THE LINKAGE BETWEEN ENVIRONMENTAL MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF THREE TO FIVE STAR HOTELS IN KENYA

BY

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DECLARATION

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DEDICATION

I dedicate this work to my dear Parents Martin and Silpher Omune, who ensured my academic dreams come true, they gave all they had to support their daughter in her academic life.

ABSTRACT

Environmental management has become an important issue of concern in the tourism industry particularly the hotel sector. The sector consumes large amounts of non-durable products, water and energy due to its functions, operating characteristics and services provided. Consequently, hotels have been encouraged by stakeholders such as governments, policy makers and guests to invest their resources on environmental management practices. However, Implication of EMPs on the financial performance remains to be in question. The current study therefore, focused on investigating the linkage between EMPs and financial performance. Specific objectives of the study were to; (a) identify energy conservation practices implemented by three to five star hotels in Kenya (b) identify water conservation practices implemented by hotels in Kenya (c) identify waste management practices implemented by hotels in Kenya (d) assess the financial performance of the hotels and (e) investigate the linkage between environmental management practices and financial performance of the hotels. A cross-sectional census survey research design was used to gather data using structured questionnaire administered online. Study population consisted of 210 hotel managers drawn from 70 hotels classified as three to five stars in Kenya (compiled in reference to Tourism regulatory authority, 2018). The study targeted three respondents per hotel bearing the following positions: general manager, operations and maintenance manager or their assistants. Out of the 210 targeted hotel managers, 125 responded to the questionnaire (representing 60% response rate). The study used descriptive statistics such as means, standard deviations and percentages to identify EMPs implemented and assess the financial performance of the hotels. Correlation and multiple linear regression analysis were conducted to determine the linkage between environmental management practices and financial performance of hotels. The study established that reviewing and monitoring energy bills was the most implemented energy conservation practice (M=4.640; %mean=92.800), while, calculating energy consumption cost was least implemented (M=3.090; %mean=61.800). Determing monthly water consumption and cost was highly implemented water conservation practice (M=4.290; %mean=85.800), while, bedclothes and towel reuse program was indicated as least implemented (M=3.310; %mean=66.700). Lastly, Ensuring fresh and perishable products are stored appropriately was the most implemented waste management practice (M=4.300; %mean=86.000), while, monitoring and reporting waste generation and collection was least implemented (M=3.200; % mean=64.000). In terms of financial performance the study established high Net profit attained by the hotels (M=4.09; % mean=4.090) whereas, average daily room rate (M=3.53; % mean=70.600) was indicated as the least financial performance indicator. The study further established that energy conservation practices had the highest statistical significance and contribution on the financial performance (β=0.441, t=5.978, P<.001)followed by waste management practices (β=0.269, t=3.831, P<.001)then water conservation practices (β=0.216, t=2.905, P<.004).Finally, the study revealed that EMP variables explains 41.9% variation in the financial performance .The current study has theoretical implication as it contributes to the field of environmental management in the hotel sector in the Kenya. At practice level, the findings provide support for the linkage between EMPs and financial performance. This provides insight for managers to consider pro-active engagement of EMPs in order to improve their financial performance.

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

EMPs   :   Environmental Management Practices

B   :   Beta

R   :   Correlation coefficient

R   :   Multiple correlation coefficient

R^2   :   Coefficient determination

CFL   :   Compact florescent Light

LED   :   Light Emitting Diodes

SPSS   :   Statistical Package for Social Sciences

WTTC   :   World Travel and Tourism Council

UNWTO   :   United Nation World Tourism Organization

UNWTO   :   United Nation World Tourism Organization

WORKING DEFINITION OF TERMS

A conceptual framework: refers to a graphical representation of the theorized interrelationships of the variables of a study.

Environmental management: process and practice introduced by an organization for the purposes of reducing, eliminating and ideally preventing negative environmental impact arising from its undertaking**.**

Environmental management practice: are the techniques, policies and procedures which organisations use that are specifically aimed at monitoring and controlling the impact of their operations on the natural environment.

Waste management practices: These are activities and actions required to manage wastes from its inception to its final disposal. This include the collection, transportation, treatment and disposal of waste together with monitoring and regulation of waste management process

Water conservation practices: These include all policies, strategies and activities to sustainably manage the natural resources of fresh water to protect the hydrosphere and meet the current and future human demand

Energy conservation practices: Are efforts made to reduce the consumption of energy by using less of an energy service

Return on Assets: Is a ratio that measures a firm's earnings before interest and taxes (EBIT) relative to its total net assets

Return on equity: Is the amount of net income returned as a percentage of shareholders equity. Its usually measure a corporation's profitability

Average daily room rate: refers to the average room revenue per occupied room in a hotel for a specific period

Occupancy room rate: Refers to the ratio of the total number of occupied rooms to the total number of rooms available for sale

Revenue par available room: It is a performance measurement used in the hotel industry computed by dividing a hotels' total guest revenue by the room count and the number of days the period being measured

Hospitality Industry: Hotel, motel and restaurant sectors including other accommodation facilities that host guests and take care of their food and beverage needs, accommodation needs, and entertainment.

Hotel: A premise on which accommodation is supplied or available for supply, with or without food or services, in exchange for money or money's worth

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Environmental Management (EM) has become an important issue of concern for tourism businesses globally. Particularly, the hotel sector which form an important segment in the tourism industry. The hotel sector has been traditionally considered to have less negative impact on environment compared to manufacturing industries (Siti-Nabiha, Wahid &Ariffin, 2010). However, the hotel sector due to the luxurious nature of its functions, operating characteristics and services provided consumes large amounts of non-durable products, water and energy (Erdogan & Baris, 2007) thereby generating much more negative environmental impact than the public perceives. As a result, hotels worldwide have considered putting in place various Environmental management practices (EMPs) in order to mitigate the negative environmental impact of their operations.

Environmental management practices (EMPs) are the techniques, policies and procedures which organisations use that are specifically aimed at monitoring and controlling the negative impact of their operations on natural environment (Montabon, Sroufe & Narasimhan, 2007). Research conducted by Mensah (2006) and Penny (2007) reported that, since 1990, there have been many advances in approaches to environmental management practices (EMPs) in the hotel industry but the main aim of implementing various environmental management practices have been to address the issues of waste prevention, water consumption and energy savings which have been the main concern for most hotels worldwide. According to Kudder et al (2013), waste prevention, water and energy conservation practices are the most popular EMPs in the hotel sector since these EMPs enables them to reduce their cost of operation. The current study therefore, focused on waste management practices, water and energy conservation practices.

Financial performance Implication resulting from investment on EMPs have been a major concern for practitioners and researchers of hospitality management (Singal, 2014). Currently, hotels are encouraged to invest their resources on environmental management initiatives by tourism stakeholders such as the government, customers and investors (Singal, 2014). However, there has been perceived lack of evidence that the financial benefits actually exceed the cost of pursuing these initiatives (Orlitzky, 2011). Hoteliers are often hesitant to implement EMPs because of high upfront cost associated with most EMPs prior to the implementation which could impact negatively on their financial performance. Garay and

1

Font (2012), for instance, found that for firms in the hospitality and tourism industry, financial slack is an important determinant of investment in environmental management initiatives.

Studies have been conducted to establish the link between EMPs and financial performance however, it has resulted to conflicting findings (Orlitzky, 2011). Singal (2014) and Garay& Font (2012) found a positive relationship between investment in EMPs and financial performance.Link and Nevah (2006) however, found a negative relationship between environmental management and financial performance. Whereas Aznar, Sayeras, Galiana and Rocafort (2016) in their empirical data suggest that there is no clear relationship between sustainability efforts and better financial performance. Consequently, there has been calls to establish this linkage in hospitality research. For instance, Myung, McCaren and Li (2012) pointed out evaluation of green practices and economic/ financial performance as the most important issue in the field of hospitality management.

Therefore, there is a need to establish this linkage in hospitality research as recommended by Myung et al. (2012). Furthermore, few studies on environmental management issues have been done in sub-Saharan countries especially in Kenya. Kenya has highlighted Environmental management as a pillar in the achievement of vision 2030 (GoK, 2007). To realize sustainable tourism development in Kenya, the role played by hotel sector should be significant and that hotel managers should seriously consider mitigating their negative impacts on environment (Irandu, 2006). This will go a long way in enhancing the long-term viability of environment on which tourism thrive. Against this background, the research problem is presented in the next section.

1.2 Statement of the Problem

Environmental management is increasingly becoming an emerging trend in the hotel sector due to wake up calls for a more responsible tourism development. Tourism stakeholders such as customers, investors, regulatory authorities and governments have constantly encouraged tourism businesses to invest their resources on environmental management practices (EMPs) in order to reduce their negative impact on the environment. While hotels are encouraged by their stakeholders to invest on environmental management practices, there is limited empirical evidence that such investment indeed lead to improved financial performance which is a major concern for many hoteliers.

