used was:

$$n = \frac{z^2 \, \pi \, (1\text{-}\pi)}{H^2}$$

$$n = \frac{(2)^2 \, (.22) \, (.78)}{(.04)^2}$$

$$n = 429$$

In the formula z represents the desired degree of confidence, or variance estimate, which was set at 2.0, following recommendations for the use of range scales such as the one applied in the study, Likert scale which had 5 points, and taking the highest variance in each scale.

Table 3.2: Range of Variance in Scales

Number of scale points	Typical range of variance
4	.07-1.3
5	1.2-2.0
6	2.0-3.0
7	2.5-4.00
10	3.0-7.0

Source: Churchill & Brown (2004, p. 454)

The desired level of precision (H) was set at .04 to minimize the margin of estimated error, and the population proportion (π) was estimated at 22% by calculating the number of employees working in the selected hotels (2, 716), and dividing the number between the total population of hotel employees (12,610).

The study used structural equation model (SEM) to test the proposed hypotheses. SEM is used to test complex relationship in a simultaneous procedure. It requires higher number of responses in order to perform the analysis of data. Hair et al. (2006) recommends that there should be at least 15 respondents for each parameter estimated in the model. The SPC model is being estimated with a total of 28 parameters. Thus, the required amount of responses from the sample should not be less than 420 (15%). The estimated amount of sample responses of 429 seemed to fit the maximum likelihood

estimation (MLE), the most commonly recommended estimation procedure for SEM. (Hair et al., 2006)

The researcher first visited the general managers and human resources directors of each selected hotel. A fact sheet was discussed with each one to explain the purpose of the study and the confidentiality of all information gathered (Appendix C). It was clarified that employees would answer the survey on a voluntary basis, that all data obtained from the surveys would be used in an aggregate manner, and that the study results would not point out to any specific hotel or employee, thus maintaining the anonymity and confidentiality of participants.

Once the approval to conduct the study was obtained from the pertinent authorities, the hotel area in which data was going to be collected was determined taking into consideration where the employees gathered to take their breaks or to eat their meals. The employee cafeterias were identified as the most visited area, and the place to reach the greatest number of respondents.

To collect the data, six teams, two persons each, were appointed by the researcher to visit the hotels' cafeterias and collect the completed questionnaires. Students in their senior year of a hospitality management program were selected for the procedure, and appointed as research assistants. The teams were trained personally by the researcher on such skills as interview techniques and sampling procedures, as well as the process to maintain confidentiality of all respondents. Each team was assigned a hotel from those selected for the research.

The study was conducted during the low season of the tourism industry in Puerto Rico. The questionnaire was administered between the months of July- September, 2015.

Tables were set up in the hotels' cafeterias, and employees were encouraged to participate voluntarily. Each team of assistant researchers visited the hotels during lunch and dinner time, to account for employees working in different shifts. A separate list of participating employees was kept by the assistant researchers to avoid repetitive participation. The research assistants explained to each participant the cover letter included with each questionnaire (Appendix D) and clarified any doubts regarding the study. Each participant took an average of 15 minutes to complete the questionnaire. Employees were instructed to return the questionnaire (Appendix E) in the sealed envelope that was provided. The questionnaire was available in Spanish (Appendix F) which the majority of employees preferred, and also in English for those who preferred that language. A gift consisting of a small bag containing Puerto Rican typical candies was given to all participating employees as an incentive to attract the highest number of participants. Also, informative brochures related to resources conservation (water, energy) were available on the table for them to read or take home (courtesy of the PRTC).

Data Analysis

Since one of the study purposes was to confirm the complex relationship among factors in the internal service delivery system of the SPC model in green certified hotel, the selected method for data analysis was SEM. This method is a multivariate analysis technique that can test multiple relationships comprehensively and in a simultaneous way. Previous studies conducted to test the applicability of the SPC model in different settings, analyzed the relationship among variables in a sequential way and not in a simultaneous way (Gelade & Young, 2005; Pritchard & Silvestro, 2000; Silvestro &

Cross, 2000). The events that are measured through SPC happen simultaneously, not sequentially. The work of Xu et al. (2004) was the first to test the relationship of the SPC factors simultaneously using SEM.

Another study purpose was to perform a comparative analysis between the two groups of employees working in certified green hotels and in non-certified green hotels. For this purpose, a pair-wise comparison test was used, since this is a good method to measure participant's responses to two specific stimuli (Hair et al., 2006).

A three step data analysis procedure was engaged to test the hypotheses. Step one consisted of analyzing the descriptive statistics to determine participant's profile, in terms of their demographic characteristics, working level and department they work for, using the SPSS 20 application. The second step was to test the applicability of the SPC model in the selected hotels. This analysis was performed using AMOS 20, a well-known statistical package that uses the structural equation modeling, and that is part of the SPSS statistical program. The third step was performed to assess the differences between the two groups of employees, using pair wise t-tests.

To define the individual constructs, an extensive literature review was conducted. Constructs were taken from the work of Heskett et al. (1994), Loveman (1998), and Xu and van der Heijden (2004). Measurement items in the questionnaire employed for this study were taken from the last two authors cited. Xu and van der Heijden (2004) conducted all the required analysis to cover stages one through six recommended for the structural equation modeling. The questionnaire used for the study as well as the analysis procedures were replicated from the work of Xu et al. (2004, 2005, 2007).

During data analysis to test the SPC applicability, the six-stages procedures of structural equation modeling suggested by Hair et al. (2006, p. 734), were employed to test the multiple relationship in the SPC model. Figure 3.2 indicates the process of the workflow in the six stages recommended for SEM, and the key elements that should be confirmed at each process.

Stage 1	Define the individual construct	What items are used to measure a variable?
Stage 2	Develop and specify the measurement model	Make measurement variables with constructs and draw a path diagram
Stage 3	Design a study to produce empirical results	Assess adequacy of sample size and select estimation method and missing data approach
Stage 4	Assess measurement model validity	Assess line GOF and construct validity of measurement model
Stage 5	Specify structural model	Convert measurement model to structural model
Stage 6	Assess structural model validity	Assess the GOF and significance, direction, and size of structural parameter estimates

Figure 3.2: Six-Stage Process for SEM (Hair et al., 2006, p. 759)

Study Limitations

The study was conducted in a specific geographical area, Puerto Rico, which does not allow for the generalization of the results to other countries. Another limiting factor

was that the sampling method used was a non-probability convenience sample, which limits the capability of extending the findings to the general population of hotel employees.

Hotel managers in Puerto Rico are not used to allowing external researchers implement studies within the hotel facilities, and particularly among their employees. Some hotels have unions that must agree to the study's procedures. Some resistance was found among several general managers and human resources directors, which limited the amount of participation. Nonetheless, a total of 471 questionnaires were collected. The principal language used to survey the employees was Spanish, although an English version of the questionnaire was available upon request. This language specificity limits the generalization of results to hotel employees who understand that language.

Finally, the study was conducted under time constraints, since hotel employees are difficult to survey due to the limited time they are allowed for meal breaks (30 minutes). Willingness to participate answering a 15 minutes' survey depended on the disposition to sacrifice sometime after eating their meals.

The next section of this dissertation is Chapter IV, with a report of the statistical analysis applied in the research, and the findings after hypotheses testing. A structural equation modeling (SEM) statistical package, AMOS 20 (part of the SPSS statistical package), was used to assess the validity of the SPC model in green certified hotels, and to test the proposed relationships in the study design.

CHAPTER IV

DATA ANALYSIS and RESULTS

The purpose of this exploratory study was to examine how the implementation of environmental management systems and the consequent increase in hotel employee workload, affects employee perception of their internal service quality (ISQ); work environment, levels of job satisfaction, loyalty and tenure. The researcher also compared employee perception of the different ISQ's variables contrasting results from two types of hotels, certified green hotels and non-certified hotels, to determine the differences between both groups of employees. In order to achieve the study purpose, the Service Profit Chain model (Heskett et al., 1994) was used as the theoretical framework of the study.

Data collected were tested for theoretical model application using Structural Equation Modeling (SEM), due to the complexity of the SPC model and added variables. The six-stage process of structural equation modeling, recommended by Hair et al. (2006) was adopted to test the multiple relationships in the proposed model. The six stages cover (1) defining individual constructs, (2) developing and specifying the overall measurement model, (3) designing a study to produce empirical results, (4) assessing measurement model validity, (5) specifying the structural model, and (6) assessing structural model

validity and hypotheses testing. The development of stages 1, 2 & 3 were reported in Chapter III.

This chapter reports the findings of completing the six-stage structural equation model by implementing the processes specified in Stage 4: assessing the measurement model validity, Stage 5: specifying the structural model, and Stage 6: assessing the structural model validity and hypotheses testing. This analysis was performed using a version of Analysis of Moment Structure (AMOS 20), a well-known statistical package that uses SEM, and that is part of the IBM's Statistical Package for the Social Sciences (SPSS).

The report in this chapter also includes the results of data collection and analysis, the process of data screening and the number of observations used. First, the participants' demographic characteristics are described. Second, the data screening process and the measurement model's assumptions test to account for adequate item distribution are discussed. Third, the measurement model test procedures to achieve a final reliable and valid structural model are reported. Fourth, findings of SEM's sixth stage procedure to test the structural equation model and the study's hypotheses are presented. Finally, the data analysis results for the structural model's constructs relationship were summarized, as well as the differences found among researched groups and hypotheses testing for acceptance or rejection.

Participants' Demographic Profile

The demographic characteristics represent a description of the employees working at selected hotels in Puerto Rico during the survey period, who filled out the research questionnaire. The respondents' s profile in this study was measured by gender,

education, marital status, job position and work department, tenure, turnover intention (loyalty) and salary.

Table 4.1 summarizes the characteristics of the hotel employees that participated in this study. A total of 471 employees from six different hotels, three green certified and three non-certified hotels, participated in the study. No significant difference was found by gender, since the respondents were just slightly inclined towards females, represented by 58. 4% (n = 270), and males 41.6% (n = 192). On the education variable, bachelor's degrees were the largest group (39.4%), while high school (27.1%) and associates degrees (25.1%) also had considerable presence in the study response. The remaining of the educational groups was as follows: masters (5.7%), and other (2.6%). The results related to educational level implied that most of the participants had a higher education background (70.2%), meaning that the employees who responded to the survey were well educated.

On the marital status variable, it was found that 56.9% were single and 43.1% married. In relation to job position, a great majority of participating employees held a line position (78.6%), while some employees had a manager's appointment (11.2%) and the rest were supervisors (10.3%). Including a majority of line employees was important for this study, since these are the employees that dealt directly and constantly with environmental practices implementation. On the working department variable, the housekeeping department provided most of the participants with 32.7% employees, followed by food & beverage (26.8%), front office/reservation (7.1%), engineering & maintenance (6.1%), sales & marketing (4.8%), casino (2.6%), human resources (2.2%), and others (17.7%). The majority of the employees responding (65.6%) (n= 304) worked

in departments that have the greatest responsibility for environmental management

practices implementation: Housekeeping, Food & Beverage, Engineering & Maintenance

(Chan & Hawkins, 2010).

Tenure level characteristic were almost evenly distributed, 27.7% had worked for

more than 10 years, 23.6% between 4 to 6 years, 22.9% between 1 to 3 years, 13.2% for

less than one year, and the remaining employees (12.6%) had worked between 7 to 9

years. The tenure level results imply that a significant number of employees had stayed

on their job for more than 7 years (40.3%, n = 187), reflecting that employees in the

respondent pool tended to stay on the job for longer periods of time, which represents a

higher tenure ratio. The salary descriptor was dominated by income level ranging from

$20,000 to $39,999 (52.1%), followed by less than $20,000 (38.4%), between $40,000 to

$59,999 (7.8%), and other salaries (1.7%). A significant majority of the participants

demonstrated no intention to leave their current jobs (82.5%), showing high levels of

loyalty to the company they worked for.

Table 4.1: Demographic Profile of Participants

Variable	Level	%	(N)
Gender	Male	41.6	(192)
	Female	58.4	(270)
Education	High School	27.1	(123)
	Associate	25.1	(114)
	Bachelors	39.4	(179)
	Masters	5.7	(26)
	Other	2.6	(12)

Variable	Level	%	(N)
Marital Status	Single	56.9	(261)
	Married	43.1	(198)
Position	Manager	11.2	(51)
	Supervisor	10.3	(47)
	Line employee	78.6	(359)
Department	Front Office/ Reservation	7.1	(33)
	Housekeeping	32.7	(151)
	Engineering & Maintenance	6.1	(28)
	Casino	2.6	(12)
	Food & Beverage	26.8	(124)
	Human Resources	2.2	(10)
	Sales & Marketing	4.8	(22)
	Other	17.7	(82)
Tenure	< 1 Year	13.2	(61)
	1 to 3 Years	22.9	(106)
	4 to 6 Years	23.6	(109)
	7 to 9 Years	12.6	(58)
	> 10 Years	27.7	(128)
Salary	< $20,000	38.4	(178)
	$20,000 to $39,999	52.1	(241)
	$40,000 to $59,999	7.8	(36)
	$60,000 to $79,999	0.9	(4)
	$80,000 to $99,999	0.2	(1)
	$100,000 to $119,999	0	(0)
	$120,000 to $129,999	0.2	(1)
	> $130,000	0.4	(2)

Variable	Level	%	(N)
Turnover Intention	Yes	17.5	(81)
	No	82.5	(382)
Reward Element	Pay	37.4	(176)
	Employee benefit	5.7	(27)
	Rewarding good performance	14.2	(67)
	Opportunity for advancement and promotion	33.5	(158)
	Training	9.1	(43)

Preliminary Data Analysis

Data Screening

SEM was selected as the analysis method for this study due to its capability of analyzing constructs simultaneously, particularly when there is a complex multivariable theoretical model that was tested, where dependent (exogenous) variables can become independent (endogenous) variables and vice versa, during the analysis process. As with other multivariate type of analysis, SEM requires careful consideration of elements that can affect the research design and a successful analysis. Missing data and sample size are two of these factors that must be considered before proceeding with data analysis (Hair, 2006).

Prior to proceeding with the measurement model assessment, data were tested for missing values, and missing values were imputed by using Expectation-Maximization (EM) method, a model based procedure for substituting missing values. The advantages of using EM with a SEM analysis are that, 1) it is considered to have fewer problems

with convergence, 2) the application of Chi-square ($\chi2$) shows little bias under most conditions, and 3) this type of analysis demonstrates the least bias under condition of random missing data (Enders & Peugh, 2004). Missing Completely at Random (MCAR) test was applied since it is recommended when the pattern of missing data for a variable is not dependent on another variable, or on the values of the variable itself, as with this study's data set (Rubin, 1976). The test results showed that Chi-square was insignificant ($\chi2$ (55) = 57.680, ρ= 0.376), which indicated that it was possible to use EM for missing value imputation (Little, 2002). The variances for the observations were also noted, to find cases with no variations through the question. Anomaly Index was also used to test for the unusualness of cases in relation to peer group, and duplicated cases were also observed to prepare the data for Confirmatory Factor Analysis (CFA) and for determining the measurement model.

As the result of data preparation, eight data points were eliminated from a total of 471, and finally the study was pursued using 463 observations. SEM requires a larger sample size when compared to other multivariate analysis, in order to minimize deviation from normality or sample error's impact. A minimum of 15 respondents for each parameter is recommended (Hair, 2006). The study was comprised by 28 parameters requiring a minimum of 420 respondents. A total of 471 participants were surveyed, of which 8 observations were eliminated during the imputation process. The remaining 463 observations were deemed sufficient to proceed with data analysis.

Assumption: Normality, Skewness, and Kurtosis

Once the theoretical model was identified, Maximum Likelihood Estimation (MLE) procedure was used to estimate the measurement model. MLE is an alternative

process to the use of ordinary least squares in multiple regressions, and is a procedure

that alternately improves parameter estimates in order to minimize a specified fit function

(Hair et al., 2006). Before applying MLE as an estimation procedure, it was deemed

necessary to test parameters for normal distribution. Since structural equation modeling

was utilized for testing the hypotheses in this study, violation of the univariate or

multivariate normality could invalidate statistical hypothesis testing (Byrne, 1998; Hair et

al., 2006; Kline, 1998). A lack of multivariate normality is particularly problematic in

determining coefficient significance since it substantially inflates the model statistic and

creates upward bias in critical values.

The normal distribution of parameters was tested using skewness and kurtosis

analysis. Table 4.2 shows that all the Kurtosis and Skewness were in the acceptable

cutoff points of 2.0, indicating that the items had a distribution close to a symmetrical

bell shaped normal distribution. Visual inspection of the histograms and box plots also

confirmed the assertion.

Table 4.2: Data Distribution Analysis

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Work Environment_01	-1.232	.113	1.222	.226
Work Environment_02	-1.061	.113	.872	.226
Work Environment_03	-1.045	.113	.352	.226
Available Resources_01	-1.105	.113	.811	.226
Available Resources_02	-.510	.113	-.729	.226
Available Resources_03	-.656	.113	-.319	.226
Available Resources_04	-.698	.113	-.417	.226
Available Resources_05	-.717	.113	-.706	.226
Available Resources_06	-1.159	.113	.401	.226

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Team Work_01	-.741	.113	-.524	.226
Team Work_02	-.540	.113	-.665	.226
Commnication_01	-.494	.113	-.624	.226
Commnication_02	-.725	.113	-.328	.226
Commnication_03	-.611	.113	-.452	.226
Leadership_01	-1.578	.113	2.608	.226
Leadership_02	-.985	.113	-.004	.226
Leadership_03	-.948	.113	.066	.226
Leadership_04	-.771	.113	-.261	.226
Leadership_05	-.669	.113	-.194	.226
Rewards_01	-.710	.113	-.553	.226
Rewards_02	-.751	.113	-.322	.226
Recognition_01	-.273	.113	-1.087	.226
Recognition_02	-.366	.113	-.887	.226
Recognition_03	-.462	.113	-.719	.226
Environmental Protection_01	-1.051	.113	.759	.226
Environmental Protection_02	-.689	.113	-.005	.226
Environmental Protection_03	-.473	.113	-.610	.226
Environmental Protection_04	-.619	.113	-.457	.226
Environmental Protection_05	-.553	.113	-.545	.226
Job Satisfaction_01	-1.883	.113	3.581	.226
Job Satisfaction_02	-1.403	.113	1.582	.226

In order to use MLE the data should not have any missing value with modification indices. Since the missing values were all imputed by Estimation-Maximization (EM), and the data distribution was estimated as normal, these results confirmed the possibility of using the data set in its existing form to build the measurement model. In addition, Mahalanobis distance was used to test multivariate normality, and database scanned for the outliers as well (Mahalanobis, 1936).

Assessing Measurement Model (SEM Stage 4)

To assess the measurement model used in the study, the model validity was examined by comparing the goodness of fit between the theoretical model and the actual model represented by the observed data. First, Confirmatory Factor Analysis (CFA) was applied to the theoretical model to assess unidimensionality of measurement factors. Second, various Goodness of Fit (GOF) indexes were used to evaluate data fit in order to obtain the best measurement model. The following is the report on Stage 4 procedure and findings.

Confirmatory Factor Analysis

The measurement model is built to test the validity and reliability of the measurement tool and model fit to the data. A confirmatory factor analysis (CFA) was used to test the measurement model and the relationship between the observed variables and the underlying constructs. The CFA process confirmed each variable in terms of measuring the underlying constructs. Based on the assumption that the observed variables were not perfect indicators of the proposed constructs, each construct in the measurement model was tested separately, and finally the overall measurement model was evaluated.

In CFA, the concept of unidimensionality between construct error variance and within construct error variance, must be considered. At least four constructs and three items per constructs should be present in the research model to be able to use SEM (Hair et al. 2006). The model used in this study, the SPC (Heskett et al., 1994), was taken from the literature as it has been used in various studies with different sample settings, proving to be reliable and valid (Chan & Hawkins, 2010; Gelade & Young, 2005; Kassinis & Soterious, 2003; Silvestro & Cross, 2000; Xu, 2004; Xu & van der Heijden, 2005). The

SPC model includes 8 constructs, two of them treated as second order constructs (Internal Service Quality and Job Satisfaction). Another second order construct was included in this study, to measure environmental practices in hotels. Following Xu et al.'s (2005) work, all the constructs, except for Teamwork and Job Satisfaction, were measured with three or more measurement variables. According to Hair et al. (2006) "In practice, you can find CFA conducted with only a single item representing some factors. However, good practice dictates a minimum of three items per factor, preferably four." (p. 783). Taking into consideration the amount of variables necessary, we expected in this study to have some under-identification of the two constructs being measured with only two items.