Hoteliers are often hesitant to take a more proactive approach to environmental management due to high upfront cost associated with implementing most EMPs. Such costs include,

environmental management training of hotel personnel and installation costs of EMPs as these costs may impact negatively on their financial performance. Many therefore opt for "business as usual" without putting much efforts on practices geared at managing and conserving the environment.

Studies have been conducted to establish the link between environmental management practices and financial performance however, it has yielded conflicting findings. Furthermore, few studies have establish this linkage in tourism and hospitality related research as most studies have been focused on the manufacturing industries. Thus this study was designed with the aim of addressing the above mentioned research problem.

1.3 Objectives

1.3.1 General Objectives

The general objective of this study was to investigate the linkage between environmental management practices and financial performance of hotels in Kenya.

1.3.2 Specific Objectives

The specific objectives of the study are;

i. To identify energy conservation practices implemented by three to five-star hotels in Kenya.

ii. To identify water conservation practices implemented by three-to-five-star hotels in Kenya

iii. To identify waste management practices implemented by three-to-five-star hotels in Kenya

iv. To assess the financial performance (Net profit and gross profit, Average daily rate, occupancy rate, Revenue par available room, return on equity, return on assets attained) of three to five-star hotels in Kenya.

v. To determine the linkage between the identified environmental management practices and financial performance of hotels in Kenya.

1.4 Research Questions

i. What are energy conservation practices implemented by three to five- star hotels in Kenya?

ii. What are water conservation practices implemented by three to five star hotels in Kenya?

iii. What are waste management practices implemented by three to five star hotels in Kenya?

iv. What is the financial performance of three to five- star hotels in Kenya?

v. What is the linkage between environmental management practices and financial performance of hotels in Kenya?

1.5 Justification and Significance of the Study

Hotel business consumes significant amount of natural resources, expels large amounts of waste and hence affects the sustainability of the natural environment in which they are developed and operate (Ustad, 2010). To reduce the negative impact on the environment, hotels worldwide have embarked on a course of implementing Environmental management practices (EMPs). Despite enormous interest on EMPs in the hotel sector, few studies have identified Environmental Management Practices implemented by hotels in developing countries including Kenya. Kenya has earmark sustainability as a key pillar in the achievement of the country's vision 2030 (GoK, 2007). Therefore, to achieve this vision, the Kenyan government has been on the forefront to ensure that key sectors in the country operate on a sustainable basis. Thus, there is a need to identify environmental management practices implemented by hotels in Kenya as this will reveal mitigating measures that have been undertaken by hotels to reduce their negative impact on the natural environment.

Moreover, another key concern among hotel practitioners has been to address the issue of implication of investment in EMPs on the financial performance. Few tourism and hospitality related studies have examined the linkage between EMPs and financial performance (Singal, 2014; Moliner et al, 2015; Link &Nevah,2006; Aznar et al, 2016) and have found conflicting findings. Thus, there is a need to establish this linkage in hospitality research as most studies have focus on manufacturing industries (Montabon et al, 2007).

The current study therefore has both theoretical and practical implication for researchers and practitioners of hospitality management respectively. The study has contributed to theory on environmental management in the Kenyan hotel sector which is currently limited. It has also established the linkage between EMPs and financial performance, this contributes to the ongoing debate in the literature on the potential financial performance improvement through implementing EMPs by the hotels.

At practice level, the study has identified environmental management practices currently implemented by hotels in Kenya, this will provide a reference point for hotel managers to

benchmark their current environmental management practices as well as future EMPs. Finally, the current study has implications for hotel practitioners as they need evidence of sustainability efforts improving financial performance in order to support environmental management policies and programs.

1.6 Assumptions of the Study

The study was based on the following assumptions:

i.   The study participants were honest in their response concerning environmental management practices and financial performance of their respective hotels.

ii. Study participants were knowledgeable on the financial performance of their respective hotels since the researcher employed subjective approach in assessing financial performance of the hotels.

iii. Study participants were knowledgeable on environmental management practices and programs implemented by their respective hotels.

1.7 Limitation of the Study

i.   The study targeted three to five- star hotels in Kenya; therefore, the study may not be able to be generalized outside Kenya hotel sector as well as other hotels not rated as three to five- star in Kenya.

ii. The financial performance of the hotels may be influenced by other extraneous factors that researcher did not explore.

iii. The study limits itself to being an empirical generalization and does not test any theory/ theories.

1.8 Scope of the Study

i.   The study was conducted in three to five -star hotels in Kenya.

ii. The study focused on Energy and water conservation practices and waste management practices other aspects of environmental management practices was not studied.

iii. In operationalizing Financial performance, the study was focused only on ; Revenue par available room (RevPAR), Average daily rate (ADR), Occupancy rate, Return on equity, Net profit and gross profit attained and Return on assets attained.

1. 9 Conceptual Framework

A conceptual framework refers to a graphical representation of the theorized interrelationships of the variables of a study (Odhiambo & Waiganjo, 2014). The

conceptualization of variables in academic study is important because it forms the basis for testing hypothesis and coming up with generalizations in the findings of the study (Dwi, 2011). In this study, the independent variables are the conceptualized Environmental management practices implemented by hotelsin Kenya. i.e *Energy conservation practices, Water conservation practices and waste management practices*. Financial performance of the hotel as a dependent variable was operationalized using the following sub variables (*Revenue par available room (RevPAR), Average daily room rate, Occupancy rate, Return on equity, Net profit and gross profit attained, Return on assets attained)* ; The study recognizes that hotel commitment to environmental management practices can be linked to its financial performance outcome, therefore the study investigated the linkage between environmental management practices and financial performance of hotels in Kenya.

1.10 Environmental Management Practices

Dependent variable   **Independent variables**
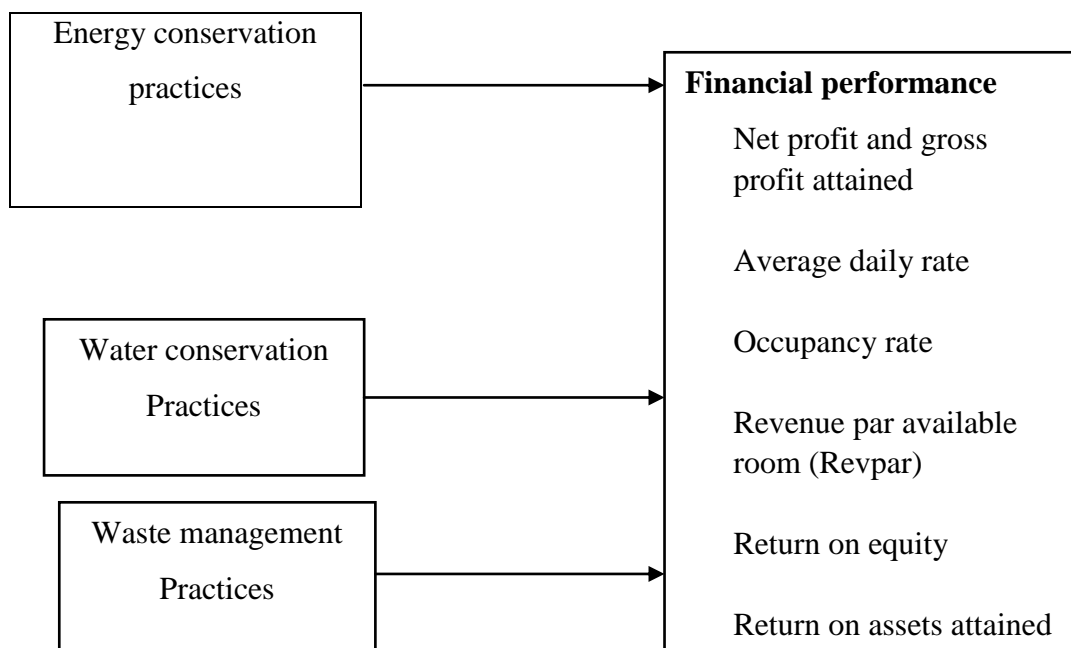
Figure 1.1: **Environmental management practices and financial performance of hotel conceptual framework.Source: (Author, 2020)**

CHAPTER TWO

LITERATURE REVIEW

This chapter provided reviews of literature on the following key sections, Environmental management practices in hotels in reference to energy conservation practices, water conservation practices and waste management practices, Financial performance measures, the linkage between environmental management practices and financial performance and finally gaps in knowledge.

2.1 Environmental Management Practices in the Hotel Sector

2.1.1 Energy Conservation Practices

Hotel sector is associated with excessive consumption of energy (Cheung and Fan, 2013; Chou, 2014) and therefore accounts for 21% of total tourism sector Green House Gas (GHG) emissions (UNEP and UNWTO, 2012). According to Yang (2010) this figure is predicted to rise by 3.2% per year. Hotel Energy Solutions (2011) also estimates that a typical hotel releases between 160 to 200kg of CO2 per m^2 of the room floor area annually depending on the type of fuel used to generate energy. Wiberg (2009) further claims that CO2 emissions from the hotel sector are likely to increase by 170% by 2035. Reduction in energy consumption in hotels can therefore greatly reduce carbon emissions and reduce the negative effects of GHG emissions for hotel sector (Tang et al. 2011).