Figure 4. 1 represents the path diagram, a visual representation of the model and the relationship among model's constructs, for all the constructs related to the study, except for the single item variable (Loyalty), which was not included because it was measured with a single item parameter: turnover intentions - will not leave (1), will leave (0). The initial measurement model was tested for unidimensionality using Confirmatory Factor Analysis (CFA). "CFA is a way of testing how well measured variables represent a smaller number of constructs" (Hair et al., 2006, p. 773). All factor loadings were in the acceptable range of .50, and ideally .70 and higher (Hair et al., 2006). Construct loadings were in the range of 0.55 and 0.92 ($\alpha = 0.001$), with no or low cross loadings, proving unidemensinality between construct error variance, and within construct error variance.
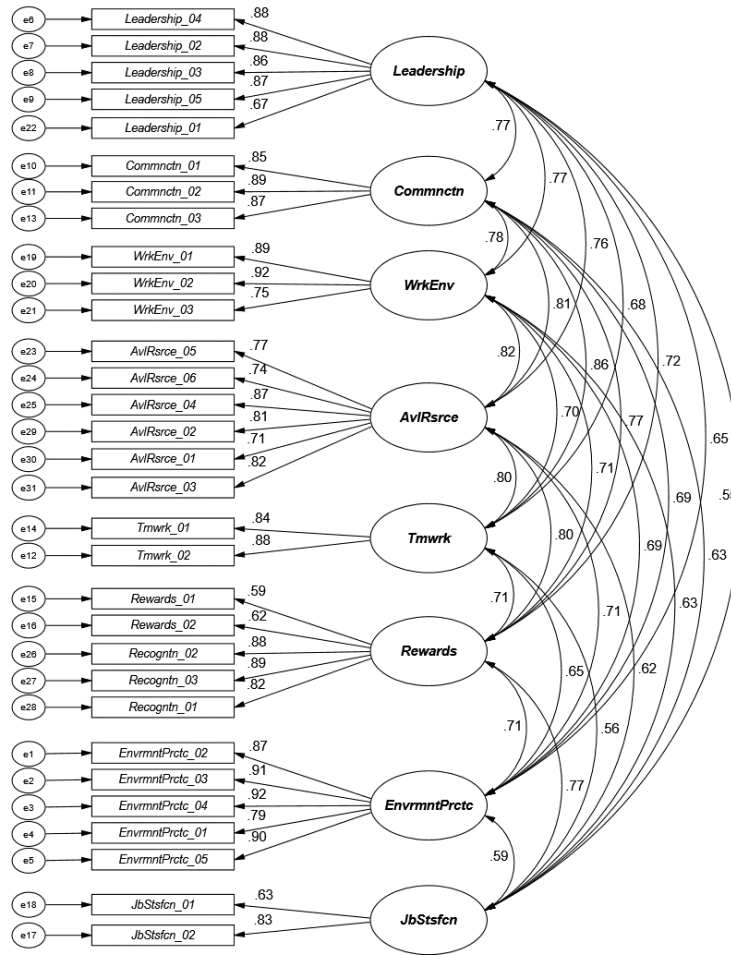
Figure 4.1 - Confirmatory Factor Analysis of Measurement Model

After the CFA assessment of the initial measurement model, all the loadings were found to be reasonably high and significant. Table 4.3 shows the variables loadings (standardized regression weights), regression weights, critical values, standard errors, and the significant levels. All standardized regression weights were found to be in an acceptable range with a high level of significance ($\alpha = 0.001$).

Table 4.3: Standardized Regression Weights

Variable	β	S.E.	C.R.	Standardized β
Available Resources_01	0.771**	0.044	17.516	0.715
Available Resources_02	1.010**	0.048	20.956	0.810
Available Resources_03	0.959**	0.045	21.477	0.823
Available Resources_04	1.012**	0.043	23.425	0.869
Available Resources_05	1.040**	0.054	19.421	0.769
Available Resources_06	0.905**	0.049	18.375	0.740
Communction_01	1.032**	0.046	22.561	0.850
Communction_02	1.063**	0.044	24.409	0.893
Communction_03	1.035**	0.044	23.612	0.875
Environmental Practice_01	0.795**	0.039	20.298	0.789
Environmental Practice_02	0.891**	0.038	23.510	0.867
Environmental Practice_03	1.047**	0.041	25.398	0.908
Environmental Practice_04	1.055**	0.041	25.884	0.918
Environmental Practice_05	1.054**	0.042	25.064	0.901
Job Satisfaction_01	0.589**	0.044	13.397	0.625
Job Satisfaction_02	0.838**	0.048	17.604	0.828
Leadership_01	0.632**	0.039	16.224	0.674
Leadership_02	1.065**	0.045	23.929	0.880
Leadership_03	1.016**	0.044	23.076	0.860
Leadership_04	1.037**	0.043	23.851	0.878
Leadership_05	0.958**	0.040	23.657	0.873
Recognition_01	1.094**	0.052	21.218	0.818
Recognition_2	1.110**	0.047	23.644	0.876
Recognition_03	1.083**	0.045	24.262	0.890
Rewards_01	0.741**	0.054	13.753	0.594
Rewards_02	0.743**	0.051	14.607	0.623
Team Work_01	1.051**	0.049	21.383	0.836
Team Work_02	1.090**	0.047	23.079	0.882
Work Environment_01	0.895**	0.037	24.096	0.888
Work Environment_02	0.905**	0.036	25.372	0.916
Work Environment_03	0.862**	0.046	18.679	0.751

** Significant at $\alpha = 0.001$

Despite the acceptable level of loadings, the model did not show excellent fit to the data. Some items were not loading high enough, 0.70 or higher. The items that did not show an adequate loading were the following: Job Satisfaction_01 (0.62), Job Satisfaction _02 (0.674), Rewards_01 (0.594) and Rewards_02 (0.623). Although they were in an acceptable range of .50, they did not show a high enough level of loading to confirm proper construct measurement. (Hair et al., 2006) These results were considered in the measurement model refinement process

Goodness of Fit Analysis

The validity of a measurement model is assessed by the goodness of fit (GOF) indices. The GOF indicates how well the specified model fits the reality represented by the data collected. The use of at least three different types of GOF indices is recommended, among absolute indices, badness of fit, and incremental measures indexes (Hair et al., 2006). Table 4. 4 explains the category of various GOFs and the respective acceptable values:

Table 4.4: Goodness of Fit Indices

Index Type	Index	Acceptable value
Absolute	Chi square (X^2)	Smaller *p values* $(< .05)$
	X^2:*df*	3:1 or less
	GFI, AGFI	.90 and higher $(> .95$ ideal$)$
	CFI, TLI	.90 and higher
Badness of Fit	RMS, SRMR	Lower than .08
	RMSEA	Lower than .07
Incremental fit indices	NFI	.90 or higher
	CFI, AGFI	.90 or higher
	TLI	.90 or higher
	RNI	.90 or higher

Number of observations > 250; Number of observed variables > 12
(Source: Hair et al., 2006, pp. 745-753)

Table 4.5 shows the primary model fit to the data. Chi-square GOF index ($\chi2$) was used, since it has been described as the most fundamental absolute fit index statistic for SEM. (Byrne, 1998). Chi-square to degrees of freedom ($\chi2$/df), root mean square residual (SMR), the root mean square error of approximation (RMSEA) were also used as absolute ratios. For the second GOF statistical analysis, other incremental indices were tested, such as goodness of fit index (GFI), adjusted goodness of fit index (AGFI), normed fit index (NFI), comparative fit index (CFI), and Tucker Lewis index (TLI), as they can correct for the bias against model complexity and large sample sizes (Hair, 2006).

The analysis followed Hair et al.'s (2006) recommended GOF indices' values, and it showed some problems that were considered to refine the measurement model. The ($\chi2$) to degree of freedom ratio was found to be 5.000 ($\chi2$ = 2030.15, df= 406, p < .001), which is the threshold according to some resources. Generally, ($\chi2$:df) ratios should be 3:1 or less for an acceptable model fit (Hair, 2006). Another concern was that the Normed Fit Index (0.854) was below the accepted level (0.90). A value between 0.90 and 0.95 for NFI is considered as marginal, and above 0.95 shows an excellent data fit (Bentler & Bonnet, 1980). The RMSEA result (0.092) was over the acceptable level of 0.07. Since REMSEA is a badness of fit index, values of 0.07 are preferable with CFI of .92 or higher (Rigdon, 1996). Also, the PCLOSE obtained (p > .001) was significant, which should preferably be greater than 0.05, in order to establish that there are no statistical significant differences between matrices (Hair et al., 2006)

Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) were 0.774 and 0.723 respectively, and both of them are below the acceptable thresholds of

106

0.90 and 0.80 respectively. The Tucker-Lewis Index (TLI) of 0.861 is also below the acceptable level of 0.90. The same situation is true for Incremental Fit Index (IFI) of 0.880, and Comparative Fit Index (CFI) of 0.879. The Root Mean Residuals (RMR), also a badness of fit index, showed an acceptable level (0.074). All the reported GOF indexes were taken into consideration during the measurement model refinement process.

Table 4. 5: Goodness of Fit Indexes for Initial Measurement Model

χ^2	Df	$\chi2/DF$
2030.151**	406	5.000
RMR	**RMSEA**	**PCLOSE**
0.074	0.092	0.000
GFI	**CFI**	**NFI**
0.774	0.879	0.854
AGFI	**TLI**	**IFI**
0.723	0.861	0.880
HOELTER	**AIC**	**BIC**
106	2210.151	2584.088

Model Validity and Reliability Tests

A validity and reliability test was conducted on the results of the initial measurement model to verify the measurement tool used for this study. The results showed few concerns regarding discriminant validity. Table 4.5 shows that all the constructs, except for job satisfaction, showed strong reliability (CR) indexes of a minimum 0.85 and maximum 0.94. The reliability score for the job satisfaction variable (0.696) was just on the acceptable threshold of 0.70 (Hair et al, 2010). The measurement

validity was tested by screening convergent and divergent (discriminant) validities. When using CFA, the average percentage of variance extracted (VE) shows convergent validity. In terms of convergent validity, average variance extracted (AVE) must be .50 or higher to suggest adequate convergent validity (Hair et al., 2006). All the AVE indices were above the acceptable level of .50, indicating that the items used to measure each construct had convergent validity.

In terms of discriminant validity, the assessment of the maximum shared variance (MSV) is the best test for divergent validity. Fornell and Larcker (1981, 41) claimed that "A better test is to compare the variance extracted percentages for any two constructs with the square of the correlation (MSV) estimate between these two constructs." The AVE should be higher than the square root of the correlation (Hair et al., 2006). In this study AVE showed that four constructs: Available Resources (0.664), Teamwork (0.743), Rewards (0.635), and Job Satisfaction (0.585), presented a higher MSV than their respective AVE, which indicated a potential problem with discriminant validity.

Further investigation showed that square root of AVE (Table 4.6 on the diagonal) for Available Resources (0.789) was lower than its correlations with Work Environment (0.815), Communication (0.807), Rewards (0.797), and Teamwork (0.789). Also, the results showed that the square root of Team Work (0.743) was lower than its correlations with Communication (0.862). In addition, the square root of Rewards (0.635) was lower than its correlations with Available Resources (0.797) and Communication (0.807). The square root of Job Satisfaction (0.585) was lower than its correlations with Rewards (0.765). These results demonstrated a lack of discriminant (divergent) validity for the

constructs mentioned above, since their correlations with other constructs explained more variances than their respective items.

Table 4.6: Measurement Model Validity and Reliability Test

Construct	Mean	(STD)	CR	AVE	MSV	ASV	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Job Satisfaction (1)	4.32	(0.899)	0.696	0.538	0.585	0.390	0.734							
Environmental Practices (2)	3.72	(0.977)	0.944	0.771	0.511	0.449	0.585	0.878						
Leadership (3)	3.82	(0.971)	0.920	0.700	0.590	0.494	0.552	0.648	0.837					
Communication (4)	3.56	(0.966)	0.906	0.762	0.743	0.580	0.633	0.689	0.768	0.873				
Rewards (5)	3.53	(0.965)	0.877	0.594	0.635	0.549	0.765	0.715	0.720	0.773	0.771			
Work Environment (6)	4.31	(0.964)	0.890	0.731	0.664	0.530	0.628	0.690	0.765	0.778	0.705	0.855		
Available Resources (7)	3.80	(0.968)	0.908	0.623	0.664	0.577	0.619	0.706	0.758	0.807	0.797	0.815	0.789	
Team Work (8)	3.32	(0.947)	0.849	0.738	0.743	0.510	0.563	0.649	0.682	0.862	0.705	0.700	0.797	0.859

STD: Standard Deviation; CR: Construct Reliability; AVE: Average Variance Extracted; MSV: Maximum Shared Variance; ASV: Average Shared Variance; AVE squared roots on diagonal

Modified Measurement Model

In order to solve the model, fit and validity issues, the initial measurement model was modified by eliminating the problematic items and correlating the error terms with high modification indices in the same constructs. This action was taken to obtain a better fitting model. Hair et al., 2006, p. 796) expressed "that when one frees another path in a model to be estimated, the value of the estimated path can only make the model more accurate". These items were deleted from the initial model:

- Leadership: Leadership_01: "Commitment to customer satisfaction".

- Communication: Communication_01: "Overall rating for hotel's internal employee communication".

- Available Resources: Available Resources_01: "Having time to provide quality service", and Available Resources_02: "Having staff to provide quality service".

- Rewards and Recognition: Rewards_01: "Your pay" and Rewards_02: "Employee benefits" were not loading strong enough, thus they were dropped from the analysis and the construct was continued to be measured by the three recognition items: Recognition _01: "Rewarding employee for good performance", Recognition_02: "Opportunity for advancement and promotion", and Recognition_03: "training".

The covariance among error terms of two measured variables expresses the relationship between the two measured variables. Within and between construct error co-variance should be tested to increase the probabilities that each variable measures its correspondent construct. (Hair et al., 2006). In this study, error terms related to items "Environmental Practices_01" and "Environmental Practices_02", error terms related to items "Available Resources_04" and "Available Resources_05", and error terms related to items "Available Resources_05" and "Available Resources_06" were correlated together to improve model fit. All the error terms which were present in the same construct were correlated, and other high modification indices ignored, since methodologically correlating error terms from one construct to the other, or from an error term to a construct, is considered as data manipulation (Hair, et al., 2006). The modified measurement model was tested and Figure 4.2 shows the results for the modified measurement model.
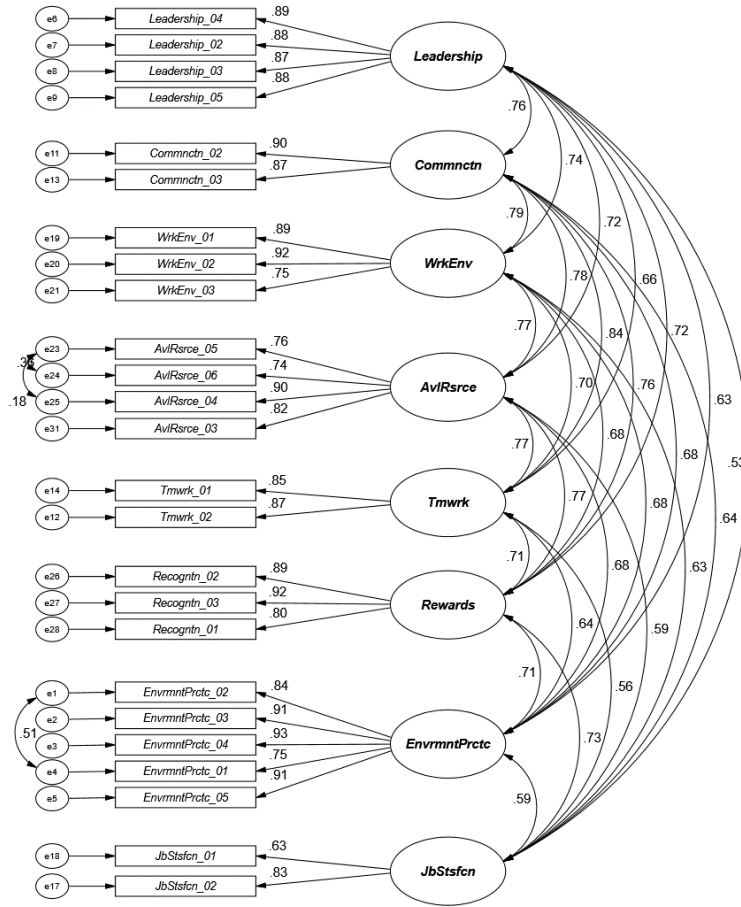
Figure 4.2: Modified Measurement Model

Table 4.7 shows loading results for the modified measurement model. Most of the items in the model improved as compared to the initial model, although the loadings were in an acceptable range for the initial model as well. All the standardized regression weights ranged from .74 to .93 ($\alpha = 0.001$). Only item Job Satisfaction_01 (0.626) showed a lower regression weight than the acceptable level of .70. This could be explained by the fact that the Job Satisfaction construct was measured using only two variables (Job Satisfaction_01: "How do you like your job", and Job Satisfaction_02: "How would you rate the company you are working for, compared to other companies

you know, have worked for or have heard of?". Since at least three items are
recommended to measure a construct using SEM, no variable in the Job Satisfaction
construct could be deleted.

Table 4.7: Standardized Regression Weights for Modified Measurement Model

Variable	β	S.E.	C.R.	Standardized β
Available Resourses_03	0.951**	0.045	20.924	0.817
Available Resources_04	1.049**	0.043	24.301	0.901
Available Resources _05	1.027**	0.056	18.408	0.760
Available Resources _06	0.901**	0.050	18.036	0.737
Communication_02	1.073**	0.044	24.441	0.901
Communication_03	1.035**	0.044	23.349	0.875
Environmental Practices_01	0.759**	0.040	18.924	0.753
Environmental Practices _02	0.866**	0.039	22.440	0.843
Environmental Practices _03	1.051**	0.041	25.571	0.912
Environmental Practices _04	1.069**	0.040	26.434	0.930
Environmental Practices _05	1.061**	0.042	25.335	0.907
Job Satisfaction_01	0.590**	0.044	13.314	0.626
Job Satisfaction_02	0.837**	0.048	17.371	0.828
Leadership_02	1.065**	0.045	23.891	0.879
Leadership_03	1.023**	0.044	23.305	0.866
Leadership_04	1.049**	0.043	24.274	0.888
Leadership_05	0.960**	0.040	23.715	0.875
Recognition_01	1.066**	0.052	20.396	0.797
Recognition_02	1.123**	0.047	24.040	0.886
Recognition_03	1.118**	0.044	25.523	0.918
Team Work_01	1.064**	0.049	21.605	0.846
Team Work _02	1.077**	0.048	22.508	0.871
Team Work _01	0.895**	0.037	24.048	0.888
Work Environment_02	0.907**	0.036	25.460	0.919
Work Environment_03	0.858**	0.046	18.540	0.747

** Significant at $\alpha = 0.001$

The modified measurement model showed a better fit compared to the initial one, using Hair et al.'s (2006) recommended indexes values. Table 4.8 shows GOF indices for the modified measurement model. The $\chi 2$ to degree of freedom improved to an acceptable ratio (3.229). All other indexes, RMR (0.050), RMSEA (0.070), GFI (0.874), CFI (0.943), and TLI (0.935), improved as well, and were found to be in the acceptable range. Although GFI was still below the acceptable range of 0.90, it was also improved. This could be explained by the notion that GFI is very sensitive to the sample size (Hair et al., 2006), and it might not be a very suitable index in large samples like the one used in this study. AGFI (0.845) was now in the acceptable range. To compare the modified measurement model to the initial one, Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) were employed (Akaike, 1980). Both indices showed significant improvement in the modified model (994.657 and 1252.258 respectively).

Table 4.8: Modified Measurement Model Goodness of Fit Indices

χ^2	Df	$\chi 2$/DF
787.818**	244	3.229
RMR	**RMSEA**	**PCLOSE**
0.053	0.069	0.000
GFI	**CFI**	**NFI**
0.885	0.949	0.929
AGFI	**TLI**	**IFI**
0.847	0.938	0.950
HOELTER	**AIC**	**BIC**
168	949.818	1286.361

The modified model showed no issues in terms of measurement validity, all the previous problems implicit in the initial measurement model were resolved. The final

model was deemed reliable, valid, and showed excellent fit to the data. Table 4.9 shows the validity test for the modified measurement model.

Table 4.9: Validity and Reliability for Modified Measurement Model

Construct	Mean	(STD)	CR	AVE	MSV	ASV	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Job Satisfaction (1)	4.32	(0.896)	0.696	0.539	0.534	0.376	0.734							
Environmental Practice (2)	3.59	(0.977)	0.940	0.759	0.498	0.432	0.585	0.871						
Leadership (3)	3.62	(0.970)	0.930	0.769	0.576	0.467	0.533	0.626	0.877					
Communication (4)	3.59	(0.959)	0.882	0.789	0.697	0.564	0.642	0.675	0.759	0.888				
Rewards (5)	3.29	(0.966)	0.902	0.754	0.599	0.527	0.731	0.706	0.716	0.760	0.869			
Work Environment (6)	4.29	(0.964)	0.890	0.730	0.621	0.510	0.627	0.676	0.737	0.788	0.684	0.855		
Available Resources (7)	3.63	(0.956)	0.881	0.650	0.610	0.532	0.592	0.681	0.721	0.781	0.774	0.769	0.806	
Team Work (8)	3.32	(0.943)	0.849	0.737	0.697	0.494	0.564	0.642	0.665	0.835	0.707	0.704	0.769	0.859

STD: Standard Deviation; CR: Construct Reliability; AVE: Average Variance Extracted; MSV: Maximum Shared Variance; ASV: Average Shared Variance; AVE squared roots on diagonal

Since the model modification was successful, it was possible to move to the final stage to test the measurement model with the higher (second) order constructs. The second order factor model is "one that contains two layers of latent constructs. They introduce a second-order latent factor (s) that causes multiple first-order latent factors, which in turn cause the measured variables (x)". (Hair et al., 2006, p. 815). According to the Profit Service Chain theory (Heskett et al., 1994) a second order construct with six dimensions was expected. In this study the higher order construct was identified as Employee Perception of the Internal Service Quality (EmplPcptn_ISQ), which was measured using six dimensions: Leadership, Communication, Rewards, Work Environment, Available Resources, and Team Work. All of the measurement variables for ISQ had loadings between 0.85 and 0.91, indicating acceptable correlation levels above .70 (Hair et al., 2006). Environmental Practices had loading between .75 and .93,

while the Job Satisfaction construct had loading of .65 and .80. Although Job Satisfaction_01 was below acceptable levels, this could be explained by the limitation of having only two variables to measure the construct. Figure 4.3 shows the refined measurement model path diagram, with higher order construct.
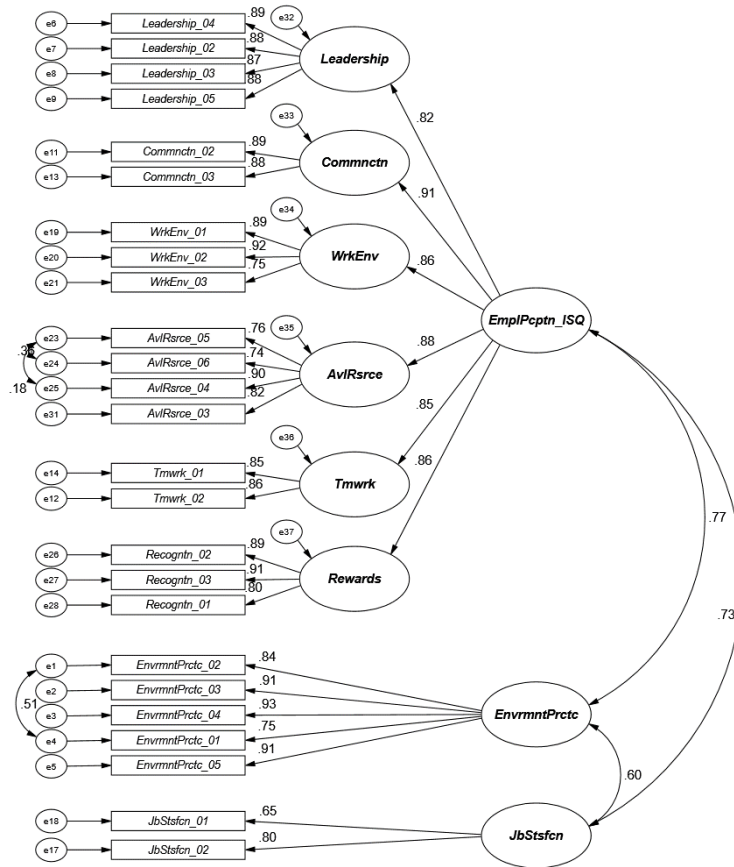

Figure 4.3: Measurement Model with Secondary Order Constructs

Table 4.10 presents the loadings (standardized regression coefficients), regression coefficients, critical values, standard errors, and significant levels of the measurement model with second order construct. The modified measurement model shows a significant improvement from the initial model.

Table 4.10: Measurement Model Loadings with Second Order Constructs

Variable	β	S.E.	C.R.	Standardized β
Leadership	1			0.823
Communication	1.121**	0.062	18.099	0.911
Rewards	1.121**	0.066	17.111	0.859
Work Environment	0.889**	0.052	17.026	0.856
Available Resources	1.045**	0.070	14.911	0.882
Team Work	0.931**	0.053	17.560	0.849
Available Resourses_03	1.029**	0.048	21.648	0.816
Available Resourses_04	1			0.903
Available Resourses_05	0.881**	0.045	19.590	0.756
Available Resourses_06	1			0.736
Communication_02	0.986**	0.038	25.842	0.891
Communication_03	0.877**	0.032	27.131	0.885
Environmental Practices_01	1			0.753
Environmental Practices_02	1.215**	0.045	26.731	0.843
Environmental Practices_03	1.236**	0.045	27.695	0.912
Environmental Practices _04	1.226**	0.046	26.435	0.930
Environmental Practices _05	1			0.907
Job Satisfaction_01	1.327**	0.121	10.996	0.647
Job Satisfaction_02	1.014**	0.037	27.131	0.800
Leadership_02	0.977**	0.037	26.465	0.878
Leadership_03	1			0.867
Leadership_04	0.916**	0.034	26.997	0.887
Leadership_05	0.950**	0.042	22.379	0.876
Recogntion_01	1			0.800
Recognition_02	0.988**	0.035	28.463	0.889
Recognition_03	1			0.914
Team Work_01	0.997**	0.048	20.974	0.853
Team Work_02	1			0.864
Work Environment_01	1.011**	0.036	28.344	0.889
Work Environment_02	1	0.048	19.874	0.918
Work Environment_03	0.960**			0.747

** Significant at α = 0.001

In terms of model GOF, the second order constructs measurement model seemed a little weaker than the revised model. According to Hair et al., (2006) using a second order model must be based on theory, and "a first-order model will always fit better in absolute terms because it uses more paths to capture the same amount of covariance. In contrast, the higher-order model is more parsimonious (it consumes fewer degrees of freedom. Thus it should perform better on indices that reflect parsimony (PFNI, RMSEA, etc.) (pp. 817-818). The decision of using a second order model for this study was based on Heskett et al.'s (1994) SPC model theory, which included ISQ and Job Satisfaction as higher order constructs. After testing the second order model, all of the GOF indices were within an acceptable range, and it was concluded that the second order measurement model achieved a good fit to the data. Table 4.11 summarizes the results of model fit indices for the measurement model with the second-order constructs.

Table 4.11: Measurement Model GOF with Second Order Constructs

χ^2	Df	$\chi 2/DF$
870.657**	263	3.310
RMR	**RMSEA**	**PCLOSE**
0.058	0.070	0.000
GFI	**CFI**	**NFI**
0.874	0.943	0.921
AGFI	**TLI**	**IFI**
0.845	0.935	0.944
HOELTER	**AIC**	**BIC**
163	994.657	1252.258

The model validity test showed one discriminant validity issue with the measurement model. The MSV for the Job satisfaction construct (0.530) was higher than AVE (0.529). The difference between the two indices was not significant, thus it was not considered as lack of discriminant validity. Another observation was that the square root of AVE for Job Satisfaction (0.728) was equal to the correlation coefficient of Employee Perception of Internal Service Quality (0.728). The way the items were written for Job satisfaction with only two measurement alternatives (satisfaction with company and satisfaction with the job), it appeared to be that the construct was formative rather than reflective. A reflective indicator factor is based on the assumption that the construct causes the measurement variables, while in a formative relationship the measurement variables cause the construct. Based on the assumption that the measurement variables for Job Satisfaction caused the construct, it was concluded that the way the measurement variables were written was demonstrating inability to fully explain the relationship (Hair et al., 2006). This situation could represent another reason why the correlation of one of the items (Job Satisfaction_1) with the construct was somewhat weak (0.690). There was nothing that could be done with this problem since the Job Satisfaction construct was measured with only two variables, and it was not possible to drop any further items from the analysis. This problem was acknowledged in the limitations of this study.

Table 4.12 summarizes the validity and reliability of second order constructs in the measurement test.

Table 4.12: Validity and Reliability of Second Order Constructs

Construct	Mean	(STD)	CR	AVE	MSV	ASV	(1)	(2)	(3)
Job Satisfaction (1)	2.74	(0.539)	0.690	0.529	0.530	0.443	0.728		
Environmental Practices (2)	3.11	(0.845)	0.940	0.759	0.598	0.476	0.596	0.871	
Employee Perception_ISQ (3)	3.54	(0.834)	0.946	0.746	0.598	0.564	0.728	0.773	0.864

STD: Standard Deviation; CR: Construct Reliability; AVE: Average Variance Extracted; MSV: Maximum Shared Variance; ASV: Average Shared Variance; AVE squared roots on diagonal

Test for Measurement Model Invariance

Since the structural model was going to be tested for multilevel moderation effect of the hotel being green certified or not, the measurement model was tested for invariance. The measurement model should hold the same structure for both hotel type groups, representing green certified and non-certified hotel, in order to compare employee's perception on Internal ISQ, Job Satisfaction, and Environmental Practices among both groups of employees. For the purpose of testing invariance between the two groups, the paths in the measurement model should be constrained to check the impact on model fit. CFA should be tested for each group using the same model for both simultaneously, in such a way that only the factor structure is constrained between groups (Hair et al., 2006). Figure 4.4 shows the measurement model constraining process.
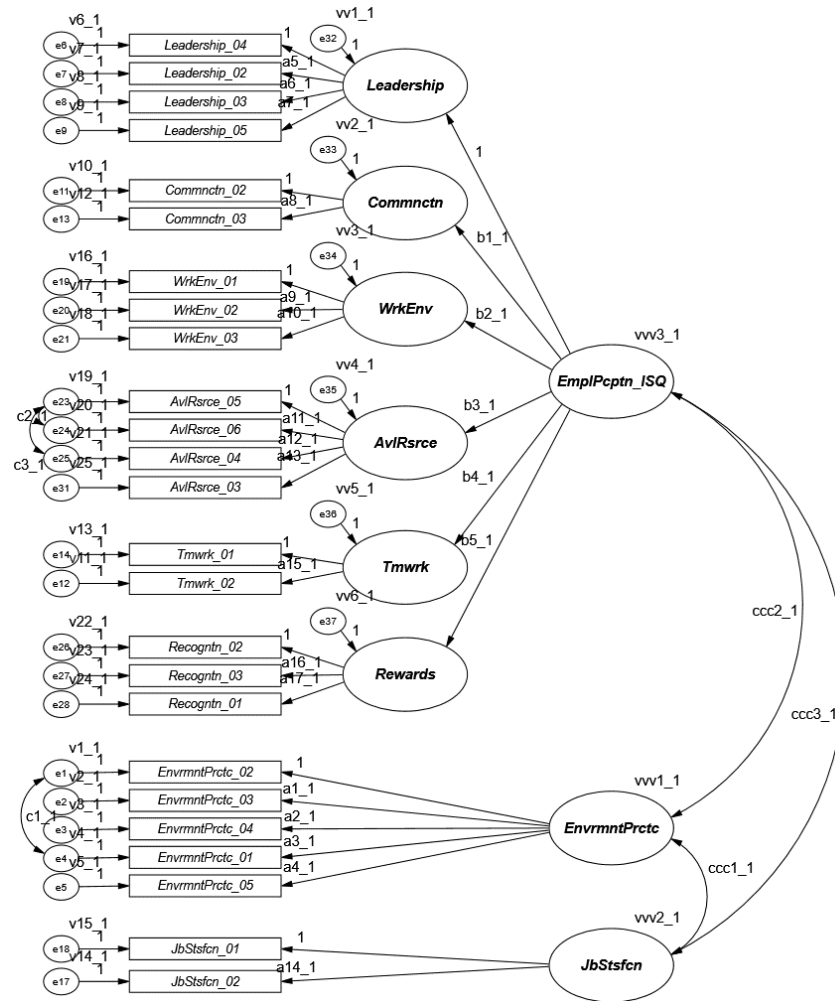
Figure 4.4 – Measurement Model Constraining Process

Assuming the unconstrained model to be correct, it was deemed necessary to test the invariance for measurement weights, structural weights (since the model had a higher order construct), and structural covariance. No significant difference was expected regarding measurement weights and structural weights, but there would be significant difference in structural covariance. The results of the Chi-square test showed significant difference in terms of structural covariance ($\chi2$ (28) = 83.390, ρ < 0.001), as expected. However, the Chi-square test results for measurement weights ($\chi2$ (17) = 48.807, ρ <

0.001), and structural weights ($\chi 2$ (22) = 56.802, $\rho < 0.001$), also showed significant difference in model fits for the constrained model, assuming the unconstrained model to be correct. Since the levels of hotel's environmental practices should be different for type of hotels (green certified and non-certified), a pair wise comparison test (t-test) was conducted on the un-standardized regression weights to further investigate the structural differences in the measurement model. "The t-test is a useful tool for comparing means between two groups." (Churchill & Brown, 2009, p. 589).

Table 4.13 shows the results of pair wise comparison tests (t-test) for every pair of unstandardized regression weights. The results showed that the correlation coefficient for Work Environment, Available Resources, and Team Work on Employee Perception of Internal Service Quality was significantly stronger for certified hotels. In other words, these three dimensions were loading stronger as measurement variables of Employee Perception of ISQ for Certified hotels. The same result was valid for Leadership_05, in which the loading was stronger for Certified hotels. On the other hand, result was reversed for the Team Work construct when analyzed independently from ISQ, in which both items showed stronger loadings for non-certified hotels. For Job Satisfaction_01 and Job Satisfaction_02 the same result was true, stronger for non-certified hotels.

Table 4.13: Pair Wise Comparison Test Results (t-test)

			Certified		Non-Certified		Delta
			Estimate	P	Estimate	P	z-score
Leadership	←	EmplPcptn_ISQ	0.898	0.000	0.811	0.000	-0.928
Communication	←	EmplPcptn_ISQ	1.014	0.000	0.914	0.000	-1.074
Work Environment	←	EmplPcptn_ISQ	0.817	0.000	0.660	0.000	-1.998*
Available Resources	←	EmplPcptn_ISQ	1.009	0.000	0.761	0.000	-2.287*

	Certified		Non-Certified		Delta
	Estimate	**P**	**Estimate**	**P**	**z-score**
Team Work ← EmplPcptn_ISQ	0.982	0.000	0.764	0.000	-2.169*
Rewards ← EmplPcptn_ISQ	0.947	0.000	1.008	0.000	0.606
Environmental Practices_02 ← EnvrmntPrctc	0.854	0.000	0.818	0.000	-0.463
Environmental Practices_03 ← EnvrmntPrctc	1.045	0.000	1.022	0.000	-0.287
Environmental Practice _04 ← EnvrmntPrctc	1.081	0.000	1.011	0.000	-0.868
Environmental Practices_01 ← EnvrmntPrctc	0.775	0.000	0.672	0.000	-1.305
Environmental Practices_05 ← EnvrmntPrctc	1.063	0.000	1.026	0.000	-0.441
Leadership_02 ← Leadership	1.032	0.000	0.979	0.000	-0.719
Leadership_03 ← Leadership	1.038	0.000	0.913	0.000	-1.711
Leadership_05 ← Leadership	1.023	0.000	0.773	0.000	-3.789**
Communication_03 ← Communication	0.939	0.000	1.079	0.000	1.752
Work Envrionment_02 ← WrkEnv	0.992	0.000	1.081	0.000	1.194
Work Environment_03 ← WrkEnv	0.999	0.000	0.939	0.000	-0.591
Available Resources_06 ← AvlRsrce	0.957	0.000	0.789	0.000	-1.843
Available Resources_04 ← AvlRsrce	0.945	0.000	1.154	0.000	1.956
Available Resources _03 ← AvlRsrce	0.861	0.000	1.039	0.000	1.520
Job Satisfaction_01 ← JbStsfcn	0.575	0.000	0.634	0.000	0.640
Job Satisfaction_02 ← JbStsfcn	0.662	0.000	1.003	0.000	3.541**
Team Work_02 ← Tmwrk	0.891	0.000	1.182	0.000	2.677**
Recognition_03 ← Rewards	1.012	0.000	0.971	0.000	-0.587
Team Work_02 ← Tmwrk	0.881	0.000	1.213	0.000	2.913**

** p-value < 0.01; * p-value < 0.05

The pair wise test results showed that the assumption of metric invariance was violated for the measurement model. All the paths were significant for both green certified and non-certified hotels, concluding that the measurement model was structurally the same for both groups. The lack of metric invariance indicated that some items and/or components were more important for one group or the other. Finally, the structural model was tested for the multi-level moderation hypotheses. The validation of

the refined measurement model with second order constructs was completed, and the measurement model and hypotheses were able to be tested.

Assessing Structural Model

Specifying the Structural Model (SEM Stage 5)

Once the measurement model had been specified, validated, and the indicator variables for each construct had been assigned, the next step in the SEM procedure was to specify the structural model. The structural model specification represents assigning relationship between constructs, based on the theoretical model (Hair et al., 2006). The structural model was built to establish the relationship among constructs, and to test the hypotheses. The model encompassed all the constructs related to the study, including single item variables. The model was tested using Structural Equation Modeling (SEM). The path diagram represented both the measurement model and the hypothetical relationships proposed in the study. Figure 4.5 represents the conceptual model and shows the hypotheses of the study:
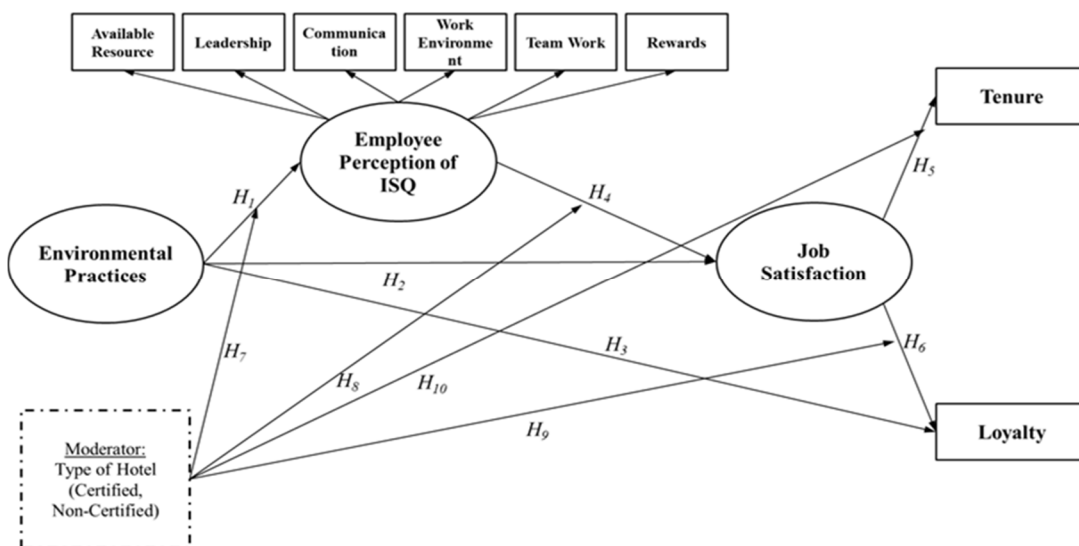

Figure 4.5: Structural Model and Hypotheses

The hypotheses represented in the structural model are listed below:

H_1: The use of environmental management systems leads to employee positive perception of the internal service quality.

H_2: The use of environmental management systems leads to higher levels of employee job satisfaction.

H_3: The use of environmental management systems leads to higher levels of employee loyalty.

H_4: Employee perception of internal service quality has a positive influence on job satisfaction.

H_5: Employee job satisfaction has a positive influence on employee tenure.

H_6: Employee job satisfaction has a positive influence on employee loyalty.

H_7: Type of hotel moderates the relationship between the use of environmental management systems and employee perception of internal service quality, such that for certified hotels, the positive effect is stronger than for non-certified hotels.

H_8: Type of hotel moderates the relationship between employee perception of internal service quality and job satisfaction, such that for certified hotels, the positive effect is stronger than for non-certified hotels.

H_9: Type of hotel moderates the relationship between job satisfaction and employee loyalty, such that for certified hotels, the positive effect is stronger than for non-certified hotels.

H_{10}: Type of hotel moderates the relationship between job satisfaction and employee tenure, such that for certified hotels, the positive effect is stronger than for non-certified hotels. Assessing the Structural Model (SEM Stage 6)

The final stage of the SEM analysis was to test the validity of the structural

model, using the same procedure for the measurement model assessment, as this model

was represented in the structural model, and to test the construct's relationships that were

hypothesized in the study. The validity of the structural model was executed following

the guidelines in SEM's Stage 4, using different GOF indices that represented the

covariance observed in the sample data. The difference between GOF results for a

measurement model and a structural model, is that in the measurement model the

correlation among all constructs should be equal, while for the structural model some of

the construct's relationships are assumed to be 0, depending on the hypothesized

relationships (Hair et al., 2006).

Figure 4.6 shows the path diagram for the proposed structural model and correlation coefficients for each construct.
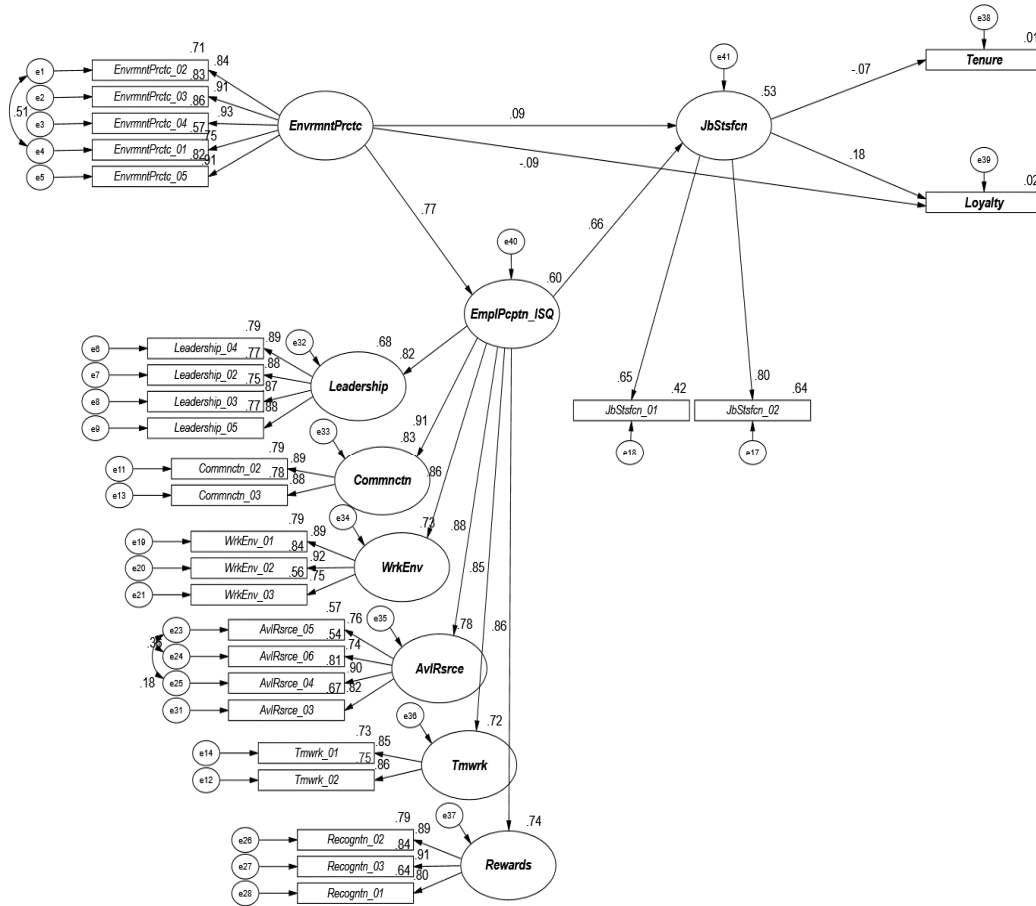
Figure 4.6 – Path Diagram for Proposed Structural Model

Below is the model fit for the study's proposed structural model. The GOF indices showed an acceptable χ2 to degree of freedom ratio (f/df = 3.020, $p < .001$). Also, RMR (0.064), RMSEA (0.066) were at an acceptable level (0.07 or lower), and PCLOSE (0.000) was significant, were a value higher than 0.05 was needed to indicate no statistical difference between matrices (Hair, 2006). These results were considered when the structural model was refined.