Energy is an important resource for the operation of hotels, of which a large proportion is used for lighting, heating, air-conditioning and laundry facilities (Chan, 2008; Nikolaou et al, 2012; Shiming and Burnett, 2002; Teng et al. 2012). According to Mensah (2006) and Chan (2006) hotels operate on three types of energy namely electricity, gas and diesel.

Electricity is considered to be the main form of energy used in hotels compared to gas, diesel and coal (Zografakis et al. 2011). For example, the total energy consumption of hotels in Hong Kong is dominated by electricity and accounts for 73% of energy use (Shiming and Burnett, 2002), Gossling (2002) also had similar findings whereby 75% of energy use in New Zealand was in the form of electricity, coal (12%), petroleum fuel (3%) natural gas and wood (1%).

Teng et al. (2012) maintain that hotels can reduce their energy consumption by 20-40% without affecting the functionality of the hotel. There are a number of measures aimed at reducing greenhouse gas emissions from energy usage in hotels. Several studies have examined how hotels have embraced energy reduction or renewable energy systems in their

operations. Common energy conservation practices implemented by hotels include the use of energy-efficient lighting, installation of renewable energy systems, energy saving power cards, the use of solar energy (Erdogan and Baris, 2007; Min, 2011; Teng et al. 2012; Nikolaou et al. 2012), the use of the use of occupancy sensors to control lighting(Tari et al, 2010), thermopane windows (Chung and Parker, 2010), good insulation (Alexander, 2002), key-card systems (Nikolaou et al, 2012), reviewing of utility bills (Kattara and Zeid, 2002), the use of energy-efficient appliances (Mensah 2006), maximizing the use of natural light (Ali et al, 2008) and the installation of compact fluorescent light bulbs (Liu and Sanhaji, 2009).

These measures are believed to have greatly reduced energy consumption in hotels. In particular, Bohdanowicz (2006) believes that lighting has a significant saving potential in hotels. Depending on the size of the establishment, lighting can account for up to 40% of the hotels energy consumption and is regarded as the "second largest energy-using system in a hotel" (Alexander, 2002). Similarly, Edorgan and Tosun (2009), Min (2011) and Teng et al. (2012) cited energy efficient lighting as the most common energy-saving method in hotels. Solar power is also increasingly being used and is considered a "limitless natural resource with economic and environmental benefits" (Alexander, 2002). For example, Nikolaou et al. (2012) maintain that just over half the hotels in Corfu Island, Greece, installed water solar heaters. However, hotels in Central Antalio declined to use solar panels as they considered these to be rather expensive and hoteliers are not convinced that they are a viable investment (Edorgan & Tosun, 2009). The use of solar energy for hot water provision was also investigated by Chan et al (2013) who found that hotel managers usually postponed the adoption of solar energy for a number of reasons. Managers were largely concerned about the noise being generated during the installation of such equipment and the associated costs of such equipment. They also indicated that roof top areas could be converted to other income-generating purposes such as extending guest floors and function rooms.

Conserving energy leads to considerable cost savings and many energy conservation programs in hotels focus on managing energy due to the financial gains (Ali et al, 2008; Erdogan & Baris 2007). However, hoteliers are often concerned with the initial costs of setting up energy saving programs (Rahman et al, 2012). Cheung and Fan (2013) for instance argue that a relatively large investment in solar-based energy is required and the payback period is usually more than five years. Conversely, In Istanbul, Turkey, an investment in 40 solar panels was found to have a payback period of only two years. Bohdanowicz et al.

(2001) claim that the payback period for installing energy-saving lighting equipment is typically less than three years. For example, the Sheraton Tacoma Hotel installed 2 000 compact fluorescent light bulbs which resulted in a cost saving of US$15 000 and a payback period of 18 months (Alexander, 2002). Despite the impressive cost savings and excellent return on investment with energy conservation practices hotels often simply cannot afford the upfront costs (Sucheran, and Bob, 2014).

2.1.2 Water Conservation Practices

Water shortage has been a problem identified globally (Pannier, 2008; United Nations Environmental programme (UNEP), 2002; UNEP, 2012). This problem usually relates to either water quantity or quality or even both (Kassim and Okumus, 2014). According to Kassim and Okumus (2014); water quantity can broadly be defined as the amount of clean water available for use while water quality refers to the safety and accessibility of water for human consumption. Availability of clean water has been a problem in many parts of the world (United Nations World Water Development (UNWWD), 2006), Eurostat (2009). For instance, In East Asia, water problems relate to accessibility. Even though the region has large rivers such as the Ganga, Yangtze and Kasumigaura and high levels of precipitation, often these abundant water sources cannot be accessed because of the lack of facilities to tap and store those sources (Kasim and Okumus, 2014).

West Asia and the Middle East, which is desert in most parts of the regions lacks access to surface water and depends largely on ground water which is often polluted from agricultural runoff and human use (UNEP, 2012). Jordan, for example, still needs to import water due to insufficient supplies of clean water (Kasim & Mahasneh, 2010).Water inaccessibility is also the main issue for Central Asia and Africa. According to Pannier (2008), scattered precipitation and political conflict among countries sharing the same water body are the main issues in Central Asia. In much of Africa, sporadic rain leads to droughts, which combine with lack of technology and financing (UNEP, 2012). Therefore, it is foreseeable that ignoring sustainable water management strategies could lead to catastrophic situations. Many international organizations agree that water and not energy will be the problem of the twenty-first century, bringing economic, socio-political and environmental challenges (Kasim & Mahasneh, 2010). The problems outlined are set to be exacerbated by climate change.

Today, industries all over the world are expected to play a role in ensuring sustainable water management. The tourism industry which is the largest and the fastest growing industry worldwide (World Travel and Tourism Council [WTTC], 2011) is expected to seriously

engage in water conservation practices. According to United Nation World Tourism Organization (UNWTO) (2012) tourism industry is projected to experience a steady increase in international tourist arrivals globally. This robust forecast indicates future needs for more tourism support systems that would inevitably exert pressure on water usage and water availability. Hospitality industry which is an important segment of tourism industry is linked with high water consumption especially the hotel sector.

High water consumption in the hotel sector is attributed to factors such as hotel size, standard and facilities. Kasim (2007) found out that in a high standard hotel organization, the hotel room would require 396 gallons (1,499 litres) of water per day, which is enough to support 14 local people this is because high standard hotels usually have facilities such as spas, golf courses, swimming pool which require high water usage (Bohdanowicz, 2006).Apart from the size, facilities and standard of hotel facility, hotel guest contributes a lot when it comes to high water usage. Hotel guests tend to have a "pleasure approach" to shower or bath, using more water than they normally would at home (Eurostat, 2009). This is especially evident in the Mediterranean countries where 0.40 cubic meters (400 litres) of water are consumed by a tourist per day (Kasim,2007).Hotel guests in Israel are thought to contribute to the drying up of the Dead Sea while tourists in Grenada, Spain, are reported to use seven times more water than local people (UNWWD, 2006). Water consumption at this rate will definitely cause a serious water shortage, therefore, there have been calls to reinforce practices geared at sustainable water management in the hotel sector.

According to Sucheran (2013) reviewing and monitoring water bills is often a first step towards managing water consumption, water bills give the necessary information and provide useful insights into how much water is consumed and cost. Installation of efficient water fittings in guest rooms/areas such as low flow shower heads, low flow taps, tap aerators and electronic sensors are the most commonly water conservation measures used by hotels. Alonso and Ogle (2010) concluded that 63% of hotels and lodges use low flow shower heads and 40% use low-flow taps. Sucheran (2013), however found that only 25% of 5-star hotels and lodges installed low flow showers. He further explained that his findings were possible due to the fact that luxury hotels and lodges are hesitant to implement environmental measures as they fear this would negatively affect guest comfort and satisfaction as hotels usually "base their business on perceived opulence, luxury and grandeur (Graci and Dodds, 2008).

Sucheran (2013) found that 80% of hotels and lodges educate customers and staffs on how to conserve water. According to Bohdanowicz (2005), The Green Hotel Association reports that between 70-90% of guests participate in water conservation programs which relates to a saving of US $6.50 per day per occupied room. Other water conservation practices commonly implemented by hotels are linen and reuse program which is a well-established program especially by hotels in European countries (Bohdanowicz, 2006; Edorgan and Tosun, 2009). Majority of hotels in Ghana (Mensah, 2006), China (Min, 2011) and Taiwan (Tang et al, 2012) also have linen and towel reuse program in place. However, Kattara & Zeid (2002) cited linen and towel reuse as the least applied environmental practice in the Red sea hotels.

2.1.3 Waste Management Practices

The generation of waste by hotels is one of the visible effects that a hotel has on the environment, Kassim (2007) states that it is not the size of the hotel that makes the difference but also the type of functions being held at the hotel and other important events taking place at a particular time.

Waste generated by hotels does not only increase their operational costs but contribute to resource depletion (Kuuder, 2013). There is a variety of waste produced by hotels including paper and food waste were the greatest amount of waste generated by the hotels. The food and beverage service area generate various solid and organic wastes such as packaging, food waste, aluminum cans, glass, bottles, corks and cooking oils. Kassim (2007), estimated that hotel waste consists of 46% of food waste, 25.3% of paper, 11.7% of cardboard, 6.7% of plastics, 5.6% of glass and 4.5% of metal waste. As again reported by Kassim (2007), hotel waste is on a much larger scale as compared to waste generated by households.

Bohdanowicz (2006) indicated that the level of hotels' commitment to waste sorting and recycling varies depending on regulatory pressures and local government's support. For example, hotels actively implement waste sorting and recycling programmes in offices and kitchens but not in guest rooms while Ghanaian hotels are less committed to recycling programs with only 17 percent adopting recycling programs in Accra (Mensah, 2004). Literature have indicated that the following waste management practices are commonly implemented by hotels; placing recycling bins in front and back of house areas, purchasing used or recycled content products, adopting a donation programme (leftover guest amenities, old furniture, appliance and food), composting organic kitchen waste, using refillable amenity providers such as cloth, napkins, glass and cups, purchasing food items and cleaning

chemicals in bulk containers as well as recovering used cooking oil and food waste (Kasavana, 2008; Sherman,2008)

2.2 Financial Performance of Hotels

The performance assessment systems are gaining an ever more relevant role in the development of any organization intending to survive an increase in global market competitiveness (Anderson etal, 1999). According to Neuman et al. (2010), and Cardinal & Veen-Dirks (2010), performance assessment in organizations can be categorised into two group; Financial performance assessment and non-financial performance assessment. The financial performance assessment is characterised by the use of indicators created by the financial area of the organization while non-financial assessment of performance uses measures and indicators generated by other areas in the organization bearing in mind the objectives of the organization, its placement within the industry and market it belongs to (Cardinal & Veen-Dirks, 2010). The current study will however focus on the financial measures of performance.

According to Wadongo et al (2008), financial performance and accounting measures are the traditional means of performance measurement. Researchers (Martin and Petty, 2009) have outlined disadvantages of depending solely on the financial measures of performance. They argued that in many cases the values presented in the financial reports are not the actual cash flows and the values showed in the accounts do not reflects the risks related with the company's activity nor the opportunity cost for capital. Another problem mentioned is the fact that the values in the financial statement do not reflect the change in values of monetary goods. However, Tuomela (2005), highlights advantages of financial performance assessment over non-financial performance. He contended that financial performance measures are easily accessible, since its available on the firms' financial statement and the fact that its easy to quantify as compared to non-financial parameters.

These critics lead other researchers to defend combination of both financial and non-financial measures of performance (Corona, 2009; Van Tuijil & Rutte, 2009; Wadongo et al, 2008). As they claimed that financial performance measures alone are no longer relevant for today's managers. Wadongo et al (2008) contended that to remain competitive, firms now need to consider non-financial or operational results as measured by competitiveness. Banker and Mashrula (2007) and Van der Geer et al (2009) similarly mentioned the importance of non-financial measures as a way to compensate the already mentioned disadvantages of exclusively using financial indicators. These authors claimed that non-financial performance

indicators such as employee and customer satisfaction and competitiveness are extremely relevant indicators when analysing a company in medium and long run.

Despite there being an increased number of authors who defend the joint use of both financial and nonfinancial indicators, none defend not using financial indicators. This means that even if they are not perfect, they are extremely important and relevant and for the time irreplaceable (Rosa-Nunes and Machado, 2012). Van der Geer et al (2009) highlight the importance of financial statements, as mentioned earlier, financial indicators are not only a source for the creation of financial measures but also, they allow firms to see the recent past and plan for future actions. Authors have studied aspects of financial assessment of performance in the hotel industry (Jagel & Coltman, 2004;Chen, 2009; Jorge,2010; Wadongo et al. 2008). Jagel & Coltman concluded that in the hotel industry the most used financial performance measurements are divided into five namely: Liquidity ratios (current assets/current liability ratios), profitability (Return on equity, Return on assets, net and gross profit), financial leveraging (debt capital, gross operating surplus, loans receivables), activity ratios (inventory turnover, turn over on assets) and operating ratios (occupancy rate, average daily rate, revenue par available room). The current study addressed this question; what is the financial performance of three to five-star hotels in Kenya?

2.3 Environmental Management Practices and Financial Performance of Hotels

Scholars in both strategic management and hospitality literature have examined the relationship between environmental management initiatives and financial performance (Singal, 2014; Montabon, 2007; Link and Nevah, 2006; Aznar et al, 2016) but the results are inconclusive. For instance, Link and Nevah (2006) found a negative relationship between environmental management and financial performance. Similarly, Aznar et al (2016) found no clear relationship between sustainability efforts and financial performance of hotels. Hull and Rothenberg (2008) from the agency theory point of view, contended that managers cannot invest in the environment and be more competitive at the same time. Agency theory, as applied to the environmental sphere, emphasizes that without strict control by shareholders, managers may inappropriately allocate corporate resources in order to advance goals that increase their own utility function in areas where the firm is not likely to obtain important profits. However, several hospitality researchers (Moliner, 2015; Singal, 2014; Leonidou et al, 2013) have found positive linkage between proactive environmental management and financial performance.

Positive relationship between environmental management practices and financial performance is also found in most manufacturing related studies (Molina-Azorin et al, 2009; Wahba, 2008; King & Lenox, 2012; Gray and Bebbington, 2001). Gray and Bebbington (2001), for instance, found positive correlation between waste management and financial performance. He also found a positive correlation between energy saving and financial performance. Contrary, Neeveditah et al (2017) found negative correlation between waste management and financial performance except for energy reduction practices which they found positive relationship.

Jabour and Santos (2006) indicated that environmental activities must be integrated into the company's overall business strategy while exploring strategic opportunities.

Companies must adopt an ethical attitude to environmental issues, as opposed to a reactive view to the pressures of environmental regulation. All these aspects characterize proactive environmental management and therefore, companies may improve their performance. King & Lenox (2002) showed that lower emissions are significantly associated with higher financial performance. Segarra-Ona, Peiro-Signes & Verma (2011) compared ISO 14001 certified and non-certified hotels, they found that ISO 14001 had a positive and significant impact on economic performance. Following these arguments. Thus, the question to be addressed is: What is the linkage between environmental management practices and financial performance of hotels?

2.4 Gaps in Knowledge

The literature confirms that environmental management is an issue of concern in the hotel industry. Hotels have incorporated environmental management practices to reduce their negative impacts on the natural environment. Environmental management practices commonly implemented by hotels are; waste management, energy and water conservation measures (Ustad, 2010). According to Mensah (2006), environmental management practices implemented by hotels in Europe, Asia and North America is well articulated. However studies on environmental management practices implemented by hotels in sub-saharan Africa is scanty especially in the Kenyan context, thus there is a need to fill this gap by identifying environmental management practices implemented by hotels in Kenya.

There has also been an increasing call for empirical verification of the linkage between environmental management practices and financial performance. However, empirical studies investigating this linkage in hospitality research is limited and with conflicting findings (Singal,2014). Aznar et al (2016) found no clear relationship between sustainability efforts

with financial performance. Similarly, Link and Nevah (2006) found a negative relationship between environmental management and financial performance. (Moliner et al, 2015) and Singal (2014) however found positive relationship between environmental management with financial performance. Therefore, this study aimed to address the above-mentioned research gaps in reference to the hotel sector in Kenya.

CHAPTER THREE
RESEARCH METHODOLOGY

This chapter describes the logical procedures and methods employed in achieving the objectives and answering the research questions of the study. It specifically describes the study area, research design, study population, data collection methods, measurement of variables, data analysis and finally ethical considerations.

3.1 Study Area

The study was conducted in three to five-star hotels in Kenya.Kenya lies in East Africa between 5^oN and 5^oS. It covers an area of $582,644km^2$ and has a population of over 47 million (Census survey, 2019). Kenya has received steady growth of tourism since her independence in 1963. Consequently, there has been increased number of accommodation facilities with varied environmental impact. The hotel sector in particular, consumes vast amount of natural resources that impacts negatively on the environment. In Kenya, Tourism is the second largest Gross Domestic product (GDP) earner after Agriculture. Therefore, the government of Kenya is committed towards developing the country's tourism on a sustainable basis which is indicated in several policy and strategy documents. The documents prescribe the principles, objectives, standards, indicators, procedures and incentives for the development, management and marketing of tourism on sustainable basis (Kenya Tourism Board, 2016). Moreover, to achieve the Kenya Vision 2030, the government of Kenya recognises sustainability issue among the key sectors of Kenya as important, including Tourism and hospitality industry. This can be achieved by ensuring hotels and other role players in the tourism sector adhere to practices aimed at reducing their negative impact on natural environment.