Table 4.14: Structural Model Goodness of Fit (GOF)

χ^2	Df	$\chi2/DF$
939.213**	311	3.020
RMR	**RMSEA**	**PCLOSE**
0.064	0.066	0.000
GFI	**CFI**	**NFI**
0.872	0.942	0.915
AGFI	**TLI**	**IFI**
0.845	0.934	0.942
HOELTER	**AIC**	**BIC**
177	1073.213	1351.589

All the hypotheses were tested at a significant level of $p < .05$, which indicates that there is strong evidence that the alternate hypothesis is true. The p value of a statistical analysis measures the amount of evidence to support the alternate hypothesis, the lower the value, the higher the probabilities that the alternate hypothesis is true (Keller, 2014). Also hypotheses were tested using a p value < 0.05, based on the work of various researchers who have investigated the SPC model's structural validity in different settings (Chan & Hawkins, 2010; Gelade & Young (2005); Kassinis & Soterious, 2003; Silvestro & Cross, 2000; Xu 2004; Xu and van der Heijden, 2005, Xu et al., 2007). From the first structural model test, it was concluded that the paths between environmental practices and the constructs job satisfaction and loyalty were not significant at $p < .05$, thus not supporting hypotheses H_2 and H_3:

H_2: The use of environmental management systems leads to higher levels of employee job satisfaction ($\beta = 0.089$, $p = 0.255$).

H_3: The use of environmental management systems leads to higher levels of employee loyalty ($\beta = -0.087$, $p = 0.186$).

This result could be related to the measurement issue that was stated previously, connected to the amount of measurement variables used for Job Satisfaction (2) and for Loyalty (1). As previously referred to in this chapter, Hair et al., (2006, p. 783) explained that "In practice, you can find CFA conducted with only a single item representing some factors. However, good practice dictates a minimum of three items per factor, preferably four." This is why that in this study the researcher was expecting some under-identification of both constructs. These issues were reported in the study's limitations.

The purpose of a researcher is to find a model that has the best goodness of fit to the observed data (Hair et al., 2006), therefore the two problematic paths were deleted from the structural model, in order to test the remaining hypotheses with a stronger structural model. The work of Xu and van der Heijden (2005) that serves as a basis for this study, also used the SPC model with the original six dimensions to measure ISQ. After assessing the factor structure using CFA, the authors ended measuring the ISQ construct with only five dimensions instead of six original factors. They merged teamwork and communication into a factor called cooperation. They also used less measurement variables for each construct. After adjusting the measurement model, the researchers found that the modified model had a better model fit to the observed data, and they were able to support all hypotheses. This study was published in the Journal of International Consumer Marketing (2005).

Table 4.15: Not-supported Hypotheses

Hypotheses	B	STD β	S.E.	C.R.	Sig
H$_2$	0.062	0.089	0.055	1.138	0.255
H$_3$	-0.038	-0.087	0.029	-1.324	0.186

STD: Standardized Beta; S.E.: Standard Error; C.R.: Critical Ratio; (Sig: $\rho < 0.05$)

Since these two hypotheses were not supported, it was inferred that employee perception of ISQ might mediate the relationship between environmental practices and employee's job satisfaction and loyalty. As a result, relationships proposed by H$_2$ and H$_3$ were excluded from the structural model, and the model was tested again.

Figure 4.7 presents the path diagram for the revised structural model, without the not supported relationships, and with ISQ as a mediating construct between Environmental Practices and Job Satisfaction and Loyalty. It was observed that the relationship between Environmental Practices and Internal Service Quality is high (0.78), as well as Internal Service Quality and Job Satisfaction (0.73). The revised model includes all hypothesized relations that were originally presented in Xu and van der Heijden's (2005) study.
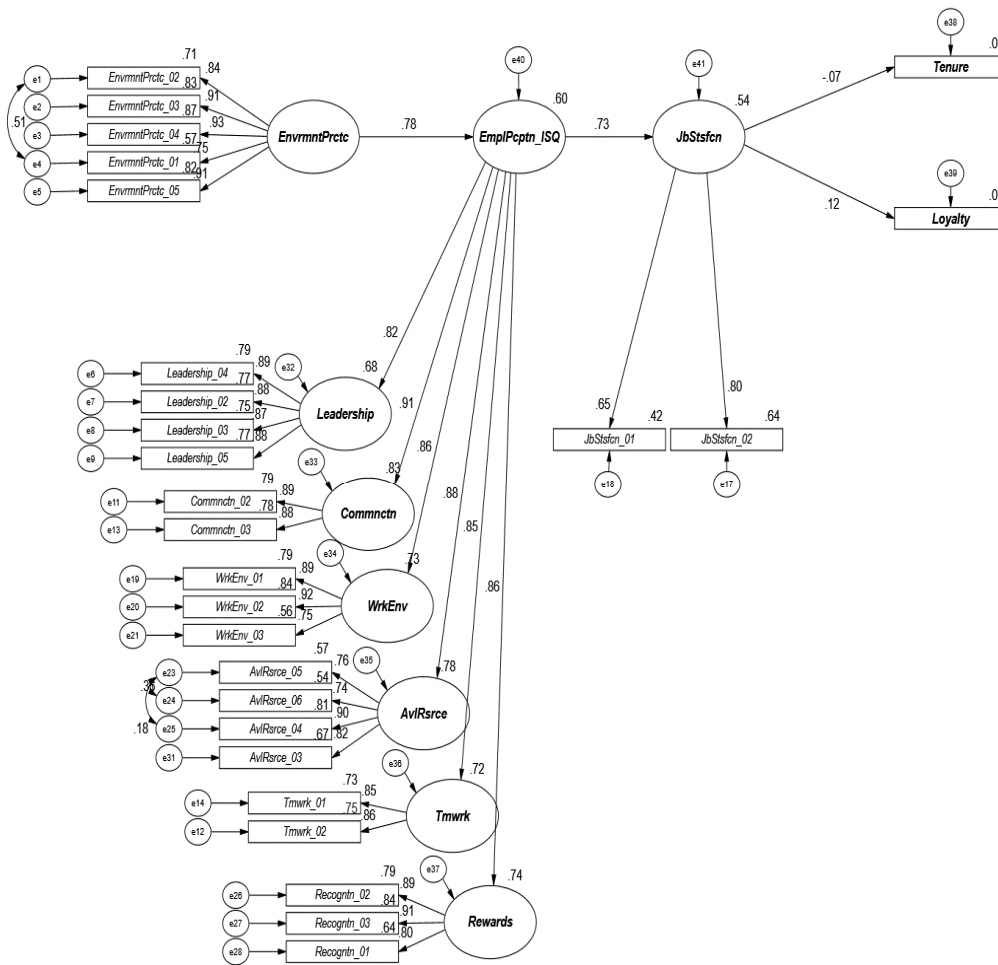
Figure 4. 7 – Revised Structural Model Path Diagram

Table 4.16 shows the model fit indexes for the structural model after making the

necessary adjustments. The new model fit was not found to be much different, but

slightly improved from the original model. The χ2 to degree of freedom ratio was 3.010,

showing an acceptable model fit. Absolute GOF indices, RMR (0.064) and RMSEA

(0.065) were also in an acceptable range, lower than 0.07. In addition, the CFI (0.941),

the NFI (0.915), TLI (0.934) and IFI (0.942) incremental fit indices were found to be in

an acceptable level of 0.90 or higher. PCLOSE (0.000) was significant which should

have been non-significant or above0.05. The following indices were below an acceptable

range but not far from the acceptable threshold (0.90): GFI (0.872) and AGFI (0.845).

This situation could be explained by the effect that model complexity and large sample

size had on these indices (Hair et al., 2006). The rest of the indices were in an acceptable

level.

Table 4.16: Revised Structural Model GOF Indexes

χ^2	Df	$\chi2/DF$
942.121**	313	3.010
RMR	**RMSEA**	**PCLOSE**
0.064	0.065	0.000
GFI	**CFI**	**NFI**
0.872	0.941	0.915
AGFI	**TLI**	**IFI**
0.845	0.934	0.942
HOELTER	**AIC**	**BIC**
178	1072.121	1342.187

Table 4.17 represents the test results for the following hypotheses:

H_1: The use of environmental management systems leads to positive perception of

the internal service quality ($\beta = 0.776$, $p > 0.001$), (Supported).

H_4: Employee perception of internal service quality has a positive influence on

job satisfaction. ($\beta = 0.733$, $p > 0.001$), (Supported).

H_5: Employee job satisfaction has a positive influence on employee tenure. ($\beta = -$

0.073, $p = 0.163$), (Not supported).

H_6: Employee job satisfaction has a positive influence on employee loyalty. ($\beta =$

0.115 $p = 0.029$), (Supported)

Statistical test results showed that H_1, H_4, and H_6 were supported, but the positive relationship between job satisfaction and tenure (H_5) was not supported. In addition, the results showed that the proposed model explained 60% of the variances of employee perception of the Internal Service Quality and 54% of the variances of Job Satisfaction. However, the model failed to accurately predict employee tenure and loyalty (despite the significant beta coefficient (0.029) for the relationship between job satisfaction and employee loyalty).

Table 4.17: Hypotheses H_1, H_4, H_5 and H_6 Test Results

Hypotheses	B	STD β	S.E.	C.R.	Sig
H_1	0.772	0.776	0.051	15.131	0.000
H_4	0.520	0.733	0.051	10.198	0.000
H_5	-0.167	-0.073	0.120	-1.394	0.163
H_6	0.071	0.115	0.032	2.189	0.029

STD: Standardized Beta; S.E.: Standard Error; C.R.: Critical Ratio; (Sig: $\rho < 0.05$)

A bias-corrected percentile bootstrap was conducted to test the indirect effects' significances. This type of test is considered the best method to assure that the variables in the mediating model follow a normal distribution multivariate balance (MacKinnon, et al., 2004). The indirect effects of employee perception of internal service quality on tenure (β=-0.054, ρ= 0.227) and loyalty (β=0.084, ρ= 0.064) were insignificant. The same results were true for the indirect effect of the use of environmental management systems on tenure (β= -0.042, ρ= 0.217) and loyalty (β= 0.065, ρ= 0.061). However, the indirect

effect of the use of environmental management systems on job satisfaction (β=0.569, ρ= 0.002) was significant and strong.

Type of Hotel Moderator Variable

Type of hotel as a moderator was tested for the first time in this study. The moderating hypotheses test results are showed in Table 4.18. The hypotheses were tested at $p < 0.05$, following SPC model previous studies. The hypotheses tested were the following:

H_7: The type of hotel moderates the relationship between the use of environmental management systems and employee perception of internal service, such that for certified hotels, the positive effect is stronger than for non-certified hotels. (β = 0.763, $p > 0.05$), (Not supported).

H_8: The type of hotel moderates the relationship between employee perception of internal service quality and job satisfaction, such that for certified hotels, the positive effect is stronger than for non-certified hotels. (β = 0.669, $p > 0.05$), (Not supported).

H_9: The type of hotel moderates the relationship between job satisfaction and employee loyalty, such that for certified hotels, the positive effect is stronger than for non-certified hotels. (β = 0.264, $p < 0.05$), (Supported).

H_{10}: The type of hotel moderates the relationship between job satisfaction and employee tenure, such that for certified hotels, the positive effect is stronger than for non-certified hotels. (β = - 0.228, $p < 0.01$), (Not supported).

According to the hypotheses test results, H_7 and H_8 were not supported since there was no significant difference between certified and non-certified hotels. However, H_9

133

was supported by the data, meaning that the relationship between job satisfaction and loyalty was stronger for certified hotels and insignificant for non-certified hotels. For H_{10}, although there was a significant difference between certified and non-certified hotels, the difference was not in the direction that was hypothesized. The relationship between job satisfaction and tenure was positive for non-certified hotels, although minimal and insignificant. For certified hotels, although there was a significant relationship between job satisfaction and tenure, the relationship was found to be negative, meaning that H_{10} was not supported.

There might be many reasons to explain why the impact of job satisfaction on tenure and loyalty was not according to what was hypothesized. One major reason is methodological, tenure was measured in ordinal format: number of years on the job, which did not capture enough variance for the SEM technique that is applied in this study. Also, loyalty was measured in binary format: will stay, or will not stay, not appropriate at all for measuring dependent variables in SEM models, which requires a minimum of three variables (Hair, 2006). Another reason that might apply for the relationship between tenure and job satisfaction is theoretical. The model proposes that job satisfaction has influence on tenure, there is a probability that in reality, the more the employee stays with an organization the more burn out they become, and as a result satisfaction decreases. In other words, maybe the relationship is reverse and tenure is the predictor rather than job satisfaction.

The proposed model performed better for non-certified hotels as compared to certified hotels, since the correlation coefficient (R^2) for employee perception of ISQ in the non-certified hotels model represented 62%, while for certified hotels it was 58%.

Also, the amount of variance explained for job satisfaction in non-certified hotels model was 65%, whereas for the certified hotels model it was 49%. However, for both certified and non-certified hotels, the R^2 of tenure and loyalty were 5%, 7%, 1%, and 0.1% respectively.

Table 4.18: Moderator (Type of Hotel) Variable Test Results

Hypotheses	Certified					Non-Certified					Pairwise Comparison	
	B	STD β	S.E.	C.R.	Sig	B	STD β	S.E.	C.R.	Sig	Z-value	Sig
H_7	0.801	0.763	0.071	11.294	0.000	0.778	0.784	0.082	9.511	0.000	-0.220	$\rho > 0.05$
H_8	0.441	0.699	0.067	6.543	0.000	0.632	0.808	0.082	7.718	0.000	1.799	$\rho > 0.05$
H_9	0.148	0.264	0.045	3.304	0.000	0.016	0.025	0.048	0.343	0.732	-2.012	$\rho < 0.05$
H_{10}	-0.568	-0.228	0.196	-2.890	0.004	0.151	0.079	0.138	1.097	0.272	2.996	$\rho < 0.01$

STD: Standardized Beta; S.E.: Standard Error; C.R.: Critical Ratio; (Sig: $\rho < 0.05$)

Bias-corrected percentile bootstrap, was conducted to test the indirect effects' significance. The indirect effects of employee perception of ISQ on tenure (β=0.095, ρ=0.136) and loyalty (β=0.010, ρ=0.791) were insignificant for non-certified hotels. On the other hand, the indirect effects of employee perception of ISQ on tenure (β=-0.250, ρ=0.012) and loyalty (β=0.065, ρ=0.005) were significant for certified hotels. Similar insignificant results were true for non-certified hotels in relation to the indirect effect of the use of environmental management systems on tenure (β=0.074, ρ=0.112) and loyalty (β=0.008, ρ=0.751). For green certified hotels the results were significant for the indirect effect of the use of environmental management systems on tenure (β=-0.201, ρ=0.013) and loyalty (β=0.052, ρ=0.006). The indirect effect of the use of environmental management systems on job satisfaction was significant for non-certified (β=0.491,

ρ=0.004) and for certified hotels (β=0.353, ρ=0.012). Nevertheless, the indirect effect of the use of environmental management systems on job satisfaction was stronger for non-certified hotels.

Figures 4.8 (a) and 4.8 (b) show the structural models of the study for certified and non-certified hotels.
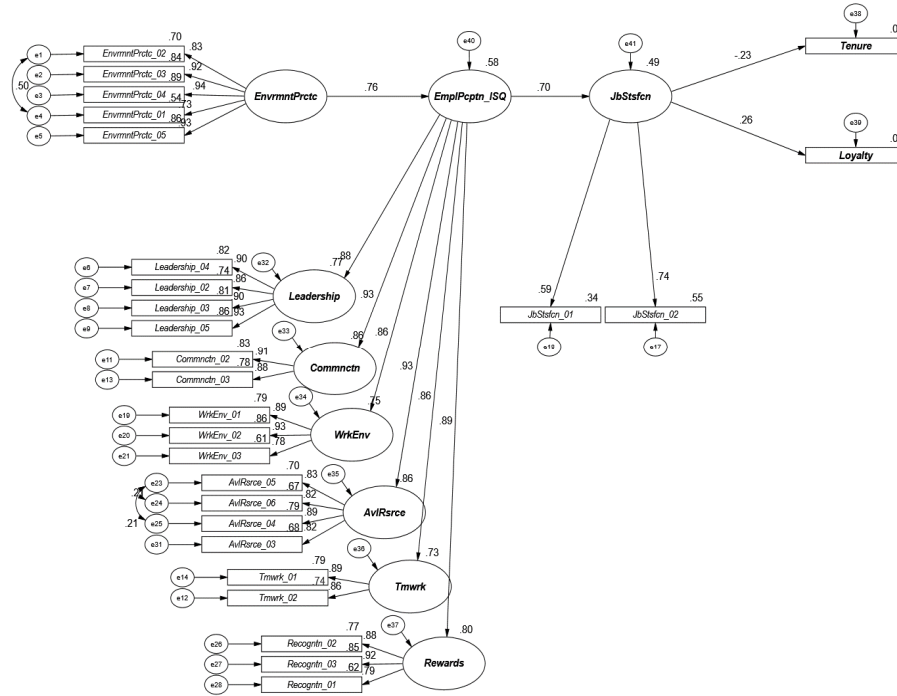
Figure 4.8 (a): Green Certified Type of Hotel Path Diagram

Figures 4.8a and 4.8b illustrate significant differences among employees working in the two types of hotels. The relationship between environmental practices and ISQ were slightly more significant for non-certified hotels (.78) than for certified hotels (.76). The path between job satisfaction and loyalty was stronger for certified hotels (.26) and insignificant for non-certified hotels (.06). Although there was a significant difference between certified and non-certified hotels in relation to job satisfaction and tenure, the

difference was not in the direction that was hypothesized for certified hotels (-.23). The relationship between job satisfaction and tenure was positive for non-certified hotels, although minimal and insignificant (.08). The correlation between ISQ, and work environment and available resources, was slightly stronger for certified hotels (.86, .93 respectively) than for non-certified (.82, .82). This was an interesting finding since work environment and work resources encompasses the employee's perception of the quality and quantity of the job they need to deliver and having the necessary resources to comply with requested tasks, an issue that was observed in this study.
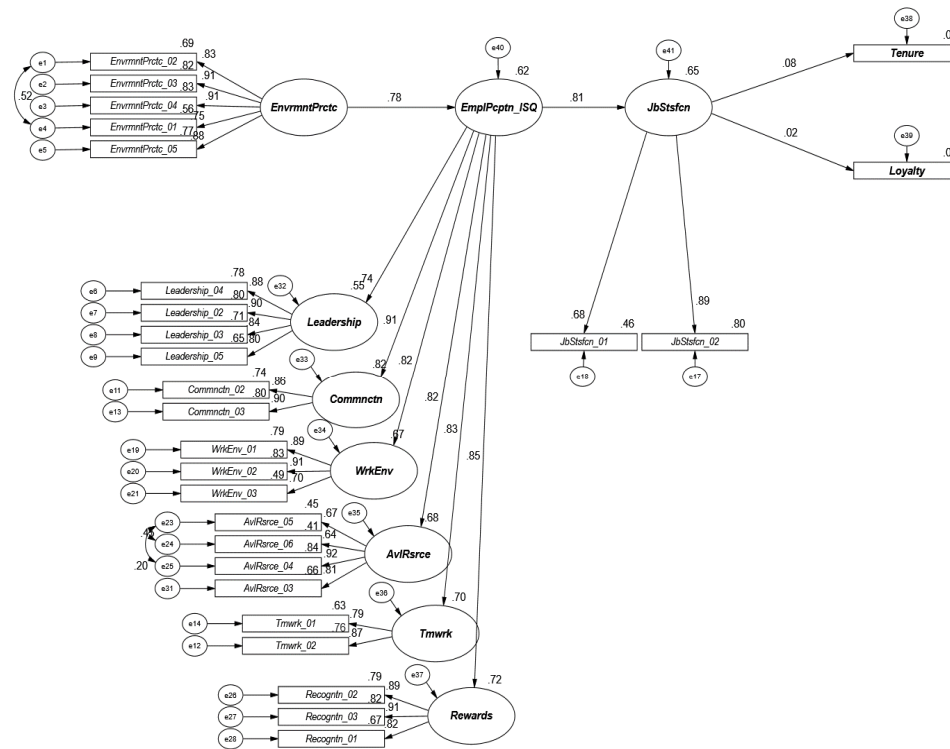

Figure 4.8 (b): Non-certified Type of Hotel Path Diagram

In Chapter IV the results of the structural measurement model were presented, particularly all statistical analysis to determine model's constructs validity, covariance

matrix and GOF indices. Following the measurement model's final refinement, the

structural model was also refined after the first SEM analysis. Adjustments included ISQ

as a mediating construct between Environmental Practices and Job Satisfaction, Loyalty

and Tenure. The refined model showed better GOF to observed data.

After the structural model' final refinement, hypotheses were tested. Table 4.19

shows the results of statistical analysis.

Table 4.19 – Results of Structural Model's Hypotheses Tests

Hypotheses	STD β	Significance	Result
H₁: The use of environmental management systems leads to positive employee perception of the internal service quality.	0.776	0.000	Supported
H₂: The use of environmental management systems leads to higher levels of employee job satisfaction.	0.089	0.255	Not supported
H₃: The use of environmental management systems leads to higher levels of employee loyalty.	-0.087	0.186	Not supported
H₄: Employee perception of internal service quality has a positive influence on job satisfaction.	0.733	0.000	Supported
H₅: Employee job satisfaction has a positive influence on employee tenure.	-0.073	0.163	Not supported
H₆: Employee job satisfaction has a positive influence on employee loyalty.	0.115	0.029	Supported

(Sig: $p < .05$)

Table 4.19: Hypotheses test for Certified and Non-Certified Type of Hotels

Hypotheses	Certified		Non-certified		Pair wise Comp.		Result
	STD β	Sig.	STD β	Sig.	Z-value	Sig.	
H₇: Type of hotel moderates the relationship between the use of environmental management	0.763	0.000	0.784	0.000	-0.220	*p>0.05*	Not supported

systems and employee perception of internal service quality, such that for certified hotels, the positive effect is stronger than for non-certified hotels.							
H_8: Type of hotel moderates the relationship between employee perception of internal service quality and job satisfaction, such that for certified hotels, the positive effect is stronger than for non-certified hotels.	0.699	0.000	0.808	0.000	1.799	*p>0.05*	Not supported
H_9: Type of hotel moderates the relationship between job satisfaction and employee loyalty, such that for certified hotels, the positive effect is stronger than for non-certified hotels.	0.264	0.000	0.025	0.732	-2.012	*p<0.05*	Supported
H_{10}: Type of hotel moderates the relationship between job satisfaction and employee tenure, such that for certified hotels, the positive effect is stronger than for non-certified hotels.	-0.228	0.004	0.079	0.272	2.996	*p<0.01*	Not supported

(Sig: $p < .05$)

Chapter V includes results obtained during SEM statistical analyses. First, the validity of the SPC and its application on green certified hotels is reviewed. Second, the comparison between employees working in green certified hotels and non-certified, as

they related to the SPC model, is presented. The study's limitations, recommendations for

future research, and implications for professional practice are discussed.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

This chapter presents the relevant findings and conclusions of the study, and their

implications for managerial strategies. Also, the limitations and delimitations of the study

are discussed, as well as recommendations for future research. The structure of this

chapter is based on the study purpose, and hypotheses tested during each phase of the

investigation process.

Summary of the Study

Environment protection has become a major endeavor among public and private

organizations due to the generalized consciousness that economic developments has

depleted natural resources risking the wellbeing of present and future generations

(WTTC, 2014). Tourism is an important economic activity, which ranks first in

employment generation and a country's development (WTO, 2013). Employees are

needed to serve tourists, since tourism is an economic activity that cannot be mechanized,

such as other industries like manufacturing and construction. But tourism is highly

dependent on natural resources in order to attract conscious visitors (Bohdanowicz &

Martinac, 2003; Nidumolu et al., 2009). This tourist segment has been identified as more

educated, has higher incomes (Dolnicar & Matus, 2008; Dolnicar & Grun, 2009; Lee &

Moscardo, 2005), and are willing to pay higher hotel rates to stay in facilities with

environmental management systems (Guadalupe-Fajardo, 2002). Other hoteliesr'

motivators for environmental management systems (EMS) have been identified as

operational cost reduction and a genuine interest in protecting valuable resources (Bailly, 1999; Millar and Baloglu, 2011).

Green certifications or eco-labels, as they have been called, require complying with a multiplicity of standards, such as: recycling, reducing and reusing waste materials, saving water, energy and gas consumption, supporting local suppliers, sponsoring community activities, and training employees, etc. The implementation of these standards is mainly the responsibility of hotel employees who perform daily tasks required by each standard (Chan & Hawkins, 2010). Without employee commitment towards standards compliance, the organization will not be effective in complying with green certifications (Gil et al., 2001). There is extensive literature related to environmental systems in hotels, green certifications, green wash and characteristics of environmentally friendly tourists, but little has been studied about the perception of employees working in green certified hotels about their work environment, their job satisfaction, tenure and loyalty.

The problem this study addressed was that the adoption of green certifications and the implementation of EMSs in the hospitality industry are primarily focused on the economic and marketing benefits that the industry can achieve, without taking into consideration the human factor of the operation and the effects that additional duties can have on employee perception of the organization's ISQ and their job satisfaction and loyalty.

The purpose of this exploratory study was to examine how the implementation of an EMS and the consequent increase in hotel employee workload, affects employee perception of their (ISQ; work environment, levels of job satisfaction, loyalty and tenure. The researcher also compared employee perception of the different ISQ variables

contrasting results from two types of hotels, certified green hotels and non-certified hotels, to determine the differences between both groups of employees. In order to achieve the study purpose, the SPC model (Heskett et al., 1994) was used as the theoretical framework of the study.

In particular, the study adopted the following three main purposes:

1. To examine the relationship that environmental management systems standards have on employee perception of work environment, internal service quality, job satisfaction, loyalty and tenure (SPC employee factors)/

2. To assess the validity of the SPC model among employees working in selected hotels in Puerto Rico with environmental management systems.

3. To compare employee perception of internal service quality, their levels of job satisfaction, loyalty and tenure, among employees working in two types of hotels: green certified hotels and non-certified hotels, to determine if there is a difference between groups.

This study contributed to environmental management literature emphasizing hotel employee perception of their work environment and the implementation of green certifications. Also, recommended managerial strategies that may improve employee job satisfaction, retention and loyalty to the organization.

The particular theoretical contribution of this study was to include a new construct, environmental practices, to the SPC model to measure the effect that EMS have on employee perception of the organization's internal service. A moderating variable (type of hotel: green certified and non-certified) was also introduced to determine the influence of having additional tasks to comply with certification standards,

and the perception of ISQ, job satisfaction, tenure and loyalty (the employee factors in

the SPC model). A comparative method was used in the study to contrast the perception

of two groups of employees, those working in green certified hotels and another group

working in non-certified hotels.

Analysis of the data was conducted in three phases: (1) test of the SPC model

validity and reliability with the modifications related to EMS, and to develop a

measurement model that represented the reality of the data collected, (2) develop a

structural model to test the hypotheses, and (3) compare the perception of two groups of

employees working in green certified and non-certified hotels.

Summary of Findings

Table 5.1 presents the summary of the relevant findings of this study in relation to

the study purposes and the hypotheses tested.

Table 5.1: Summary of Findings (Sig: $\rho < 0.05$)

Study Purpose	Findings
1. Examine the relationship that environmental management systems standards have on employee perception of work environment, ISQ, job satisfaction, loyalty and tenure (SPC's employee factors)	
H₁: The use of environmental management systems leads to employee positive perception of the internal service quality. *(Accepted)*	The acceptance of the positive relationship between environmental practices and perception of internal service quality points out the importance of fostering ISQ dimensions: work environment, available resources, communication, leadership,

144

Study Purpose	Findings
	recognition and team work among employees working with the implementation of environmental practices.
H₂: The use of environmental management systems lead to higher levels of employee job satisfaction. *(Not accepted)*	The rejection of the relationship between EMS is significant since it could be inferred that employees are not satisfied with the additional workload that EMS implementation imposes on them. It was also inferred that ISQ was a mediating variable between the use of environmental management systems and employee job satisfaction.
H₃: The use of environmental management systems leads to higher levels of employee loyalty. *(Not accepted)*	Test to H₃ showed a negative direction to the one proposed. Environmental management systems leads to lower levels of loyalty.
2. Assess the validity of the SPC model among employees working in selected hotels in Puerto Rico with environmental management systems.	Using structural equation modeling, the theoretical model developed by Heskett et al. (1994) (SPC) was tested in selected hotels in Puerto Rico. After the initial model tests, the following items were dropped from the model due to problems with convergent validity:
H₄: Employee perception of internal service quality has a positive influence on job satisfaction. *(Accepted)*	1. Leadership_01: "Commitment to customer satisfaction" 2. Communication_01: "Overall rating for hotel's internal employee communication"
H₅: Employee job satisfaction has a positive influence on employee tenure. *(Not accepted)*	3. Available Resources_01: "Having time to provide quality service" 4. Available Resources_02: "Having staff to provide quality service". 5. Rewards_01: "Your pay" 6. Rewards_02: "Employee benefits".

Study Purpose	Findings
H6: Employee job satisfaction has a positive influence on employee loyalty. *(Accepted)*	After refinement, the measurement model showed strong validity and goodness of fit. The only construct not loading strong was Job Satisfaction_01: How do you like your job?
The second order construct model (including Internal Service Quality, Job Satisfaction and Environmental Practices), was tested and all variables showed acceptable correlation levels. Only Job Satisfaction construct showed a lower correlation coefficient.
The structural model, based on the measurement model and the conceptual model, was used to test the hypothesized relationships. The structural model showed adequate goodness of fit indices.
After the structural model's first test, two paths were dropped from the model, since the positive relationships between environmental practices and employee job satisfaction and loyalty were rejected. The structural model then showed strong construct loading and improved goodness of fit.
3. To compare employee perception of internal service quality, levels of job satisfaction, loyalty and tenure, among employees working in two types of hotels: certified green hotels and non-certified hotels, to	The structural model was tested for variance across groups, using a pair wise comparison t-test. The conclusion was that the assumption of metric invariance was violated, thus all the measurement

Study Purpose	Findings
determine if there is a difference between groups.	paths were significant for both types of hotels, and that the measurement model was structurally the same for both groups.
H₇: Type of hotel moderates the relationship between the use of environmental management systems and employee perception of internal service quality, such that for certified hotels, the positive effect is stronger than for non-certified hotels. *(Not accepted)*	The only hypothesized relationship that was supported for the moderating variable, type of hotel, was the positive relationship between job satisfaction and loyalty. The hypothesized strong relationships between green certified type of hotels, ISQ, job satisfaction and tenure were not supported.
H₈: Type of hotel moderates the relationship between employee perception of internal service quality and job satisfaction, such that for certified hotels, the positive effect is stronger than for non-certified hotels. *(Not accepted)*	The following measurement items loaded stronger for non-certified hotels than for certified hotels: Team Work (two items: *"team work within your department"* and *"team work among departments in your hotel"*). Job Satisfaction (two items: *"How do you like your job"* and *"How would you rate the company you are working for…"*
H₉: Type of hotel moderates the relationship between job satisfaction and employee loyalty, such that for certified hotels, the positive effect is, stronger than for non-certified hotels. *(Accepted)*	During testing for the indirect effect present in the model with type of hotel as moderator, it was found that the use of environmental management systems and the relationship with job satisfaction was significant for both non-certified and for certified hotels. However, for both certified and non-certified hotels, the variance for tenure and loyalty was minimal.

Study Purpose	Findings
H₁₀: Type of hotel moderates the relationship between job satisfaction and employee tenure, such that for certified hotels, the positive effect is stronger than for non-certified hotels. *(Not accepted)*	The indirect effect of employee perception of Internal Service Quality on Tenure and Loyalty were significant for certified hotels. Also, the results were significant for the indirect effect of the use of environmental management systems on tenure. The indirect effect of the use of environmental management systems on job satisfaction was stronger for non-certified hotels.

Discussion of Findings

The findings of the study are discussed following the three phases that were implemented to respond to the study purposes. Following is the discussion of findings, comparison to previous studies, and conclusions.

Summary of Phase 1

Measurement model. This phase included the validation of the theoretical model selected for the study and the development of the measurement model, its validity and reliability. The SPC model presents various constructs to measure employee's perception of their work environment (ISQ) and how this perception influences job performance in terms of job satisfaction, loyalty (intention to stay) and tenure (time on the job, retention potential). Environmental practices were included in the original SPC model as an additional variable.

The theoretical model was assessed using various validity and reliability tests to obtain a final refined model. During the testing process several measurement items were

148

deleted from the original model because they represented a potential problem with discriminant validity with their respective construct. Also, a number of error terms were correlated together to increase model fit. After modifications, the final measurement model showed improvements and the loadings were in an acceptable rage (.70 or higher). Also the model showed significant goodness of fit improvement. Only the job satisfaction item "How do you like your job?" showed a lower loading value.

Second order construct model. Since the modified measurement model showed strong validity, reliability and goodness of fit, it was deemed correct to test the model with second order constructs. The SPC model presented by Heskett et al. (1994) presents a higher order construct named Internal Service Quality (ISQ), which was measured using six dependent variables: Leadership, Communication, Rewards, Work Environment, Available Resources and Team Work. Also, Job Satisfaction was treated as a second order construct. This study introduced Environmental Practices as a higher order construct to test the relationship with ISQ and Job Satisfaction among employees working with the implementation of environmental practices. The study also introduced Type of Hotel as a moderator construct to compare perceptions among employees working in green certified hotels, and non-certified hotels. The second order construct model was tested and all variables showed acceptable correlation levels. Once again, only the Job Satisfaction variable showed a lower correlation level.

Phase 1 findings discussion. The measurement items to test the SPC model in selected hotels in Puerto Rico, were taken from the literature (Heskett et al., 1994; Loveman, 1988; Xu and Van der Heijden, 2005). According to Hair (2006) at least three items are needed to measure the construct particularly when using SEM. Job Satisfaction

149

was measured using only two items. This limitation could account for the low loading value. Both items were retained in the revised model since no additional variable could be dropped. Another significant issue with Job Satisfaction measurement was the way it was assessed. It seemed that the construct was formative instead of reflective, assuming that the measurement variables were independent and that Job Satisfaction was the dependent variable, not in the direction that the relationship was hypothesized.

Another variable that was measured using two items was intention to stay (loyalty). The data showed that 82.5 % of the respondents showed intention to stay. Although the level of this variable was measured using descriptive statistics, the results could have been biased by the economic downturn that Puerto Rico was undergoing at the time of the study, where having a job in difficult economic times is highly valued, no matter how satisfied you are with it.

In terms of phase 1 findings, it was confirmed that the SPC model showed validity and reliability in the Puerto Rican hospitality industry scenario and that employees responded according to the underlying propositions that Heskett et al (1994) made when developing the theoretical model. The significant recommendation for the model in future studies is that all items used to measure constructs in the SPC model should have at least a minimum of three variables and that there are uncontrollable situations that must be taken into consideration that could bias the responses.

Summary of Phase 2.

The next phase of the study was to develop the structural model, based on the refined measurement model, and to test the hypotheses. In the measurement model all correlation between constructs should be equal, while in the structural model the

150

correlation between constructs is determined by the hypothesized relationships. The structural model's goodness of fit indices were all in an acceptable range. During the initial assessment of the structural model the relationships proposed in H_2 and H_3 were not supported, thus they were deleted from the model. This action was taken since the purpose of a researcher is to find a model that has the best goodness of fit to the observed data (Hair et al., 2006). Therefore, the two problematic relationship paths were eliminated from the structural model in order to test the remaining hypotheses with a stronger model. The structural model was tested again and it showed a better fit to the observed data. This adjustment action has been performed by other researchers such as Xu and van der Heijden (2005) in a similar study among Chinese financial institutions. The modified structural model showed improved goodness of fit indices. After modifying and testing the model again, hypotheses 1, 4 and 6 were supported and hypothesis 5 was not supported.

Phase 2 findings discussion. The hypothesized relationships in this study proposed that employees working with the implementation of environmental practices, should have enough pride and consciousness for protecting the environment that they would enjoy doing the additional duties requested, thus showing a higher level of job satisfaction and loyalty to a company that adopts good environmental practices. The rejection of the relationship between environmental practices and higher levels of job satisfaction and loyalty could indicate that employees were dissatisfied with the additional tasks they had to overtake to comply with environmental practices, in addition to complying with hotel standards for service quality. This situation could also be the cause of lower loyalty levels as related to environmental practices.

From the disconfirmation of these relationships proposed in H_2 and H_3, it could also be inferred that employee perception of ISQ could be a mediator between Environmental Practices and employee Job Satisfaction and Loyalty. The confirmation of H_1 reinforces the inference that ISQ could be a mediator between Environmental Practices, Job Satisfaction and Loyalty. This mediating effect of the ISQ construct could also mean that it is important to nurture the ISQ factors (available resources, work environment, team work, communication, leadership and recognition) in the work environment, in order to increase job satisfaction and loyalty among employees working in hotels with EMS.

The support of H_6 confirms Heskett's proposition and other authors findings (Abbasi and Hollman, 2000; Abdullah et al., 2011), who proposed that employee satisfaction is positively correlated to employee level of loyalty. Nevertheless, among Puerto Rican hotel employees there could be a bias to this relationship related to the economic downturn that the island was suffering and that makes employees hold onto their job even if they are not satisfied.

The rejection of H_5 contradicts Heskett et al.'s (1994) findings when they studied employees in a casualty insurance company, and concluded that 30% of dissatisfied employees intended to leave the firm, representing a potential turnover rate three times higher than satisfied employees. Also, Xu and van der Heijden (2005) confirmed a negative relationship between employee satisfaction and turnover intentions. The results of this relationship could be based on a methodological issue, related to the way tenure was measured, by using ranges of five years on the job. The use of a different scale to measure tenure, rather than the five points Likert scale used to measure the other items,

152

could be an explanation for the negative results to the proposed relationship between job satisfaction and tenure.

There are many studies related to the causes of employee turnover. According to Abbasi and Hollman (2000) some of employee turnover causes are: hiring practices, managerial style, lack of recognition, and lack of a competitive compensation system. The literature confirms the positive relationship between job satisfaction and employee's tenure and loyalty. Abdullah et al. (2011) conducted a study among hotel employees in Malaysia, finding that there are eleven work factors that are conducive to employee satisfaction: benefits package, training and development, relationship with supervisor, working conditions, teamwork and cooperation, recognition and rewards, empowerment and communication. These factors are very similar to those included in the ISQ dimensions in the SPC model. According to Heskett et al. (1994), the employee perception of the ISQ is related to increased employee satisfaction. Thus, job satisfaction is dependent on the empowerment that the organization gives them to do the job right and the quality of the work environment, as well as the fair job compensation, job continuity and work-life balance.

There might be several reasons to explain why the impact of job satisfaction on tenure and loyalty was not according to what was hypothesized. One reason for this result could be methodological. Tenure was measured in ordinal format (number of years on the job), which did not permit capture of enough variance for the SEM analysis used in the study. A similar situation could be applied to loyalty which was measured in a binary format: "will stay", or "will not stay", when at least three variables are needed for the SEM model.

Another explanation that might account for the test outcomes in the relationship between Job Satisfaction and Tenure could be theoretical. The SPC model proposes that job satisfaction has influence on employee tenure, but there is a probability that in reality the more the employees stay with an organization, the more burned out they become, and as a result satisfaction decreases. In other words, maybe the relationship is reversed (formative) and tenure is the predictor of job satisfaction.

Summary of Phase 3.

The last phase of the study was to test the structural model for invariance in measuring a multilevel moderation effect for two types of hotels: green certified, and non-certified. A pair-wise comparison test (t-test) was performed to determine if the model held the same structure for both groups. The t-test concluded that the assumption of metric invariance was violated, thus all the measurement paths were significant for both types of hotels, and that the measurement model was structurally the same for both groups. In this phase the focus was on determining those SPC model factors that were more important for one group than the other. This part of the study also encompassed testing hypotheses H_7 through H_{10}.

In the pair wise comparison test, three ISQ dimensions (work environment, available resource, and team work) loaded stronger on employee perception of ISQ among employees working in certified hotels. All environmental practices measurement items loaded stronger for certified hotel employees, although the difference was not significant. None of the Job Satisfaction items had higher regression weight for employees working in certified hotels.

154

For the employees working in a non-certified hotel the following items had a higher regression weight: "team work among departments in your hotel", "How do you like your job", "How would you rate the company you are working for…"), "Having reasonable instructions for the quantity of work expected from you", "Having the equipment and supplies you need to do your job", and "Providing the availability of technology to do your job".

Only one hypothesis (H9) related to the moderating variable Type of Hotel (green certified and non-green certified) was supported. The relationship between job satisfaction and loyalty was significant for certified hotels and insignificant for non-certified hotels. H7 and H8 were not supported since there was no significant difference between certified and non-certified hotels. H10 was not supported The relationship between job satisfaction and tenure was positive for non-certified hotels, although minimal and insignificant. Although there was a statistical difference between certified and non-certified hotels, the difference was not in the direction that was hypothesized.

Type of hotel as model moderator variable. The proposed model performed better for non-certified hotels as compared to certified hotels, since the correlation coefficient for employee perception of ISQ in the non-certified hotels model represented 62% of the variance, while for certified hotels it was lower (58%). Also, the amount of variance explained for job satisfaction in non-certified hotels model was 65%, whereas for the certified hotels model it was lower (49%). The indirect effects of employee perception of ISQ on Tenure and Loyalty were significant for certified hotels. Also, the results were significant for the indirect effect of the use of environmental management systems on tenure and loyalty. For employees working in this type of hotels the indirect

effect of employee's perception of ISQ on Tenure and Loyalty were insignificant. On the other hand, the indirect effect of the use of environmental practices and job satisfaction was stronger for non-certified hotel employees.

Green certified type of hotel. The indirect effects of employee perception of ISQ on Tenure and Loyalty were significant for certified hotels. Also, the results were significant for the indirect effect of the use of environmental management systems on tenure and loyalty.

Non-certified type of hotel. For employees working in this type of hotel the indirect effects of employee perception of ISQ on Tenure and Loyalty were insignificant. On the other hand, the indirect effect of the use of environmental practices and job satisfaction was stronger for non-certified hotel employees.

Phase 3 findings discussion. It was expected that variables related to environmental practices would have higher coefficients among employees working in green certified hotels as it did, since the other workers were not familiar with green certification. Nevertheless, the difference between groups was not significant as expected. This could be explained by the researcher's observation that those hotels without green certification were partially implementing environmental practices to reduce operational costs.