3.2 Research Design

The study used cross-sectional census survey research design. The advantage of cross-sectional research design over others is that data can be collected less expensively and within a short time. This is important because the characteristics of variables do not change much in the short period of data collection (Hair et. al, 2006). Census survey was carried out because few establishments have been classified as three to five-star and to overcome the challenge of low response rate associated with online surveys as indicated by Dillman (2011) this enabled all the targeted hotels participate in the study, response rate of 50% and above suggested by Mugenda (2003) was applied in the study.

3.3 Study Population

According to Cooper and Schindler (2001), a population is the total collection of elements which the researcher wishes to make inferences. The target population of the study was 210 hotel managers bearing the following positions; The general manager, operations manager and maintenance manager from 70 hotels classified as three to five- star registered for the period 2015 to 2018 in Kenya (Tourism regulatory Authority, 2018) (Appendix E). The study targeted the three top management mentioned above because they were considered to have knowledge on Environmental management practices implemented by their respective hotels.

3.4 Data Collection Methods

Data was obtained through self-administered structured questionnaire for hotel managers using online survey. The strengths of online surveys include, greater flexibility, speed, global reach, timeliness and low administration cost (Evans and Mather, 2005). At the same time, online surveys have potential weaknesses such as perception as junk mail, skewed attributes of Internet population and low response rates (Dillman, 2011). The questionnaire was sent to all the targeted hotel managers (General Manager, operations manager and maintenance manager) using Google forms in their respective email addresses alongside a short message inviting them to participate. The researcher also employed snowballing method to obtain data, other managers contacts were got through referrals from managers who responded to the questionnaire. Telephone calls were made to all participating managers to confirm whether they have accessed the questionnaire and for any other assistance they may need in filling the questionnaire. The researcher continually monitored their responses and follow up telephone calls were made every week as a reminder and to confirm whether they have already participated in the study. Once the response is received it's saved and stored automatically in the Google drive and the researcher was able to view the responses without associating it to any sender. This was possible because the online application used automatically decouple the senders' responses and their email addresses by concealing the email address once the response is received therefore, this ensured anonymity of the study participants.

3.5 Measurement of Variables

Environmental management practices (EMPs) was measured under the following variables energy conservation practices, water conservation practices and waste management practices. Hotel managers were asked to indicate the extent to which they implement the above-mentioned environmental management practices using 5-point Likert-type scale in a continuum ranging from 1= No extent at all; 2 = to a little extent; 3 = to some extent; 4 = to a

great extent and 5 = completely. A value of 5 was given more weight in this case. The table below show the measurement items or indicators for EMPs constructs.

3.5.1 Measurement Items for Environmental Management Practices

3.5.1.1 Energy Conservation Practices

Measurement items for Energy conservation practices included**:** Reviewing and monitoring of energy bills, Use energy efficient lighting system (LED, CFL instead of traditional lighting), Servicing of all major energy appliances according to suppliers' recommendation, Install lighting management control systems (occupancy sensors, timers, photo sensors), Install automated energy control systems (key card activation of rooms), Implement energy management plan and set process level energy targets, Procure energy efficient appliances, Install double glazed windows, Use renewable energy sources (solar, wind, Biomass, wastes and hydro geothermal), Install meters in each department to monitor energy consumption, Reduce the number of lifts operated during off-peak hours and Calculate energy consumption cost for the hotel.

3.5.1.2 Water Conservation Practices

Measurement items for Water conservation practices were**:** Determine monthly water consumption and cost, Ensure taps are not opened unnecessarily, Ensuring cleaning is not done with high pressure hoses, Install efficient water devices (low flow taps and showerheads), Regular maintenance of plumping fixtures and piping, Identify activities and areas that cause high water consumption, Train staffs to reduce water use, Provide guest with information to encourage reduced water consumption, Install rainwater collection and distribution system, Install grey water collection, treatment and distribution system, Reuse grey water for irrigation and toilet flushing
And Implement bed and towel reuse program

3.5.1.3 Waste Management Practices

Measurement items for Waste management practices were: Ensure fresh and perishable products are stored appropriately, Reduce packaging by purchasing in bulk, Avoid burning wastes outdoor, Install containers specific to a particular type of waste, Check expiry dates of foodstuffs, Transform old bed sheets and napkins to laundry bags and rags, Avoid disposable tableware and napkins, Install soaps and shampoo dispensers, Encourage paperless transaction whenever possible, Donate leftover guest amenities & items and Compost organic and food wastes.

3.5.1.4 Financial Performance

The second Key variable is financial performance; it was measured under the following sub-variables: Revenue per available room (RevPAR), average daily rate, return on assets attained, net and gross profit attained, and Return on equity attained. Using 5-point Likert-type scale hotel managers were asked to indicate their financial performance for the last one year in a continuum ranging from 1=No extent at all; 2=to a little extent 3; to some extent;4=to a great extent and 5=completely. A value of 5 was given more weight in this case. The table below provide the measurement scales for financial performance.

3.6 Pre-testing of the Questionnaire

The questionnaire was pre-tested on a pilot set of respondent managers for comprehension, logic and relevance. Respondents in the pre-test were drawn from lodges rated as three to five star which was similar to those in the actual survey in terms of background characteristics, familiarity with the topic of research, attitudes and behaviours of interest. All aspects of the questionnaire were pre-tested including question content, wording, sequence, form and layout, question difficulty and instructions. The feedback obtained was used to revise the questionnaire before administering it to the actual study respondents.

3.7 Reliability and Validity

Reliability refers to the extent to which a research procedure and measurement is replicable and yields similar results. Validity refers to the extent to which the results are representative of the phenomena under study (Onwuegbuzie and Johnson, 2006). Reliability and validity of a research process have long been accepted as key indicators in the evaluation of the quality of any research work.

3.7.1 Reliability

Reliability analysis was used to assess internal consistency among the key variables of the study. The reliability of the study measures were assessed by computing Cronbach's Alpha Coefficient for EMP and financial performance variables in the questionnaire and the overall assessment was also given. Sekaran and Bougie (2010) highlighted that Cronbach's alpha coefficients ranges between 0 and 1 with higher alpha coefficient values of 0.7 and above being more reliable. The main questionnaire had a good internal consistency because all the EMP variables and financial performance had alpha coefficient above 0.7with an overall alpha coefficient value of 0.924 (see Table 1, Appendix H).

3.7.2 Validity

In quantitative research, validity types include face, content, convergent, discriminant and criterion-related validity (Hair et al., 2010). The current study used face validity and content validity. Face validityis the mere appearance that a measure is valid (Grinnell, 2001). In face validity, one looks at the measure and sees whether "on its face" it seems a good reflection of the construct. According to Mugenda (2008), content validity was ensured by literature searches to ensure that items were based on the study concepts. Apart from face validity, content validity is the only type of validity for which the evidence is subjective and logical rather than statistical (Bailey 1994; Hair et al., 2010). In this study, content and face validity were ensured through developing the survey instrument based on previous studies.

3.8 Data Management

The data collected was screened for errors before analysis. Missing values was not encountered using the online data collection application since the respondents could not submit the questionnaire without completely filling all the questions in the questionnaire.

The data collected was tested for normality test using skewness and Kurtosis for all study items. Dover (1979) classic rule of thumb was adhered in the study. He suggested that if skewness is less than -1 or greater than +1, the distribution is highly skewed. If skewness is between -1 and –0.5 or between +0.5 and +1, the distribution is moderately skewed. Whereas, if skewness is between -0.5 and +0.5, the distribution is approximately symmetric. It was established that most measurement items for EMPs and financial performance can be considered approximately symmetric/ normally distribution because most of the variable skewness scores was less than plus or minus 0.5 (<+/-0.5), (see Table 2, 3, 4 and 5 Appendix I).

3.9 Data Analysis

The data collected was automatically saved in the google drive to an excel file. The data was then imported from excel file to Statistical Package of Social Science (SPSS) for analysis. The analysis was done using SPSS version 21. Descriptive statistics such as frequencies and percentages were used to analyse respondents' demographic status. Mean score ranking, percentages, standard deviation were also used to identify environmental management practices implemented by the hotels and assess their financial performance. Correlation and Multiple regression analysis were employed to determine the linkage between environmental management practices (Waste management, Energy and water conservation practices) and financial performance of hotels in Kenya

3.9.1 Descriptive Statistics

Descriptive statistics such as means, percentages and standard deviations were used to identify environmental management practices implemented by the hotels and to assess financial performance of the hotels. High mean score and percentage meant high level of implementation to EMPs. This also applied for financial performance assessment. Where high mean score and percentage attained implied high financial performance. Depending on the mean scores and percentages ranking, EMPs identification were categorized to either most implement to least implemented.

3.9.2 Correlation Analysis

Bivariate correlation analysis was performed using Pearson's correlation coefficients to investigate the strength and direction of relationship between environmental management practices and financial performance. Higher (r) values instigated strong positive/ negative relationship between the independent variables and dependent variable

3.9.3 Multiple Regression Analysis

Multiple linear regression analysis was conducted after correlation analysis. The aggregate mean scores for each study construct (i.e., energy and water conservation practices, waste management practices and financial performance) were computed by summation of sub variable mean scores and divided by the total number of sub variables measuring each study construct. This, was computed using Microsoft excel then result was transferred to SPPS for regression analysis. The multiple correlation coefficient (R) obtained measured the strength and direction of relationship between the independent variables and the dependent variable. (R^2) was used to measure how much of the variability in the outcome variable (Financial performance) is explained by the predictor variables (EMPs). The current study used Cohen (1992) threshold in determining the level of acceptable R^2 (Values above .25 indicate high effect size). The model fit was tested using the F- statistics $p < 0.050$ while the t-statistics, $p < 0.050$ and beta values were used to assess the significance and contribution of each EMP variable on financial performance of hotels.

The following regression model equation was used:

Y= β0 + β 1X1 + β 2X2+β 3X3=€

Where Y=Financial performance index

β0 =Constant

β1 to β3 =Regression coefficients

Where:

X1= Water conservation practices

X2 = Energy conservation practices

X3 = waste management practices

€ = Coefficient of error

3.10 Ethical Consideration

According to Bryman (2012), Key ethical considerations in research include addressing unethical research practices so as to avoid harm to participants, invasion of privacy, informed consent and avoiding the use of deception. Maseno University has research ethics review committee whose mandate is to protect the rights and welfare of human participants involved in any research studies/project. In line with guidelines set by Maseno University Ethics Review Committee (MUERC) and School of Graduate Studies (SGS), the research proposal was presented for approval which was made prior to conducting data collection (see appendix A and B). The following ethical issues was addressed in the current research:

3.10.1 Informed Consent

Informed consent involves making sure that the research participants are adequately made aware of the type of information the researcher requires from them, why the information is being sought, what purpose it will be put to, how they are expected to participate in the study, and how it will directly or indirectly affect them. The researcher addressed informed consent consideration in the consent form (see appendix C).

3.10.2 Confidentiality

The research participants were assured of confidentiality of their response and that their responses were only to be used for academic purposes only. The hotels were not identified by names, upon receipt of the questionnaire the researcher was not able to view the senders' email addresses, and the online survey application used concealed the respondents email addresses once the questionnaire is sent therefore ensuring anonymity to the study participants.

3.10.3 Risk to Participation

The researcher avoided questions that caused discomfort, harm or any kind of risks. The participants were free to withdraw their participation in case of discomfort or any foreseen risks they may encounter as a result of their participation in the study (see Appendix C).

3.10.4 Compensations

The participants were not coerced, enticed, or bribed to participate or to increase the response rate rather, the study was voluntary it was based on the participants free will, no any form of compensation or benefits was given (Appendix C).

3.10.5 Expected Application of the Result

The purpose of the study and expected application of the result was explained to the participants in the consent form (see Appendix C).

3.10.6 Mechanism for Feedback of Results

The researcher promised to avail summary report of the results to all participants upon completion of the study via email (Appendix C).

CHAPTER FOUR
RESULTS

This chapter presented the findings of the study results. It contains, research response rate, demographic characteristics of study variables, descriptive statistics results, correlation analysis and multiple regression analysis based on the study objectives.

4.1 Response Rate

The study population consisted of210 hotel managers drawn from seventy hotels (70) classified as three to five star in Kenya as per the Tourism Regulatory Authority gazette notice for the period 2015-2018 (TRA, 2018; Appendix D). Out of the targeted 210 respondents 125 responded to the questionnaire. That represented 60% response rate. The response rate was considered adequate for the study since it was above 50% as recommended by Mugenda (2003).

4.2 Demographic Characteristics of Study Respondents

The characteristics of respondents are summarized in Table 1 below. The table revealed that most of respondents who participated in the study were from three-star hotels 54 (43.2%), followed by four-star 49 (39.2%). Few five-star hotels 22 (17.6%) participated in the study. Majority of respondents were from town/city hotels 53 (42.4%), followed by resort/beach hotels 50 (40%), Eco-rated hotels had the least number of respondents22 (17.6%). Hotels had employees ranging between 100 and below (56%) and 101 to 200 (44%). High number of hotels had rooms that ranged between 101-200 (48%), followed by 201-300 (29.6%), then 100 and below (16%). Few had rooms between 301-400 (6.4%). Majority of the study participants were male (54%) while the number of females who took part in the online survey were (46%). All the respondents in the survey possessed some form of education with majority having attained bachelors degree (48%), followed by diploma (29.6%), then certificate (14.4%). Few had master degree (8%).

Table 4.1: Respondent demographic characteristics

Demographic characteristics	Frequency	Valid percent (%)
Star rating		
3-star	54	43.200
4-star	49	39.200
5-star	22	17.600
Total	**125**	**100.000**
Type of hotel		
Town/City	53	42.400
Resort/beach	50	40.000
Eco rated	22	17.600
Total	**125**	**100.000**
Number of employees		
100 and below	70	56.000
101-200	55	44.000
Total	**125**	**100.000**
Number of rooms		
100 and below	20	16.000
101-200	60	48.000
201-300	37	29.600
301-400	8	6.400
Total	**125**	**100.000**
Gender		
Male	68	54.000
Female	57	46.000
Total	**125**	**100.000**
Education level		
Masters	10	8.000
Bachelors	60	48.000
Diploma	37	29.600
Certificate	18	14.400
Total	**125**	**100.000**

4.3 Environmental management practices implemented by three to five star hotels in Kenya

Objectives one to three of the study identified environmental management practices relating to waste management, energy and water conservation practices that have been implemented by three to five-star hotels in Kenya. The study participants were first asked to indicate whether they had environmental management policies and programs in their respective hotels, 100% responded with a Yes. To achieve these objectives, managers were asked to

respond to thirty-six questions on environmental management practices (EMPs), twelve questions for each EMP variable (Energy and water conservation practices and waste management practices). Table 4.2,4.4.4 and 4.5 indicate the mean score, percentage and standard deviation for the three EMP constructs.

4.3.1 Energy Conservation Practice

Table 4.2 indicate that overwhelming number of hotel managers review and monitor their energy bills (M=4.640, % Mean=92.800). This results was possibly due to the fact that energy is the most expensive natural resource, therefore reviewing and monitoring energy bills is one of the most important measure that can be undertaken by the hotel managers to reduce the utility cost of the hotels. Installation of energy efficient lighting was also highly implemented (M=3.900, % Mean= 78.000). This finding was possibly due to the fact that energy efficient lighting systems such as CFL and LED considerably helps in saving the cost of energy compared to traditional lighting system while, reduction in the number of lifts operated during off peak hours was indicated as the second least implemented water conservation practice (M=3.200, % Mean=64.000). This may be possibly due to the fact that hotels always thrive to offer more comfort and luxury to their guests, therefore, putting in place this practice may interfere with guest comfort. Calculating energy consumption costs of the hotel was the least implemented energy conservation practice (M=3.090, % mean =61.800).This may be possible since majority of hotels depend on energy supplied by Electrical companies who determine energy consumption costs on a monthly basis , hotels therefore only rely on the figures provided by the electrical companies.

Table 4.2: Descriptive statistics of energy conservation practices

Energy conservation practices	Percent (%)	Mean	S.D
Reviewing and monitoring of energy bills	92.80	4.64	.544
Reviewing and monitoring of energy bills	92.800	4.640	.548
Use energy efficient lighting system (LED, CFL instead of traditional lighting)	78.000	3.900	.896
Servicing of all major energy appliances according to suppliers' recommendation	74.200	3.710	.854
Install lighting management control systems (occupancy sensors, timers, photo sensors)	74.000	3.700	.842
Install automated energy control systems (key card activation of rooms)	71.400	3.570	.844
Implement energy management plan and set process level energy targets	71.200	3.560	.863
Procure energy efficient appliances	69.800	3.490	.855
Install double glazed windows	69.200	3.460	.776
Use renewable energy sources (solar, wind, Biomass, wastes and hydro geothermal)	66.800	3.340	.806
Install meters in each department to monitor energy consumption	66.000	3.300	.858
Reduce the number of lifts operated during off-peak hours	64.000	3.200	.835
Calculate energy consumption cost for the hotel	61.800	3.090	.747

Note. S.D=standard deviation; Likert scale used was 1-5 where, 1= to no extent at all; 2=to a little extent; 3=to some extent; 4=to a great extent; 5=completely

4.3.2 Water Conservation Practices

Determining monthly water consumption and cost was highly implemented by the hotel managers (M=4.290; % mean=85.800). This finding may be possibly due to the fact that majority of hotels rely on tap water supplied by water and sewerage companies who bill and determine monthly water consumption and cost. Ensuring taps are not opened unnecessarily

was also implemented by majority of hotel managers (M=4.250; % mean 85.000) .This may be due to the fact that this practices is simple and less expensive to implement while, Reusing grey water for irrigation and toilet flushing was indicated as the second least implemented water conservation practice (M=3.380; % mean= 67.600).This finding may be because reusing grey water for irrigation and toilet flushing requires high upfront cost of installation which may be expensive for majority of hotels to invest on. Similarly, Implementing bedclothes and towel reuse program was also indicated as the least implemented to water conservation practices (M=3.310; % mean=66.700). This is due to the negative view about this practice as "compromised service quality".