As stated previously, nurturing the ISQ dimensions in the work environment is important to increase employee job satisfaction and loyalty, especially among employees in green certified hotels. The findings indicated that employees working in certified hotels will most likely have a positive perception of ISQ as long as work environment, available resources, and teamwork are promoted in the organization. According to Butler

156

(2008) green certified hotel facilities, particularly those with LEED certification are facilities that are healthier for visitors and employees as well, and less expensive to operate. This confirms that work environment is important in promoting wellbeing among employees working in green certified hotels. It also indicates that the most important ISQ variables to take in consideration in certified hotels are work environment, available resources and team work.

Non-certified hotels employees rated teamwork among departments higher, than those working in certified hotels. There could be a methodological explanation to these outcomes related to the way the measurement items were written. It could have been confusing to distinguish between teamwork within or among departments, particularly when these asseverations are translated to Spanish.

Employees in non-certified hotels also rated both measures of job satisfaction higher, which was a very significant finding in terms that it was expected that employees working in certified hotels would have been more proud and thus more satisfied working within a hotel that cares for the environment. Even with the indirect effect between environmental practices and job satisfaction these employees had a higher coefficient. This finding also contradicts those presented by Nidumolu et al. (2009) who found that employee job satisfaction increased when working in hotels with environmental protection practices. People who are happy about their employer's social and environmental responsibility enjoy working for them, thus making recruiting and retaining the right kind of employees an easier task. The work of Xu and van der Heijden (2005), proposed that employees who perceive that the implementation of environmental practices are motivated by material factors, such as cost reduction and marketing

purposes, are not satisfied because they expect more conscientious reasons for implementation. This could represent an explanation as to why employees in Puerto Rico working in certified hotels rated job satisfaction lower. Also the researcher noticed that many employees were not aware of the green certification that their hotel carried and were not trained in the additional tasks they needed to perform to meet the certification standards.

Only one hypothesis was supported (H_9) which proposed a positive relationship between job satisfaction and loyalty. But once again, this result could be related to the strong necessity that Puerto Rican employees have to hold on to their job as the island was undergoing a difficult economic situation, with high unemployment rates.

The type of hotel moderated the relationship between environmental practices and employee perception of ISQ (H_7) and proved to be strong for non-certified hotel employees. This outcome contradicts Kasim's (2004) findings that environmental friendly tourists (EFT) cared more for the knowledge, the happiness and friendliness of hotel staff and the fairness of employee compensation. ISQ items such as work environment, pay and training were expected to be important factors among employees working in green certified hotels, but the finding was contradictory. This situation could be explained with the work overload required for employees to comply with certification standards, a lack of resources, poor work environment, training and other ISQ dimensions. Since the relationship between perception of ISQ and job satisfaction was not supported for certified hotel employees, the conclusion that if ISQ variables are not reinforced in the work environment this can lead to low job satisfaction. Both hypotheses

H_7 and H_8 were not supported since there was no significant difference between certified and non-certified hotel workers.

Limitations and Delimitations of the Study

The study used SEM statistical analysis to assess the components of the SPC model among employees working in green certified and non-certified hotels in Puerto Rico. Specifically, the internal service part of the model was studied, which accounts for employee perception of their work environment, their level of job satisfaction and the relationship with loyalty and tenure. One construct was added to the model: environmental management system, which was measured using five items. A moderating variable, type of hotel, was also included to compare the difference in perception among workers in green certified hotels and those working in non-certified hotels. The study was performed in six selected hotels in Puerto Rico, three green certified, and three non-certified. Despite that the study confirmed the use of the theoretical model to assess employee's perception in selected hotels in Puerto Rico is appropriate, there are some limitations and delimitations to this study that should be addressed in future investigations.

The first limitation involves sampling. A convenience sample was used in this study: therefore, the results cannot be generalized beyond the respondents. Also, the survey was implemented in only six hotels, and although the sample size was acceptable for statistical analysis when comparing groups by type of hotels; dividing the sample into two groups: employees working in green certified hotels and those working in non-certified hotels, could have reduced the effectiveness of the analysis which required larger sample sizes.

Second, in hotels that were not green certified, meaning that they did not have an eco-label, the researcher observed that employees were implementing some environmental practices, mostly motivated by cost reduction or marketing benefits. Responses from employees in those hotels could have been biased through their subconscious non-formalized green practices as a part of their daily work routine.

Third, in green certified hotels, a significant number of employees were not aware of the certification granted, or the environmental practices the hotel was implementing, pointing to a lack of training and communication within hierarchical levels. This may have contributed to a lack of understanding among employees about why green practices were included in their assignments.

A fourth methodological and significant limitation was the way that some of the variables were measured in the questionnaire. Particularly, the Job Satisfaction and Loyalty constructs were measured in a binary form, where a minimum of three measurement items were needed for the SEM method to capture enough variance. Also, the tenure construct was measured using a nominal scale different from the ordinal scale used for other variables included in the SPC model.

One delimitation is that the data was collected in Puerto Rico during a significant economic downturn. This may have impacted employee responses; thus the results cannot be generalized to a different time period.

A second delimitation is particular to Puerto Rico. Hoteliers are not accustomed to facilitating research projects within their hotels, particularly involving employees. Thus, even when there was a formal letter of authorization, it was very difficult to organize implementation of the data collection process without the leadership support.

This was most obvious in those hotels that had unionized employees. However, there was a particular general manager that was very enthusiastic and gave the study a total support, which made the study more participative.

Implications for Management

The findings in this study could have significant implications for the hospitality industry and tourism. Due to the increase in the implementation of EMS and green certifications, it is necessary to determine which job elements are important to employees who work in implementation of certifications standards, and which factors increase their satisfaction, commitment and retention. This research aimed to identify these elements among employees working in green certified hotels, but most important, the study focused in making a comparison with employees who were not working in green certified hotels, to determine if there was a difference in perception between both groups.

The hospitality industry needs to change the general perception that it is the silent destroyer of the environment, due to its high consumption levels of natural resources (Claver-Cortes, 2007). It is important that hoteliers become aware of the negative impact that hotel operations have on limited resources, and the dependence that tourism has on showcasing environmental protection and natural scenery conservation. There is a growing market segment of tourists that favor staying in hotels with an environmental conscience, thus many hoteliers aware of this advantage are implementing EMS to attract these tourists and obtaining the marketing benefits. Another important motivation is reducing operational costs by implementing strategies that save and reduce resource consumption. It has been demonstrated through empirical studies, that employees are more satisfied with implementation of environmental practices when there is a genuine

161

conservation consciousness of the organization congruent with their own environmental appreciation. No matter what motivation is behind EMS implementation, it is necessary to move forward to protect the most valuable resources on which the industry is dependent. The outlook is that "in the future, only companies that make sustainability a goal will achieve competitive advantage That means rethinking business models as well as products, technologies and processes" (Nidumolu et al., 2009, p.1).

Many hoteliers refuse to change to environmental management systems based on inaccurate conceptions such as: (1) they require a big investment that will be hard to recuperate, (2) they are difficult to implement, and (3) tourists are not willing to sacrifice their comfort to protect the environment, when they are paying to receive the best service. These justifications have been demystified by current studies, which have demonstrated that the cost of building these kind of properties is not higher than building conventional hotels, while these are facilities that are healthier for visitors and employees as well, and less expensive to operate (Bondanowicz and Martinac, 2003; Butler, 2008). Researchers have also concluded that hotels operated with EMS had lower implementation costs, rapid payback periods and relative ease of implementation (Bailly, 2009).

Also, there is an increasing market segment, called the environmentally friendly tourist (EFT), that is willing to pay higher room rates to stay in environmentally conscious hotels, are more educated and have higher income levels (Choi et al., 2009; Dolnicar, 2008; Susskind & Verna, 2011).

It is recommended that the hotel industry identify facilities that could become benchmarks and models for other operators, and create an incentive system to stimulate the necessary changes towards becoming environmentally safe (Meade & del Mónaco,

162

2001). It is also important to promote environmental champions in the industry who can serve as advocates of environmental practices and publicize the results using the international press and documentary videos. This kind of program could be housed in local hotel associations, national tourism organizations non-governmental organizations (NGO's), or similar organizations that can follow through with achievements.

The findings of this exploratory study may contribute to improve human resources management in the hospitality industry; particularly in those facilities that are green certified or are implementing environmental practices. The findings can assist in the planning and development of retention programs, which will reduce the recruitment and inducement costs associated with employee turnover rates. Meade and Pringle (2001) argued that during the first year of EMS implementation, properties focus on fixing leaks, water conservation techniques and changing staff practices, such as towel and linen reuse programs. The authors also stated that people make the difference in EMS success and that there is a need for sound leadership and employee commitment (loyalty, low turnover rates). According to Chan & Hawkins (2010) employees working in the housekeeping and engineering departments are the most impacted by the implementation of EMS in a property, since the employees in these areas must implement the majority of certification standards. Thus, it is important to pay particular attention to the behavior of employees working in these departments in order to fulfill their needs and provide them with the necessary resources and motivational leadership.

Turnover rates in the hospitality industry are high, often between 200% to 300 %, and the high cost of replacing each departing employee can average of $1,200 to $1,800 depending on hotel category Kraus (2000). When considering today's tight labor market

for highly skilled employees that can deliver service quality and produce customer satisfaction, hotel managers should be aware of, and assess, all factors that might increase employee turnover rates and reduce tenure periods. According to Abbasi and Hollman (2000) some employee turnover causes are: hiring practices, managerial style, lack of recognition, and lack of a competitive compensation system. The findings of this study confirm those author's statements emphasizing the importance of ISQ factors in increasing the job satisfaction, loyalty and tenure among employees working in green certified hotels.

This study identified that employees prefer reward programs that are related to their pay system and opportunities for advancement and promotion. These two elements related to the perceived ISQ should be taken into consideration when developing remuneration systems, rewards and recognition plans. This study also identified a number of factors that produced employee satisfaction and raised the levels of loyalty and tenure when management considers and implements programs to reinforce them. Other ISQ factors that are important for employees working in hotels with green practices are: work environment, available resources, teamwork and leadership.

Based on the SPC model and hypotheses testing, those elements in the ISQ are important, as a mediating factor towards employee job satisfaction. This result points out to the importance of fostering ISQ dimensions on the job Work Environment, Available Resources, Communication, Leadership, Recognition and Team Work among employees working with the implementation of environmental practices.

Implementing environmental systems does not directly raise employee job satisfaction. The study results and the literature review point out that employee

satisfaction with EMS depend on the perception that management implements environmental practices motivated by a consciousness to protect valuable resources and not just to reduce costs and obtain marketing benefits. Also, it is important to implement plans to improve the employee work environment, facilitate the availability of the necessary resources to perform a quality job, foster teamwork within and between departments in the hotel, stimulate the appropriate participatory leadership style that adequately and justly delegates the job tasks, implement a communication system that will allow employees to participate in the decision process and that will keep them informed about organizational changes. An intense training system will assist employees to improve their skills in the newly adopted tasks stemming from environmental practices, and to empower all stakeholders with the knowledge they need to make the right decisions (Bohdanowicz & Martinac, 2003).

There is extensive literature on the effect of employee satisfaction on customer satisfaction, and the relationship between customer satisfaction and business growth and profits (Gelade & Young, 2005; Loveman, 1998; Walker et al., 2006; Xu & van der Heijden, 2005). It is important for hotel operators to understand which work environmental elements contribute to higher employee satisfaction. Abdullah et al., (2011) argued that there are eleven work factors that are conducive to employee satisfaction: benefits package, training and development, relationship with supervisor, working conditions, teamwork and cooperation, recognition and rewards, empowerment and communication. It has been demonstrated in the literature that long-term employees develop a closer relationship with customers, which develops a positive cycle of

165

interaction between the service employee and the customer, which is positive for the organization's growth.

Recommendations for Future Research

This study was conducted to measure the perception of employees working in green certified hotels about their work environment, their job satisfaction, tenure and loyalty using Heskett et al. (1994) SPC model in green and non-green certified hotels. Although there are some studies in the literature that have used a similar research design, this investigation used a comparative method by introducing a moderating variable (type of hotel) to distinguish between results among green certified hotels and non-certified hotels.

Although the results confirmed the SPC model's validity and reliability among the selected hotels and sample size, it is recommended in future research to apply the entire SPC relational design which includes employee perception (internal service factor), leading to customer satisfaction and loyalty (external factors), which leads to business growth (Heskett et al., 1994, 1998, 2010). The 'mirror effect concept', Heskett (2010), proposes the following empirical formula: Employee's Job Satisfaction and Loyalty + Customer's Job Satisfaction and Loyalty = Business Growth, has been studied by numerous authors (Gelade & Young, 2005; Loveman, 1998; Walker et al., 2006; Xu & van der Heijden, 2005). It would be important to apply all factors included in the theoretical model to determine if this relationship holds true in green certified hotels. Some authors have tested in organizations with environmental practices, the customer side of the model (Kassinis & Soteriou, 2003; Koy, 2001; Silvestro, 2000), while others

have studied the employee factor of the model (Gelade & Young, 2005; Xu & Van der Heijden, 2005).

Another recommendation is related to the study design, it is advisable to increase the number of hotels included in the survey, since this would increase the sample size and the probabilities that SEM would capture more variance among constructs. This is particularly recommended if the research is going to use the comparative method between green certified and non-certified hotels that the present study used.

Implementing the study in different geographical settings will also help to extend the possibilities of generalizing the findings to other populations. Although similar studies have been conducted in China and some European countries, the comparative method should be applied in other countries representing different employee's cultures and languages. Also, another interesting study could be to determine the influence of culture on the SPC model.

A significant number of the surveyed employees were not aware that the hotel had a green certification, or were not trained to adequately implement environmental practices. Future studies could look into the effect of implementing effective training programs to prepare employees working in green certified hotels to accept environmental practices and to understand its importance.

Since this study found that job satisfaction and loyalty should not be expected among hotel employees working in certified green hotels, it would be enriching to study why this negative relationship exists between environmental practices implementation and employees job satisfaction and loyalty.

Finally, the way that some of the model's constructs are measured should be revised. As noted in this chapter, the Job Satisfaction, Loyalty and Tenure constructs were measured using different scales. In order to capture the statistical variance among measurement items, the same scale should be used, e.g. Likert's five point or seven point scales. Using the same scale will also facilitate employee understanding of the measurement levels and will facilitate their answers.

REFERENCES

Abassi, S. M., & Hollman, K. W. (2000). Turnover: The real bottom line. *Public Personal Management, 29*(3), 333-342.

Abdullah, R. B. (2011). The study of employee's satisfaction and its effects towards loyalty in hotel industry in Klang Valley, Malaysia. *International Journal of Business and Social Science, 2*(3), 147-155.

Andereck, K. L. (2009, Jan. 23). Tourists' perception of environmentally responsible innovations at tourism businesses. *Journal of Sustainable Tourism, 17*(4), 489-499.

Akaike, H. (1980). Likelihood and the Bayes procedure. *Trabajos de estadística y de investigación operativa, 31*(1), 143-166.

APAT: Italian National Agency for the Protection of the Environment and for Technical Services. (2002, Oct. 16). *Tourism Accommodations EU eco-label award scheme.* Retrieved from file:///Users/noraida/Downloads/1378595_TouristAccomodation_FinalReport.pdf

Azzolini, M., & Shillaber, J. (1993). Internal service quality: Winning from the inside out. *Quality Progress, 26*, 75-78.

Becken, S. (2002). Analysing international tourist flows to estimate energy use associated

 with air travel. *Journal of Sustainable Tourism, 10*(2), 114-131.

Becken, S. (2007). Tourists' perception of international air travel's impact on the global

 climate and potential climate change policies. *Journal of Sustainable Tourism,*

 15(4), 351-368.

Belohlav, J. A. (1993). Developing the quality organization. *Quality Progress, 26*(10),

 119-122. Bennet, N., Terry, C., Blum, R., Long, G., & Paul, M. R. (1993). Group

 and organization manage employee attrition. *Group and Organization*

 Management, 18(4), 482-499.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the

 analysis of covariance structures. *Psychological bulletin, 88*(3), 588.

Bergin, S., & Jago, L. K. (1999). *Accreditation of adventure tourism operators: The*

 consumer perspective. Paper presented at the Ninth Australian Tourism and

 Hospitality Research Conference, CAUTHE, Adelaide.

Berry, L. L. (1981). The employees as customer. *Journal of Retail Banking, 3*(1), 33-40.

Bohdanowicz, P., & Martinac, I. (2003, November 19-21). *Attitudes towards*

 sustainability in chain hotels: Results of a European survey. Paper presented at

 the 2003 CIB International Conference on Smart and Sustainable Built

 Environment, Stamford Plaza, Brisbane, Australia.

Bramwell, B., & Lane, B. (1993). Interpretation and sustainable tourism: The potential

 and the pitfalls. *Journal of Sustainable Tourism, 1*(2), 71-80. doi:

 10.1080/09669589309450706

Briguglio, L., Butler, J., Harrison, D., & Filho, W. (1996). *Sustainable tourism in islands and small states: Case studies* (Vol. 2). London: Casell.

Brislin, R. W. (1986). The wording and translation of research instruments. In W. J. Lonner, & J. W. Berry (Eds.), *Field methods in cross-cultural research. Cross-cultural research and methodology series* (vol. 8, 137-164). Thousand Oaks, CA: Sage Publications.

Buckley, R. (2002). Tourism ecolabels. *Annals of Tourism Research, 29*(1), 183-208. doi: 10.1016/s0160-7383(01)00035-4

Burgess, S. (1998). Analyzing firms, jobs, and turnover. *Monthly Labor Review*, 55-58.

Butler, R. W. (1999). Sustainable tourism: A state of the art review. *Tourism Geographies, 1*(1), 7-25.

Butler, J. (2008). The compelling 'hard case' for 'green' hotel development. *Cornell Hospitality Quarterly, 49*(3), 234-244.

Byrne, B. M. (1998). Structural equation modelling with LISREL. *PRELIS, and SIMPLIS: Basic concepts, applications, and programming Lawrence Erlbaum Associates, Mahwah, NJ.*

Caribbean Tourism Organization. (2012, Feb. 15). *The State of Caribbean Tourism: Barbados*. Retrieved from http://www.onecaribbean.org/statistics/annualoverview/.

Chan, S. W., & Hawkins, R. (2010). Attitude towards EMSs in an international hotel: An exploratory case study. *International Journal of Hospitality Management, 29*, 641-651. doi: 10.1016/j.ijhm.2009.12.002

Chan, E. S. W., Hon, A., Chan, W. & Okumus, F. (2014). What drives employee's intentions to implement green practices in hotels? The role of knowledge, awareness, and eco-logical behavior. *International Journal of Hospitality Management*, 40, p. 20-28.

Chan, H., Wan, L. C., & Sin, L. Y. M. (2006). Hospitality service failures: Who will be more dissatisfied? *Hospitality Management, 26*, 531-545.

Chi, C. G., & Gursoy, D. (2009). Employee satisfaction, customer satisfaction, and financial performance: An empirical examination. *International Journal of Hospitality Management, 28*(2), 245-253. doi: http://dx.doi.org/10.1016/j.ijhm.2008.08.003

Choi, T. Y & Chu, R. (2001, September). Determinants of hotel guests' satisfaction and repeat patronage on the Hong Kong hotel industry. *International Journal of Hospitality Management, 20*(3), 0277.

Choi, G., Parsa, H. G., Sigala, M., & Putrevu, S. (2009). Consumer's environmental concerns and behaviour in the lodging industry: A comparison between Greece and the United States. *Journal of Quality Assurance in Hospitality & Tourism, 10*, 93-112.

Churchill, G. A., & Brown, T. J. (2009). *Basic Marketing Research* (7th ed.). Fort Worth, Texas: Dryden Press.

Claver-Cortéz, J. F., Molina-Azorín, J. F., Pereira-Moliner, J., & López-Gamero, M. (2007). Environmental strategies and their impact on hotel performance. *Journal of Sustainable Tourism, 15*(6), 663-679.

Conglianese, C., & Nash, J. (Eds.). (2001). *Regulationing from the inside: An*

    environmental management systems achieve policy goals? Washington, DC.:

    Resources for the Future.

Countryside Commission. (1995). *Sustaining rural tourism*. Cheltenham, UK:

    Countryside Commission (CCP 483).

Cox, R. S. (2006, Oct. 20). Ecotourism. *CQ Research, 16*(37), 867-887.

CTO (2016). *State of the tourism industry report 2015*: *Barbados.* Retrieved from

    http://www.onecaribbean.org/statistics/annual-reviews-prospects/.

De Sombre, E. R. (2006). *Global environmental institutions*. New York, NY: Rutledge.

Dean, J. W., & Bowen, D. E. (1994). Management theory and total quality: Improving

    research and practice through theory development. *Academy of Management*

    Journal, 19, 392-418.

Demir, C. (2004). The importance of human resources planning for tourism

    administrations. *Tourism Analysis, 52*(3), 293-298.

Denton, D. K. (1992). Keeping employees: The Federal Express approach. *SAM*

    Advanced Management Journal, 57(3), 10-13.

Dolnicar, S. (2004). Insights into sustainable tourists in Austria: A data-based a priori

    segmentation approach. *Journal of Sustainable Tourism, 12*(3), 209-218.

Dolnicar, S. (2010). Identifying tourists with smaller environmental footprints. *Journal of*

    Sustainable Tourism, 18(6), 717-734. doi: 10.1080/09669581003668516

Dolnicar, S., Crouch, G. I., & Long, P. (2008). Environment-friendly tourists: What do

    we really know about them? *Journal of Sustainable Tourism, 16*(2), 197-210.