Table 4.3: Descriptive statistics of water conservation practices

Water conservation practices	Percent (%)	Mean	S.D
Determine monthly water consumption and cost	85.800	4.290	.795
Ensure taps are not opened unnecessarily	85.000	4.250	.877
Ensuring cleaning is not done with high pressure hoses	81.200	4.060	.819
Install efficient water devices (low flow taps and showerheads)	79.600	3.980	.899
Regular maintenance of plumping fixtures and piping	79.400	3.970	.809
Identify activities and areas that cause high water consumption	75.200	3.760	.855
Train staffs to reduce water use	73.600	3.680	.978
Provide guest with information to encourage reduced water consumption	70.400	3.520	.952
Install rainwater collection and distribution system	69.000	3.450	.905
Install grey water collection, treatment and distribution system	68.000	3.400	.917
Reuse grey water for irrigation and toilet flushing	67.600	3.380	.928
Implement bed and towel reuse program	66.200	3.310	.960

Note. S.D=standard deviation; Likert scale used was 1-5 where, 1= to no extent at all; 2=to a little extent; 3=to some extent; 4=to a great extent; 5=completely

4.3.3 Waste Management Practices

Table 4.4 indicate that ensuring fresh and perishable products are stored appropriately was highly implemented by the hotel managers (M=4.300; % mean =86.000). This was possibly due to the fact that this practice is simple to implement yet helps in reducing the amount of wastes generated through spoilage. Reducing packaging by purchasing in bulk was also implemented by majority of the hotel managers (M=4.220; % mean=84.400) while, Composting organic waste was indicated as the second least implemented waste management practice (M=3.210; % mean=64.200). This may be due to the need to have high upfront cost and large parcel of land to set up composting program which most hotels lack. Monitoring and reporting waste generation and collection was indicated as the least implemented waste management practice (M=3.200; % mean=64.000).This was because, majority of the hotel managers do not conduct waste audit which is very crucial in determining the amount of waste generated in a hotel facility.

Table 4.4: Descriptive statistics of Waste management practices

Waste Management Practices	Percent (%)	Mean	S.D
Ensure fresh and perishable products are stored appropriately	86.000	4.300	.928
Reduce packaging by purchasing in bulk	84.400	4.220	.798
Avoid burning wastes outdoor	82.800	4.140	.857
Install containers specific to a particular type of waste	82.600	4.130	.874
Check expiry dates of foodstuffs	77.600	3.880	.935
Transform old bed sheets and napkins to laundry bag and rags	75.200	3.760	.927
Avoid disposable tableware and napkins	74.000	3.700	.755
Install soaps and shampoo dispensers	73.600	3.680	.758
Encourage paperless transaction whenever possible	73.200	3.660	.995
Donate leftover guest amenities & items	68.000	3.400	.907
Compost organic and food wastes	64.210	3.210	.969
Monitoring and reporting waste generation and collection	64.200	3.200	.926

Note. S.D=standard deviation; Likert scale used was 1-5 where, 1= to no extent at all; 2=to a little extent; 3=to some extent; 4=to a great extent; 5=completely

Overall implementation of environmental management practices

Table 4.5 below gives a summary of environmental management practices implemented by three to five- star in Kenya.

Table 4.5: The overall implementation of environmental management practices

Environmental management practices	Percent (%)	Mean	S.D
Water conservation practices	75.000	3.750	.536
	74.400	3.720	.487
Waste management practices			
	71.600	3.580	.489
Energy conservation practices			

Note. Descriptive statistics indicating the overall implementation of EMPs

4.4 Financial performance of hotels in Kenya

The second objective was to assess the financial performance of three to five-star hotels in Kenya. To achieve this objective, managers were asked to respond to six questions measuring financial performance. The composite mean scores, mean percentages and standard deviation of the results presented in Table 4.6 below

Table 4.6: Descriptive statistics of financial performance

Financial performance indicators	Percent (%)	Mean	S.D
Net profit, and gross profit attained	81.800	4.090	.732
Return on equity achieved	80.000	4.000	.824
Return on assets attained	79.000	3.950	.745
Revenue par available room attained	72.000	3.600	.776
Occupancy rate attained	72.000	3.600	.795
Average daily room rate	70.600	3.530	.807

Note. S.D=standard deviation; Likert scale used was 1-5 where, 1= to no extent at all; 2=to a little extent; 3=to some extent; 4=to a great extent; 5=completely

4.5 The Linkage between environmental management practices and financial performance

The fifth objective was to determine the linkage between environmental management practices and financial performance of the hotels. In order to determine this linkage correlation analysis and multiple regression analysis was employed.

4.5.1 Correlation result of environmental management practices and financial performance

To establish the strength and direction of relationship among EMP variables and financial performance a correlation matrix was used. Table 4.7 shows a varied degree of interrelationship among EMPs and financial performance. For instance, there was a strong positive correlation between energy conservation practices and financial performance (r=0.540)followed by water conservation practices (r-=0.408) then waste management practices(r=0.342). Two tailed test of significance was used because there was no assumption whether the correlation is positive or negative

Table 4.7: Correlations between Environmental management practices and financial performance

n=125	FP	WCP	ECP	WMP
FP	1			
WCP	.408**	1		
ECP	.540**	.343**	1	
WMP	.342**	.153	.091	1

Note. FP= Financial performance; WCP= Water Conservation Practices; ECP=Energy Conservation Practices; WMP= Waste Management Practices;** correlation is significant at the 0.010 level (2- tailed); *. Correlation is significant at the 0.050 level (2-tailed)

4.5.2 Regression results of environmental management practices and financial performance

Results of multiple linear regression indicated that there was a collective significant linkage between EMP variables and financial performance, (R=.647, R^2=.419, Adjusted R^2=.404, F (3, 121) =29.05, P<.001). The individual contribution of each EMP in table 4.8 showed that energy conservation practices had the highest significant statistical contribution on the financial performance (β=.441, t=5.978, p<.001). While water conservation practices had the least contribution on financial performance (β=.216, t=2.905, p<.004). Thus, the regression

model above takes the linear equation of the form: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$ where Y is Financial performance, β_0 is a constant,

Table 4.8: Regression statistical contribution of EMP variables on financial performance

	B	Std. Error	β	t	Sig
Model					
Constant	1.548	.250		6.200	.000
Water conservation practices	.132	.045	.216	2.905	.004
Energy conservation practices	.299	.050	.441	5.978	.000
Waste management practices	.183	.048	.269	3.831	.000

Note. B=unstandardized coefficient beta values; β=standardized coefficient beta values; t=t-values; R=.647, R^2 =.419, Adjusted R^2=.404, F (3, 121) =29.05, (P<0.001).

CHAPTER FIVE
DISCUSSION

This chapter presents discussion of the study findings. The discussion is organized into sections which address the objectives of the study. The discussion links the findings of the present study with the previous studies except for the financial performance of the hotels.

5.1 Environmental management practices implemented by three to five-star hotels in Kenya

Objective number one to three was to identify environmental management practices relating to waste management, energy and water conservation practices that have been implemented by three to five -star hotels in Kenya. The study findings for EMP variables (waste management and energy and water conservation practices) are discussed in the subsequent subsections below.

5.1.1 Energy Conservation Practices

Results in this study shows that reviewing and monitoring energy bills (92.8%) was the most implemented energy conservation practice. Similarly, Sucheran and Bob (2014) reported that 82% of hotels in KwaZulu Natal reviewed utility bills to monitor energy consumption. A study of hotels in the Red sea found that 83% of managers confirm that reviewing utility bills and keeping a file of all utility charges was an important practice to monitor resource consumption (Kattara and Zeid, 2002).

Lighting is the second largest energy consuming system in a hotel (Alexander,2002) and therefore is a common area of energy saving potentials. The study results reveal that, use of energy efficient lighting systems such as light emitting diodes (LED), compact florescent lighting lamps (CFL) is the second commonly implemented energy conservation practice by 78%. The current study findings concur with Sucheran and Bob (2014) findings, they concluded that 98% of hotels in KwaZulu Natal use energy saving bulbs. Research conducted by Kuuder et al. (2013) and Tang et al. (2012) also cited use of energy efficient lighting as the most common energy-saving method in hotels. However, research undertaken by Ali et al. (2008) showed that only 8.5% of hotels in Jordan have installed energy saving bulbs.

Majority of the hotels in the current study also service major energy appliances according to suppliers' recommendations (74.2%), installlight management control systems such as occupancy sensors, timers and photosensors (74%) that switch off when light is not required,

install automated energy control systems which include key-card activation in guest rooms (71.4%). Sucheran and Bob (2014) however found that only 23% of hotels and lodges use key-card energy control systems in guestrooms. Similarly, a large proportion of hotels in Turkey claimed that they did not have key-card control system in their hotels (Erdogan and Tosun, 2009). Key card control system provides no power unless the room-key is inserted. Lastly, 71% of hotels have energy management plan and set target for continuous energy improvement.