Dolnicar, S., & Grün, B. (2009). Environmentally friendly behavior: Can heterogeneity
among individuals and contexts/environments be harvested for improved
sustainable management? *Environment & Behavior, 41*(5), 693-714.
doi:10.1177/0013916508319448

Dolnicar, S., & Long, P. (2009). Beyond ecotourism: The environmentally responsible
tourist in the general travel experience. *Tourism Analysis, 14*(4), 503-513.
doi:10.3727/108354209x12596287114291

Dolnicar, S., & Matus, K. (2008). Are green tourists a managerially useful target
segment? *Journal of Hospitality & Leisure Marketing, 17*(3/4), 314-334.
doi:10.1080/10507050801984826

Eber, S. (1992). *Beyond the green horizon: A discussion paper on principles for
sustainable tourism*. Godalming, UK: Worldwide Fund for Nature.

Elkington, J. (2004). Enter the triple bottom line. In *The triple bottom line: Does it all
add up* (pp. 1-16). CA: Kmhassociates.

Enders, C.K., & Peugh, J.L. (2004) Using an EM covariance matrix to estimate structural
equation models with missing data: Choosing an adjusted sample size to improve
the accuracy of inferences. *Structural Equation Modeling* 11(1): 1-19.

Fairweather, J. R., MasIin, C., & David, G. S. (2005). Environmental values and response
to ecolabels among international visitors to New Zealand. *Journal of Sustainable
Tourism, 13*(1), 82-98.

Finn, D. W., Baker, J., Marshall, G. W., & Anderson, J. C. (1996). Total quality
management and internal customers: Measuring internal service quality. *Journal
of Marketing Theory and Practices, 4*(3), 36-50.

Flynn, B. B., & Saladin, B. (2001). Further evidence on the validity of the theoretical

    models underlying the Baldrige criteria. *Journal of Operations Management, 19*,

    617-652.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with

    unobservable variables and measurement error: Algebra and statistics. *Journal of*

    marketing research, 39-50.

Freestone, D. (1994). The road from Rio: International environmental law after the earth

    summit. *Journal of Environmental Law, 6*(2), 6.

Gelade, G. A., & Young, S. (2005). Test of a service profit chain model in the retail

    banking sector. *Journal of Occupational and Organizational Psychology, 78*, 1-

    22. doi:10.1348/096317904X22926

Gil, M. J., Jimenez, J. B., & Lorente, J. J. C. (2001). An analysis of environmental

    management, organizational context and performance of Spanish hotels. *The*

    International Journal of Management Science, 29(6), 457-471.

Gillespie, P. (June 25, 2015). Why Puerto Rico's economy is in a 'death spiral', *CNN*

    Money. Retrieved from http://money.cnn.com/2015/06/29/news/economy/puerto-

    rico-default-looms/

Goodal, B., & Stabler, M. J. (1997). Principles influencing the determination of

    environmental standards for sustainable tourism. In M. J. Stabler (Ed.), *Tourism*

    and sustainability: Principles and practices (pp. 279-304). Oxon: Cab

    International.

Grant, R. (2002). *Contemporary strategies analysis, concepts, techniques, applications*.

    Massachusetts, MA.: Blackwell.

Green Hotelier. (2001). Riu's hotels environmental approach. *Green Hotelier*, 12-13.

Gronroos, C. (1981). *Internal marketing: Theory and practice*. Paper presented at the American Marketing Association, Chicago.

Gursoy, D., & Swanger, N. (2007). Performance-enhancing internal strategic factors and competencies: Impacts on financial success. *International Journal of Hospitality Management, 26*(1), 213-227. doi: http://dx.doi.org/10.1016/j.ijhm.2006.01.004

Gurtoo, A., & Tripathy, A. (2001). Workers orientation towards advance manufacturing technology: A study of the Indian automobile industry. *International of Human Resources Development and Management, 1*(2-4), 304-318.

Gustin, M. E., & Weaver, P. A. (1996). Are hotels prepared for the environmental consumer? *Journal of Hospitality & Tourism Research, 20*(2), 1-14. doi:10.1177/109634809602000201

Hair, J. F., Black, B., Babin, B., & Anderson, R. E. (2006). *Multivariate Data Analysis* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Hair, J., Tatham, R., Anderson, R. and Black, W. (2010), *Multivariate Data Analysis* (5th ed.). Prentice Hall: Upper Saddle River, NJ.

Hallowell, R., Schlesinger, L., & Zornitsky, J. (1996). Internal service quality, customer and job satisfaction: Linkages and implications for management. *Human Resources Planning, 19*(2), 20-31. doi: 10.1002/(SICI)1099-050x

Hamele, H. (2002). Ecolabels for tourism in Europe: Moving the market toward more sustainable practices. In M. Honey (Ed.), *Ecotourism and Certification: Setting Standards in Practice* (pp. 187-210). Washington, D.C.: Island Press.

Hardy, A. L., & Beeton, R. J. S. (2001). Sustainable tourism or maintainable tourism: Managing resources for more than average outcomes. *Journal of Sustainable Tourism, 9*, 168-192.

Hassan, S. (2000). Determinants of market competitiveness in an environmentally sustainable tourism industry. *Journal of Travel Research, 38*, 239-245.

Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1993). Emotional Contagion. *Current Directions in Psychological Science, 2*(3), 96-99. doi: 10.2307/20182211

Henenman, H. G., Schwab, D. P., Fossum, J. A., & Dyer, L. (1989). *Personal/human resource management*. New Delhi, India: Universal Book Stall.

Henriques, A., & Richardson, J. (2004). The triple bottom line, does it all add up? Assessing the sustainability of business and CSR. London: Earthscan.

Heskett, J. L. (Ed.). (2010). The Service Profit Chain: From satisfaction to ownership. In J. Herkett, & W. Sasser (Eds.), *Handbook of Service Science* (pp. 19-29). New York: Springer.

Heskett, J. L., Jones, T. O., Loveman, G. W., Sasser Jr., W. E., & Schlesinger, L. A. (1994). Putting the Service-Profit Chain to work. *Harvard Business Review*, 164-174.

Heskett, J., Sasser, W., & Hart, C. W. L. (1990). *Service breakthroughs*. New York: The Free Press.

Heung, V. C., Fei, C., & Hu, C. (2006). Customer and employee perception of green hotels: The case of five-star hotels in China. *China Tourism Research, 2*(3), 270-293.

Hingham, J., Carr, C., & Gael, S. (2001). *Ecotourism in New Zealand: Profiling visitors to New Zealand ecotourism operations*. Dunedin: University of Otago.

Hilson, G., & Nayee, V. (2002). Environmental management system implementation in the mining industry. *Journal of Mineral Processing, 64*(1), 19-41.

Holt, D. (1998). The perceived benefits of an environmental management standard. *Business Process Management Journal, 4*(3), 204-213.

Huybers, T., & Bennett, J. (2003). Environmental management and the competitiveness of nature-based tourism destinations. *Environmental and Resource Economics, 24*(3), 213-233.

Jacobsen, J. K. S. (2007). Monitoring: A study of tourists' viewpoint of environmental performance and protection practices. *Scandinavian Journal of Hospitality and Tourism, 7*(2), 104-119.

J. D. Power & Associates. (2009). *2009 North America hotel guest satisfaction study*. Retrieved from http://www.jdpower.com/content/study/B1FLfjR/2009-north-america-hotel-guest-satisfaction-study.htm

Jun, M., & Cai, S. (2010). Examining the relationships between internal service quality and its dimensions, and internal customer satisfaction. *Total Quality Management, 21*(2), 205-223.

Kamakura, W. A., Mittal, V., De Rosa, F., & Mazzon, J. A. (2002). Assessing the service-profit chain. *Marketing science, 21*(3), 294-317.

Karatepe, O. M. (2013). The effects of work overload and work-family conflict on job embeddedness and job performance. *International Journal of Contemporary Hospitality Management, 25*(4), 614-634.

Kassinis, G. I., & Soteriou, A. (2003). Greening the service profit chain: The impact of environmental management practices. *Production and Operations Management, 12*(3), 386-403. doi: 1059-1478/03/1203/386

Kazim, A. (2004). Socio-environmentally responsible hotel business: Do tourists to Penang Island, Malaysia care? *Journal of Hospitality & Leisure Marketing, 11*(4), 5-28. doi:10.1300/J150v11n04_02

Keller, G. (2014). *Statistics for management and economics*: Nelson Education

Khan, M. (2003). ECOSERV: Ecotourists' quality expectations. *Annals of Tourism Research, 30*(1), 109-124.

King, A. A., & Lenox, M. J. (2001). Does it really pay to be green? An empirical study of firm environmental and financial performance. *Journal of Industrial Ecology, 5*(1), 105-116.

Kirk, D. (1998). Attitudes to environmental management held by a group of hotel managers in Edinburgh. *International Journal of Hospitality Management, 17*(1), 33-47. doi:10.1016/S0278-4319(98)00005-X

Klassen, R. D., & McLaughlin, C. P. (1996). The impact of environmental management on firm performance. *Management science, 42*(8), 1199-1214.

Kotler, P. (1997). *Marketing management: Analysis, planning, implementation and control* (9th ed.). Upper Saddle River, NJ: Prentice Hall.

Kotler, P., & Amstrong, G. (2006). *Principles of marketing* (11th ed.). Upper Saddle River, NJ: Prentice Hall.

Koys, D. J. (2001). The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness: A unit-level, longitudinal study. *Personnel psychology, 54*(1), 101-114.

Koys, D. J. (2003). How the achievement of human-resources goals drives restaurant performance. *The Cornell Hotel and Restaurant Administration Quarterly, 44*(1), 17-24. doi: http://dx.doi.org/10.1016/S0010-8804(03)90042-5

Kline, R. (1998). Methodology in the social sciences: Principles and practice of structural equation modeling. New York: Guilford Press

Kraus, A. (2000). Changing personnel practices to support health and human service reform. *Policy and Practice of Public Human Services, 58*(2), 19-25.

Lam, T., Lo. A., & Chan, J. (2002). New employees' turnover intentions and organizational commitment in the Hong Kong hotel. *Journal of Hospitality & Tourism Research, 26*(3), 217-234.

Lane, B. (2001). *Sustainable Tourism: Challenges and Opportunities for Hawaii*. Lecture Honolulu, Hawaii.

Lau, R. S. M. (2000). Quality of work life and performance: An ad hoc investigation of two key elements in the service profit chain model. *Journal of Service Management, 11*(5), 422-437.

Lee, W. H., & Moscardo, G. (2005). Understanding the impact of ecotourism resort experiences on tourist's envrionmental attitude and behavioural intentionsf. *Journal of Sustainable Tourism, 13*(6), 546-565.

Leslie, D. (2001). Serviced accomodation, environmental performance and benchmarks. *Journal of Quality Assurance in Hospitality & Tourism, 2*(3-4), 127-147.

Lewis, C. (2009). Hotel Indigo builds in green features from garden rooftop to bottom. *San Diego Business Journal*, B6-B6.

Little, T.D., Cunningham, G.S. & Wideman, K.F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. Structural Equation Modeling 9, 151-73.

Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology* (pp. 1297-1349). Chicago: Rand McNally.

Loveman, G. W. (August,1998). Employee satisfaction, customer loyalty, and financial performance: An empirical examination of the Service Profit Chain in retail banking. *Journal of Service Research, 1*, 18-31.

Lubbert, C. (2001). Tourism ecolabels market research in Germany. In X. Font & R. C. Buckley (Eds.), *Tourism Ecolabelling: Certification and Promotion of Sustainable Development* (pp. 71-85). Wallington: CABI.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence Limits for the Indirect Effect: Distribution of the Product and Resampling Methods. *Multivariate Behavioral Research, 39*(1), 99-128. doi: 10.1207/s15327906mbr3901_4

Mahalanobis, P. C. (1936). On the generalized distance in statistics. *Proceedings of the National Institute of Sciences (Calcutta), 2*, 49-55.

Marshall, G. W., Baker, J., & Finn, D. W. (1998). Exploring internal customer service quality. *Journal of Business & Industrial Marketing, 13*(4-5), 381-392.

Mastny, L., & Peterson, J. A. (2001). *Traveling light: New paths for international tourism* (Vol. 159). Washington, DC: Worldwatch Institute.

McElroy, J. L., & de Alburquerque, K. (1991). *Tourism styles and policy responses in the open economy-closed environment context*. St. Michael, Barbados: Caribbean Conservation Association.

Meade, B., & del Monaco, A. (2001). Introducing environmental management in the hotel industry: A case study in Jamaica. *International Journal of Hospitality Management, 1*(3-4), 129-142.

Meade, B., & Pringle, J. (2001). Environmental management systems for Caribbean hotels and resorts: A case study of five properties in Jamaica. *Journal of Quality Assurance in Hospitality & Tourism, 2*(3-4), 149-159.

Meglino, B. M., Ravlin, E. C., & Adkins, C. I. (1989). A work values approach to corporate culture: A field test of the value congruence process and its relationship to individual outcomes. *Journal of Applied Psychology, 74*(3), 424-432.

Middleton, V. T. C., & Hawkins, R. (1998). *Sustainable tourism: A marketing perspective*. Oxford, UK: Buttersworth-Heinemann.

Mihalic, T. (2000). Environmental management of a tourist destination: A factor of tourism competitiveness. *Tourism Management, 21*, 65-78.

Millar, M., & Baloglu, S. (2011). Hotel Guests' Preferences for Green Guest Room Attributes. *Cornell Hospitality Quarterly, 52*(3), 302-311. doi:10.1177/1938965511409031

Millennium Ecosystem Assessment. (2005). *Millennium Ecosystem Assessment synthesis report*. Washington, DC: Author.

Miller, R., & Washington, K. (2008). Green & sustainable hospitality. In R. K. M. Associates (Ed.), *Hotels & Resorts* (pp. 150-154). Washington, DC: R. K. M. Associates.

Mowforth, M., & Munt, I. (2016). *Tourism and sustainability: Development, globalization and new tourism in the third world.* (4th ed.). New York, NY: Routledge.

Mullins, L. (1985). Management and managerial behaviour. *International Journal of Hospitality Management, 4*(1), 39-41.

Mycoo, M. (2006). Sustainable tourism using regulations, market mechanisms and green certification: A case study of Barbados. *Journal of Sustainable Tourism, 14*(5), 489-511. doi: 10.2167/jost600.0

Nelson, J. G., Butler, R. W., & Wall, G. (Eds.). (1993). *Tourism and sustainable development: Monitoring, planning, managing* (Vol. 37). Waterloo, Ontario: University of Waterloo.

Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). Why sustainable is now the key driver of innovation. *Harvard Business Review*. Retrieved from http://hbr.org/2009/09/why-sustainability-is-now-the-key-driver-of-innovation/ar/pr

Njite, D., Hancer, M., & Slevitch, L. (2011). Exploring Corporate Social Responsibility: A managers' perspective on how and why small independent hotels engage with their communities. *Journal of Quality Assurance in Hospitality & Tourism, 12*(3), 177-201. doi: 10.1080/1528008x.2011.541833

Nunally, J., & Bernstein, I. (1994). *Psychonometric theory*. New York: McGraw-Hill

    Publishers.

Oklahoma State University (2014). Handbook for the Protection of Human Subjects in

    Research. Institutional Research Board. Retrived from:

    https://compliance.okstate.edu/sites/default/files/irb_docs/IRB_Guide.pdf.

Oluoch-Wauna, L. O. (2001). EMAS and ISO 14001: A comparison. *Environmental*

    Policy and Law, 31(4-5), 237-249.

O'Neill, J. W., & Davis, K. (2011). Work stress and well-being in the hotel industry.

    International Journal of Hospitality Management, 30(2), 385-390.

Parasuraman, A., Zeithaml, V. A., & Berry. L. L. (1985). A conceptual model of service

    quality and its implications for future research. *Journal of Marketing 49*(4), 41-

    50.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item

    scale for measuring consumer perceptions of service quality. *Journal of Retailing,*

    64, 12-40.

Pachauri, R. K., & Reisinger, A. (2007). Climate change 2007: Synthesis

    report. *Contribution of Working Groups I, II, and III to the Fourth Assessment of*

    the Intergovernmental Panel on Climate Change, IPPC, Geneva, Switzerland.

Payne, R. (1993). Sustainable tourism: Suggested indicators and monitoring techniques.

    In J. G. Nelson, R. W. Butler & G. Wall (Eds.), *Tourism and Sustainable*

    Development: Monitoring, Planning, Managing. Waterloo, Ontario: University of

    Ontario

Potsinka, B., Sahlgaard, J. J., & Eklund, J. A. E. (2003). Implementing ISO 14000 in Sweden: Motives, benefits and comparisons with ISO 19000. *International Journal of Quality & Reliability Management, 20*(5), 585-606.

Prat, A. G. (1996). Back to a sustainable future in Costa Brava. In W. Bramwell, I. Henry, G. Jackson, A. G. Prat, G. Richards & J. van der Straaten (Eds.), *Sustainable Tourism Management: Principles and Practices*. Tilburg, Netherlands: Tilburg University Press.

Pritchard, M., & Silvestro, R. (2005). Applying the service profit chain to analyze retail performance: The case of the managerial strait-jacket? *International Journal of Service Industry Management, 16*(4), 337-356. doi: 10.1108/09564230510613997

Puerto Rico Tourism Company. (2011). Selected statistics of the tourism industry. *Instituto de Estadísticas de Puerto Rico*. Retrieved from: http://www.estadisticas.gobierno.pr/iepr/Estadisticas/InventariodeEstadisticas/tabid/186/ctl/view_detail/mid/775/report_id/4fc9a031-f8c2-408c-8046-d9edf47669dd/Default.aspx?f=1.3,1.4,2

Ramus, C. A. (2001). Organizational support for employees: Encouraging creative ideas for environmental sustainability. *California Management Review, 43*(3), 85-105.

Reichheld, F. F. (1993). Loyalty-based management. *Harvard Business Review, 71*, 64-64.

Rigdon, E. E. (1996). CFI versus RMSEA: A comparison of two fit indexes for structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal, 3*(4), 369-379.

Rubin D.B (1976). Inference and missing data. *Psychometrica,* 63: 581-92.

Rondinelli, D., & Vastag, G. (2000). Panacea, common sense, or just a label: The value of ISO 14001 environmental management systems. *European Management Journal, 18*(5), 499-510.

Savely, S. M., Carson, A. I., & Delclos, G. L. (2007). An environmental management system implementation model for U.S. colleges and universities. *Journal of Cleaner Production, 15*(7), 660-670.

Schlesinger, L. A., & Heskett, J. L. (1991). Customer satisfaction is rooted in employee satisfaction. *Harvard Business Review, 69*(6), 148-149.

Schlesinger, L. A., & Heskett, J. L. (1991). Enfranchisement of service workers. *California Management Review, 33*(4), 83-100.

Schlesinger, L. A., & Heskett, J. L. (1991). The service-driven service company. *Harvard Business Review*, 71-81. Retrieved from https://hbr.org/1991/09/the-service-driven-service-company

Schlesinger, L. A., & Heskett, J. L. (2012). Breaking the cycle of failure in services. *Sloan Management Review*, *32*(3), 17.

Schneider, B., & Bowen, D. E. (1985). Employee and customer perceptions of service in banks: Replication and extension. *Journal of Applied Psychology, 70*, 423-433.

Schneider, B., & Bowen, D. E. (1993). Human resources management is critical. *Organizational Dynamics, 21*(4), 39-52.

Schneider, B., & Bowen, D. E. (1995). *Winning the service game*. Cambridge, MA: Harvard Business School Press.

Schneider, B., Bowen, D. E., Ehrhart, M. G., & Holcombe, K. M. (2000). The climate for service. In P. C. P. M. Wilderom & M. F. (Eds.), *Handbook of organizational culture and climate* (pp. 1-36). Thousand Oaks, CA: N. M. Ashkanasy.

Schoenewolf, G. (1990). Emotional contagion: Behavioral induction in individuals and groups. *Modern Psychoanalysis, 15*(1), 49-61.

Sila, I. (2007). Examining the effects of contextual factors on TQM and performance through the lens of organizational theories: An empirical study. *Journal of Operations Management, 25*, 83-109.

Silvestro, R., & Cross, S. (2000). Applying the service profit chain in a retail environment: Challenging the "satisfaction mirror". *International Journal of Service Industry Management, 11*(3), 244-268.

Solomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K. B…., & Miller, H. L. (Eds.). *Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, MA: Cambridge University Press.

Squire, S. J. (1996). Literary tourism and sustainable tourism: Promoting' Anne of Green Gables' in Prince Edward Island. *Journal of Sustainable Tourism, 4*(3), 119-134.

Stanley, L. L., & Wisner, J. D. (1998). Internal services quality in purchasing: An empirical study. *International Journal of Purchasing and Materials Management, 34*(3), 50-60.

Susskind, A., & Verna, R. (2011). Hotel guests' reactions to guest room sustainability initiatives. *Cornell Hospitality Report, 11*(6), 1.

Swarbrooke, J. (1995). *The development and management of visitor attractions*. London: Butterworth-Heinemann Ltd.

Tornow, W. W., & Wiley, J. W. (1991). Service quality and management practices: a look at employee attitudes, customer satisfaction, and bottom-line consequences. *Human Resource Planning, 14*(2), 105-115.

Trauer, B. (1998). Green Tourism in the Hotel and Resort Sector. *Australian Parks and Leisure, 1*, 5-9.

Ulrich, D., Halbrook, R., Meder, D., Stuchlik, M., & Thorpe, S. (1991). Employee and customer attachment: Synergies for competitive advantage. *Human Resource Planning, 14*(2), 89-103.

UNWTO. (2008). *Climate change and tourism: Responding to global challenges*. Madrid, Spain: World Tourism Organization and the United Nations Environment Programme.

USDC (2016). *Select facts: The travel, tourism and hospitality industry in the United States*. Retrieved from http://selectusa.commerce.gov/industry-snapshots/travel-tourism-and-hospitality-industry-united-states

USDHHS (April 18, 1979). *Belmont Report.* National Commission for the Protection of Human Subjects of Biomedical and Human Sciences. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html#xbenefit.

USNTTO (2015). *Fast facts: U.S.travel and tourism industry*. Retrieved from http://travel.trade.gov/outreachpages/download_data_table/Fast_Facts_2014.pdf

Wallis, J., & Woodward, S. (1997). Improving the environmental performance of Scotland's hospitality sector. *International Journal of Hospitality Management, 2*(2), 94-109.

Watkins, E. (1994). Do guests want green hotels? *Lodging Hospitality, 50*(4), 70-72.

Wei, Y. & Yan, Z (2009). An empirical research about the impact of role pressure on service-oriented in service industry. *International Conference on Information Management, Innovation Management and Industrial Engineering*, pp. 371-374. Doi:10.1109/ICIII.2009.246

Withiam, G. (1997). Environmental programs: Employees want to help. *The Cornell Hotel and Restaurant Administration Quarterly, 38*(4), 10-10.

Woodley, S. J., Kay, J. J., & Francis, G. (1993). *Ecological Integrity & the Mgmt of Ecosystems*. Boca Raton, FL: CRC Press Llc.

World Commission on Environment and Development. (1987). *Our common future*. New York: Oxford University Press.

World Tourism Organization. (1993). *Sustainable Tourism Development: Guide for local plan*ners. Madrid, Spain: WTO.

World Tourism Organization. (1998). *Introducción al turismo*. Madrid, Spain: Author.

World Tourism Organization. (1999). *Yearbook of Tourism Statistics*. Spain: Department of Statistics and Economic Measurement of Tourism.

World Tourism Organization. (2002). *WTO Preliminary Report*. Retrieved from http//www.world-tourism.org.

World Tourism Organization. (2008). *Climate change and tourism: Responding to global challenges*. Madrid, Spain: World Tourism Organization and United Nations Environment Programme.

World Tourism Organization. (2009). *From Davos to Copenhagen and beyond: Advancing tourism's response to climate change*. Retrieved from UNWTO Background Paper: http://www.unwto.org.

World Tourism Organization. (2011). *UNWTO Tourism highlights*. Retrieved from http://www.untwo.org/facts.

World Travel & Tourism Council. (2009). *Leading the challenge on climate change*. Cambridge, MA: Cambridge University.

World Travel & Tourism Council. (2013). Puerto Rico economic impact report. *Economic Impact Regional Report*. Retrieved from http://www.wttc.org/research/economic-impact-research/country-reports/p/puerto-rico/

World Travel & Tourism Council. (2014). *Travel & tourism economic impact: Puerto Rico*. London, England. Retrieved from http://www.wttc.org/media/files/reports/economic%20impact%20research/region al%202015/world2015.pdf.

World Travel & Tourism Council. (2015). *Economic impact 2015*. London, England: Retrieved from http://www.wttc.org/-/media/files/reports/economic%20impact%20research/regional%202015/world20 15.pdf.

World Travel & Tourism Council, UNWTO & Earth Council. (1996). *Agenda, 21 for the travel and tourism industry: Towards environmentally sustainable development*. Retrieved from http://wwwv1.agora21.org/johannesburg/rapports/omt-a21.html

Xu, Y. (2004). *Assessing the service-profit chain: An empirical study in a Chinese securities firm*. (DBA Dissertation), Maastrich School of Business, Netherland. (UMI: 2129420)

Xu, Y., & van der Heijden, B. (2005). The employee factor in the Service-Profit Chain framework. *Journal of International Consumer Marketing, 18*(1-2), 137-155. doi:10.1300/J046v18n01_07

Xu, Y., Goedegebuure, R., Van der Heijden, B. (2007). Customer Perception, Customer Satisfaction, and Customer Loyalty Within Chinese Securities Business. *Journal of Relationship Marketing, 5*(4), 79-104.

APPENDICES

APPENDIX A

Oklahoma State University Institutional Review Board

Monday, January 05, 2015

IRB Application No	HE1486
Proposal Title:	Employee Perception of Environmental Management System in Selected Hotels in Puerto Rico
Reviewed and Processed as.	Exempt

Status Recommended by Reviewer(s): ApprovedProtocol Expires: 1/4/2018

Principal

Investigator(s):

Luz La Fontaine	Bill Ryan
Apt 303 Ponce de Leon Gdns.	210 HES
Guaynabo, PR, 00966	Stillwater, OK 74078

The IRB application referenced above has been approved. It IS the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following.

1 Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size. recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or form.

2.Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.

3.Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and

4.Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405744-5700, dawnett.watkins@okstate.edu).

Sincerely,

Hugh Crethar, Chair
Institutional Review Board

APPENDIX B

List of Measured Factors and Scale Items

The employee survey provided employee's perception of the Service Profit Chain Model's internal service quality, satisfaction, loyalty and environmental practices.

The response scales used in the survey were five-point Likert-type format, with ranges from 1, 'very dissatisfied' to 5, 'very satisfied' for the following elements: work environment, work resources, communication, teamwork, leadership and rewards.

Internal Service Quality	
• Work environment	1. Having reasonable objectives for quality of work expected of you 2. Having reasonable objectives for quantity of work expected of you 3. Providing you with feedback on customer satisfaction in your department
• Work resources	1. Having time to provide high-quality service 2. Having staff to provide high-quality service 3. Having equipment and supplies you need to do your job 4. Providing availability of technology to do your job 5. Having access to a personal computer or terminal 6. The phone system
• Communications	1. Overall rating for organization's internal employee communication 2. Overall rating for branch's internal employee communication 3. The design of work process benefit to

	employee communication
• Teamwork	1. Teamwork within your department 2. Teamwork among departments of your hotel
• Leadership	1. Commitment to customer satisfaction 2. Leadership ability 3. Willingness to listen to employee suggestions and work-related issues 4. Style of supervision 5. Delegation
• Rewards	1. Your pay 2. Employee benefits 3. Rewarding employees for good performance 4. Rewarding employees for actions that improve customer satisfaction 5. Opportunity for advancement and promotion 6. Training
• Environmental practices*	1. Hotel's commitment to environmental practices 2. Additional job duties required to comply with environmental protection standards 3. Participation in decision making process to implement environmental protection standards 4. Supervisors' support to facilitate compliance with environmental standards 5. Training to understand and comply with environmental protection practices

* New variable added to original studies

The employee job satisfaction was measured using a five-point Likert-type scale, ranging from 1, 'very much dislike' to 5, 'very much like':

- How do you like your job?
- How would you rate the company you are working for, compared to other companies you know, have worked for, or have heard of.

The employee loyalty was measured using two types of categories:

1. If offered the same pay I will not go elsewhere.

    - 0 = 'I will leave', 1 = 'I will not leave'

2. Tenure was measured by: The length of employment with the company

    - 1 = 'no more than 1 year', 2 = '1-3 years', 3 = '4-6 years', 4 = '7-9 years', 5 = '10 years or more'.

APPENDIX C

SCHOOL OF
Hotel and Restaurant Administration
COLLEGE OF HUMAN SCIENCES

Dear hotel manager:

My name is Luz La Fontaine and I am a graduate student at Oklahoma State University. As part of my doctoral degree requirements. I am conducting a study on employees' perception of work environment and internal service quality in hotels that have implemented environmental protection strategies. Following is a more detailed explanation about the study.

Title: Employees' Perception of Environmental Management Systems in Selected Hotels in Puerto Rico

Study purposes:
1. To examine the impact that environmental management systems have on employees' perception of work environment and internal service quality.
2. To assess the levels of job satisfaction, productivity and loyalty among employees working in green certified hotels.
3. To examine the relationship between green certifications implementation and business growth.
4. To compare employee' perception of work environment and levels of job satisfaction, productivity and loyalty among certified green hotels and non-certified hotels.

Importance of the study:

This is the first study conducted to assess hotel employees' perception on how the implementation of environmental protection standards affects their workload, work environment, job satisfaction and loyalty.

Due to the growing trend and necessity of establishing environmental protection standards, for both marketing and economic benefits, hoteliers must count on employees' willingness to collaborate in the greening efforts. Also, customers' perception of the quality of service delivered by the hotel could be affected if employees feel that they are not being treated fairly when implementing green standards. Thus, it is important to

210 Human Sciences West, Stillwater, Oklahoma 74078
405-744-8485 Fax 405-744-6299 http:i/humansciences.okstate.edu/hrad/

197

measure employees' perception in this area in order to implement adequate human resources strategies when preparing for a green hotel certification.

Methodology:

The study is conducted using a survey methodology through a questionnaire that takes no more than 15 minutes to complete. Employees will participate on a voluntary basis and all working in the hotel are welcome to participate. The researcher will be accessible to collect the completed questionnaires in a mutually agreed location where employees can submit their answers during a break period. The survey will not disturb employees during their working time.

Confidentiality and anonymity protection:

All questionnaires will be returned by each employee on a sealed envelope and by no means the researcher will be able to identify them. All questionnaires from the six hotels under study will be put together in a pool of questionnaires and all data gathered will be analyzed in an aggregated way. Thus information pertaining to specific hotels will not be reported.

Results:

Will be shared with appointed hotel managers and discussed with them in order to assist in identifying strengths and weaknesses that can be reinforced or improved in the human resources management strategies.

Finally, I would like to request your approval to conduct this study among employees working in the hotel you manage. If you do agree to participate please fill out the following slip by checking your response and signing underneath it.

I thank you for the positive consideration you give to this request and I assure you that I will share with you the final aggregated results of this study.

Cordially,

Luz La Fontaine

210 Human Sciences West, Stillwater, Oklahoma 74078
405-744-8485 Fax 405-744-6299 http:í/humansciences.okstate.edu/hrad/

198

Date: _____ _____

I agree to participate in -the study titled <u>Employees' Perception of Environmental Management Systems in Selected Hotels in Puerto Rico</u>, conducted by Prof. Luz I.a Fontaine.

_____   _____
Please print your name   Signature

Name of hotel: _____

Position you occupy: _____

School of
Hotel and Restaurant Administration
College of Human Sciences

210 Human Science West

Stillwater, Oklahoma 74078

405-744-8485Fax 405-744-6299
http://!humansciences.okstate.edu/hrad

Date

Dear participant:

My name is Luz. La Fontaine and I am a graduate student at Oklahoma State University. As part of my doctoral degree requirements, I am conducting a study on employees' perception of work environment and internal service quality in hotels that have implemented environmental protection strategies. Since your opinion is very important to this study, I am inviting you to participate by completing the attached survey.

The following questionnaire will require approximately 15 minutes completing. There is no compensation for responding nor is there any known risk. Your participation in this research is voluntary. There is no penalty for refusal to participate, and you are free to withdraw your consent and participation in this project at any time. In order to ensure that all information will remain anonymous, please do not include your name. If you choose to participate in this study, please answer all questions as honestly as possible and return the completed questionnaire in the provided envelope after sealing it.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information regarding how employees feel with the hotel's environmental protection practices and how they affect the work environment. It is our intention that the study findings will assist human resources staff to implement sound personnel strategies that will allow hotel employees to perform their duties in an efficient way. Completion and return of the questionnaire will indicate your willingness to participate in this study. If you require additional information or have questions, please contact me at the number listed below.

You may contact any of the researchers listed below at their addresses and phone numbers, should you desire to discuss your participation in the study and/or request information about the results of the study. If you have questions about your rights as a research volunteer, you may contact the IRB Office at 219 Cordell North. Stillwater, OK 74078, 405-744-3377 or irb@l okstate.edu

I truly appreciate your participation.

Sincerely,

Luz La Fontaine
Principal Investigator/PhD Student
lfontaine@sugm.edu
(787)405-3122

Dr. Bill Ryan, EdD, RD, ID
Professor
School of Hotel and Restaurant Administration
Oklahoma State University
b.ryan@okstate.edu
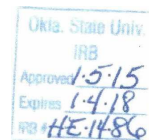
EMPLOYEE SURVEY QUESTIONNAIRE

Listed below are a number of statements intended to measure your perceptions about your organization and its operations. Please indicate the extent to which you feel satisfied or dissatisfied by circling one of the five numbers next to each statement. There is no right or wrong answers. Please let us know how you feel. Each of the statements is accompanied by a 5-point scale:

1= Very dissatisfied, 2= Dissatisfied, 3= Neutral, 4= Satisfied, 5= Very satisfied

Statement	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Work environment					
1. Having reasonable objectives for quality of work expected from you	1	2	3	4	5
2. Having reasonable objectives for quantity of work expected from you	1	2	3	4	5
3. Providing you with feedback on customer satisfaction in your department	1	2	3	4	5
Resources					
4. Having time to provide quality service	1	2	3	4	5
5. Having staff to provide quality service	1	2	3	4	5
6. Having the equipment and supplies you need to do your job.	1	2	3	4	5
7. Providing the availability of technology to do your job	1	2	3	4	5
8. Having access to a personal computer or terminal	1	2	3	4	5
9. The phone system	1	2	3	4	5
Teamwork					
10. Teamwork within your department	1	2	3	4	5
11. Teamwork among departments in your hotel	1	2	3	4	5
Communication					
12. Overall rating for hotel's internal employee communication	1	2	3	4	5
13. Overall rating for department internal communication	1	2	3	4	5
14. The design of work process benefit to the employee communication	1	2	3	4	5
Leadership					
15. Commitment to customer satisfaction	1	2	3	4	5
16. Leadership ability	1	2	3	4	5
17. Willingness to listen to employees suggestions and work related issues	1	2	3	4	5
18. Style of supervision	1	2	3	4	5

19. Delegation	1	2	3	4	5
Rewards					
20. Your pay	1	2	3	4	5
21. Employee benefits	1	2	3	4	5
Statements	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
22. Rewarding employee for good performance	1	2	3	4	5
23. Opportunity for advancement and promotion	1	2	3	4	5
24. Training	1	2	3	4	5
25. Which element is the most important for you when you consider choosing the job among items 20-25? Please write the number of the item. _____					
Environmental practices					
26. Hotel's commitment to environmental protection	1	2	3	4	5
27. Additional job duties required to comply with environment protection standards	1	2	3	4	5
28. Participation in decision making process to implement environmental protection standards	1	2	3	4	5
29. Supervisors' support to facilitate compliance with environmental standards	1	2	3	4	5
30. Training to understand and comply with environmental protection practices	1	2	3	4	5
Your job	Very much dislike	Dislike	Neutral	Like	Very much like
31. How do you like your job?	1	2	3	4	5
Your company	Very poor	Bad	Neutral	Good	Very good
32. How would you rate the company you are working for, compared to other companies you know, have worked for or have heard of?	1	2	3	4	5

Intention to stay	**I will leave**		**I will not leave**	
33. If offered the same pay I will not go elsewhere	0		1	

Please give us some information about you: Make a circle around the alternative that best describes you.

34. The length of employment with the company
  a) Less than 1 year
  b) 1 to 3 years
  c) 4 to 6 years
  d) 7 to 9 years
  e) 10 years or more

35. Position you occupy
  a) Manager

37. Gender: a) Female b) Male

38. Level of education
  a) High School
  b) Associate Degree
  c) Bachelor's Degree
  d) Master's Degree
  e) Other: _____

b) Supervisor
c) Employee

36. Department you work for
    a) Front office/Reservations
    b) Housekeeping
    c) Engineering and maintenance
    d) Casino
    e) Food & beverage
    f) Human resources
    g) Sales & marketing
    h) Other: _____

39. Salary range
    a) Less than $10,000   e) $41,000 to $50,000
    b) $11,000 to $20,000   f) $51,000 to $60,000
    c) $21,000 to $30,000   g) $61,000 to $70,000
    d) $31,000 to $40,000   h) More than $71,000

40. Status: a) married   b) single

Thank you very much for your participation!

CUESTIONARIO PARA ENCUESTA DE EMPLEADOS

A continuación, hay una serie de aseveraciones con el propósito de medir la percepción que tiene usted de su organización y sus operaciones. Por favor dibuje un círculo alrededor del número correspondiente para indicar el grado de satisfacción o insatisfacción con cada aseveración. No hay respuestas correctas o incorrectas. Queremos conocer su sentir. Para cada aseveración hay una escala de 5 puntos al lado:

1= Muy insatisfecho, 2= Insatisfecho, 3= Neutral, 4= Satisfecho, 5= Muy satisfecho

Aseveración	Muy Insatisfecho	Insatisfecho	Neutral	Satisfecho	Muy Satisfecho
Ambiente de trabajo					
37. Tener objetivos razonables para la calidad de trabajo que se espera de usted	1	2	3	4	5
38. Tener objetivos razonables para la cantidad de trabajo que se espera de usted	1	2	3	4	5
39. Recibir retroalimentación en su departamento sobre la satisfacción de los clientes	1	2	3	4	5
Recursos					
40. Tener tiempo para brindar servicios de calidad	1	2	3	4	5
41. Tener el personal para brindar servicios de calidad	1	2	3	4	5
42. Tener el equipo y suministros que necesita para hacer su trabajo.	1	2	3	4	5
43. Tecnología a su disposición para hacer su trabajo	1	2	3	4	5
44. Acceso a un terminal o una computadora personal	1	2	3	4	5
45. Sistema de teléfonos	1	2	3	4	5
Trabajo en equipo					
46. Trabajo en equipo dentro de su departamento	1	2	3	4	5
47. Trabajo en equipo entre los departamentos de su hotel	1	2	3	4	5
Comunicación					
48. Puntuación general para la comunicación interna entre los empleados del hotel	1	2	3	4	5
49. Puntuación general para la comunicación interna del departamento	1	2	3	4	5
50. Beneficio del diseño de procesos de trabajo para la comunicación entre empleados	1	2	3	4	5
Liderazgo					
51. Compromiso con la satisfacción del cliente	1	2	3	4	5

Aseveración					
52. Capacidad para el liderazgo	1	2	3	4	5
53. Disponibilidad para escuchar las sugerencias de los empleados y asuntos relacionados al trabajo	1	2	3	4	5
54. Estilo de supervision	1	2	3	4	5
55. Delegación	1	2	3	4	5
Remuneraciones					
56. Su salario	1	2	3	4	5
57. Beneficios marginales	1	2	3	4	5

Aseveración	Muy Insatisfecho	Insatisfecho	Neutral	Satisfecho	Muy Satisfecho
58. Compensación al empleado por buen desempeño	1	2	3	4	5
59. Oportunidades de progreso y ascensos	1	2	3	4	5
60. Capacitación	1	2	3	4	5

61. ¿Cuál de estos elementos, entre el 20 y el 25, es el más importante para usted al considerar un empleo? Escriba el número aquí. _____

Prácticas ambientales					
62. Compromiso del Hotel con la protección del medioambiente	1	2	3	4	5
63. Funciones adicionales requeridas para cumplir con las normas de protección ambiental	1	2	3	4	5
64. Participación en los procesos de toma de decisiones para implementar normas de protección ambiental	1	2	3	4	5
65. Apoyo del supervisor para facilitar el cumplimiento con las normas ambientales	1	2	3	4	5
66. Capacitación para entender y cumplir con las prácticas de protección ambiental	1	2	3	4	5

Su trabajo	Me desagrada mucho	Me desagrada	Neutral	Me gusta	Me gusta mucho
67. ¿Le gusta su trabajo?	1	2	3	4	5

Su empresa	Muy mal	Mal	Neutral	Bien	Muy bien
68. ¿Qué puntuación le da a la empresa para la cual trabaja, comparada con otras empresas para las cuales ha trabajado, que conoce, o sobre las cuales ha escuchado hablar?	1	2	3	4	5

Intenciones de quedarse	Me iría	No me iría
69. Si se me ofrece el mismo salario, no me iría a otro sitio	0	1

Por favor díganos algo sobre usted: Haga un círculo alrededor de la alternativa que mejor lo describa

70. Duración de su empleo con la empresa   37. Género: a) Femenino   b) Masculino
f)   Menos de 1 año

g) 1 a 3 años
h) 4 a 6 años
i) 7 a 9 años
j) 10 años o más

71. Puesto que ocupa
    d) Gerente
    e) Supervisor
    f) Empleado

72. Departamento para el cual trabaja
    i) Recepción/Reservaciones [Front office/Reservación]
    j) Limpieza [Housekeeping]
    k) Ingeniería y mantenimiento
    l) Casino
    m) Alimentos y bebidas [Food & beverage]
    n) Recursos Humanos
    o) Ventas y mercadeo
    p) Otro: _____

38. Nivel académico
    a) Secundaria
    b) Grado Asociado
    c) Bachillerato/Licenciatura
    d) Maestría
    e) Otro: _____

39. Salario
    a) Menos de $10,000   e) $41,000 a $50,000
    b) $11,000 a $20,000   f) $51,000 a $60,000
    c) $21,000 a $30,000   g) $61,000 a $70,000
    d) $31,000 a $40,000   h) Más de $71,000

40. Estado civil: a) casado   b) soltero

¡Muchísimas gracias por su participación!

VITA

Luz La Fontaine

Candidate for the Degree of

Doctor of Philosophy

Thesis: EMPLOYEE PERCEPTION OF ENVIRONMENTAL MANAGEMENT
SYSTEMS IN SELECTED HOTELS IN PUERTO RICO

Major Field: Human Environmental Sciences

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Human
Environmental Sciences at Oklahoma State University, Stillwater, Oklahoma in
May, 2016.

Completed the requirements for the Master of Arts in Higher Education
at New Your University, New York, NY, USA in 1984.

Completed the requirements for the Bachelor of Arts in Social Sciences
at University of Puerto Rico, Rio Piedras, Puerto Rico in 1967.

Experience:

Associate Professor – Universidad del Este, Carolina, PR. 2000 – 2014

Associate Professor – Universidad de Puerto Rico, PR. 1983 – 2000

Director. PRTC Hotel School, - Puerto Rico Tourism Company, Carolina PR.
1970- 1983

Professional Memberships:

International Council on Hotel, Restaurant and Institutional Education. 2003 –
2014