Energy conservation practices considered least implemented in the current study were: Use of energy efficient appliances (69.8%). Contrarily, Sucheran (2013) found that 82% of hotels used energy efficient appliances. Similar to his findings, 83% of hotels in Ghana used energy efficient appliances (Mensah, 2006), other least implemented energy conservation practices were; install double glazed windows (69.2%), install meters in each department to monitor energy consumption (65.8%), reduce the number of lifts operated during off-peak hours (65.2%) and Calculate energy consumption costs for the hotel (61.8%).

The results of the study further reveal that, use of renewable energy sources such as solar, wind and biogas (66.8%) were among the least implemented energy conservation practices. Similar findings were made by Mensah (2006) where only 8% of hotels in Ghana had installed a solar hot water heating system and Bohdanowicz and Matinac (2007) found that very few hotels in the Mediterranean used solar energy. Hotels in central Antalio also declined to use solar panels as they considered these to be rather expensive (Edorgan and Tosun, 2009).

5.1.2 Water Conservation Practices

Results in this study (refer to table 3) indicates that majority of hotels determine their monthly water consumption and cost by 85.8%. Reviewing and monitoring water bills is often a first step towards managing water consumption, water bills give the necessary information and provide useful insights into how much water is consumed and cost (Sucheran, 2013). Majority of hotels normally depend on water and sewerage companies for water billing on a monthly basis since most hotels relay on tap water provided by the municipal companies as the main source of water supply.

Simple practices aimed at reducing water usage such as ensuring that taps are closed when not in use, ensuring cleaning is not done with high pressure hoses and regular maintenance of plumping fixtures and piping to avoid leaks were highly implemented by 85%, 81.2% and

79.4% respectively. According to Kasim and Okumus (2014), these are the least knowledge and technology intensive water management approach but requires close monitoring of operational activities to reduce water consumption and involves behavioral change for better implementation. Kassim and Okumus (2014) further contended that for this approach to work, all hotel personnel at all level must play a role.

Installation of efficient water fittings in guest rooms/areas such as low flow shower heads, low flow taps, tap aerators and electronic sensors are the most commonly water conservation measures used by hotels. Alonso and Ogle (2010) concluded that 63% of hotels and lodges use low flow shower heads and 40% use low-flow taps. The current study indicated that hotels have installed efficient water fittings in guest rooms/areas by 79.6%. Sucheran (2013), however found that only 25% of 5-star hotels and lodges installed low flow showers. He further explained that his findings were possible due to the fact that luxury hotels and lodges are hesitant to implement environmental measures as they fear this would negatively affect guest comfort and satisfaction as hotels usually "base their business on perceived opulence, luxury and grandeur (Graci and Dodds, 2008).

Results in this study, indicates that hotels train staffs on water usage (73.6%) and provide guests with information to encourage reduced water consumption (70.4%). According to Kasim and Okumus (2014), this approach of water management is knowledge intensive as it requires hotel management to "teach" and influence stakeholders to support the hotels' goal of minimizing water consumption. Sucheran (2013) found that 80% of hotels and lodges educated customers and staffs on how to conserve water. According to Bohdanowicz (2005), The Green Hotel Association reports that between 70-90% of guests participate in water conservation programs which relates to a saving of US $6.50 per day per occupied room.

The current study had the following practices as the least implemented water conservation practices: Installation of rainwater collection and distribution system (69%), installation of greywater collection, treatment and distribution system (68%) and reuse of greywater for irrigation and toilet flushing (67.6%). The current findings may be attributed to the fact that hoteliers will need additional financial resources to implement these practices. Sucheran (2018) highlighted high costs and lack of resources as a barrier to implementing environmental management in hotels.

Linen and towel reuse program is a well-established activity in most European countries (Bohdanowicz, 2006; Edorgan and Tosun, 2009). Majority of hotels in Ghana (Mensah, 2006), China (Min, 2011) and Taiwan (Tang et al, 2012) also have linen and towel reuse program in place. However, the current study had linen and towel reuse program as the least implemented water conservation practice by 66.2%. This finding concurred with Kattara and Zeid (2002) who cited linen and towel reuse as the least applied environmental practice in the Red sea hotels.

5.1.3 Waste Management Practices

Results in this study (refer to table 4) shows that the most commonly implemented waste management practice is storage of fresh and perishable products appropriately (86%). This aspect of waste management was considered by the majority of hotels this was possibly due to the fact that higher graded hotel establishments normally have large inbuilt freezers where they keep fresh and perishable products such as vegetables, meat, fish and milk products.

Reducing packaging by purchasing in bulk (84.4%) was the second most implemented waste management practices. Similarly, Sucheran (2013) found that 83% of hotels and lodges in his study purchased goods in bulk to reduce the generation of packaging waste. 60% of hotels in Ghana purchased in bulk to reduce packaging (Mensah, 2006). According to Radwan et al. (2012), waste management should start at the point of purchasing and green purchasing reduces waste at the source. Buying in bulk prevents unnecessary packaging.

Majority of hotels avoided burning waste outdoor (82.8%), this means that fresh air quality was considered important to most hoteliers. Hotels also installed containers specific to waste generated by 82.6%. Waste sorting was also implemented by 67% of hotels and lodges in KwaZulu Natal (Sucheran, 2013). Conversely, only 31% of hotels in Poland have engaged in waste sorting and recycling (Bohdanowicz, 2006), waste separation was also considered the least applied practice in the Red sea hotels (Kattara and Zeid, 2002)

Further results in table 4 shows that, most hotels implemented simple waste management practices such as checking expiry dates of food stuffs (77.6%), transforming old bed sheets and napkins to laundry bags and rags (75.2%) and avoiding use of disposable tablewares and napkins (74%). Kuuder et al (2013) cited use of reusable items such as ceramic cups, plates and napkins as the most popular environmentally friendly practices adopted by facilities in Greater Accra Region of Ghana.

This study results reveals that hotels have installed soap and shampoo dispensers by 73.6%. Sucheran (2013) found that 70% of four- star hotels and lodges installed soap and shampoo dispensers but only 25% of five-star hotels and lodges installed soap and shampoo dispensers. He further argued that this may be possible since using soap and shampoo dispensers may reduce the luxury associated with five- star hotels and lodges. The current study further reveals that most hotels encourage paperless transaction whenever possible (73.2%).

Donating leftover guest amenities and items was among the least applied waste management practices by 68%. This is consistent to Kuuder et al. (2013) findings, that donation programs are the least practiced conservation and waste management practice. However, Hilton worldwide has invested in Global soap project, which is a non-profit organization that collects and recycles leftover soaps from the hotel and donate to developing countries. The project had donated 25 tons of soap to poor communities in 20 countries (Sucheran, 2013).

Composting organic and food waste was the second least implemented waste management practice in three to five -star hotels in Kenya by 64.2%. Kuuder et al (2013) also highlighted compost of waste as the least implemented waste management practice by hotels in Greater Accra region in Ghana. Radwan et al. (2012) noted that there had been an increased implementation of composting by food service outlets, however, a few hoteliers in Wales do not compost their organic waste as they do not know how to compost and often hotels may consider composting to be costly or they may lack the technology to perform such operations.

Majority of the hotels had monitor and report waste generation by type and quantities (64%) as the least implemented waste management practice. Tang (2004) indicated that waste auditing is an essential step to move towards better waste management. Auditing is known to be effective at identifying types, sources and quantities of waste streams produced by hotel business. Hoteliers must therefore maintain records for waste audits to measure the effectiveness of their waste management strategies.

5.2 Financial Performance of Hotels

The second objective of this study was to assess the financial performance of the hotels. Much of the discussion in this section is however, not linked with previous studies because most hospitality related research have not combined the bottom-line financial ratios such as Net profit earned, return on equity and top-line financial ratios (ADR, occupancy rate, Revpar) when assessing financial performance.

5.3 The Linkage between Environmental Management Practices and Financial Performance of Hotels

The correlation analysis of environmental management practices and financial performance in table 7 reveals that all the three variables measuring EMPs i.e Energy conservation practices, water conservation practices and waste management practices are significantly positively correlated with financial performance. As noted from the findings, energy was highly positively correlated with financial performance followed by water conservation practices then waste management practices. The results further reveal that, all the three EMP variables were significantly positively correlated with financial performance. This finding concurs with Gray and Bebbington (2001), who found positive correlation between waste management and financial performance.

They also found a positive correlation between energy saving and financial performance. Neeveditah et al (2017), however found negative correlation between waste management and financial performance except for energy reduction practices which they found positive relationship. Gray and Bebbington (2001), argued that reducing energy usage leads to financial savings. Using renewable energy sources such as solar, turning off lights when not in use and using energy efficient equipment help to decrease energy use hence costs associated. Grey and Bebbington (2001) further contended that, reducing wastes helps firms to save financially as waste reduction programs help firms gain good public image hence attract more customers as their reputation is boosted.

Multiple regression results reveals that, all the three EMP variables significantly predicts financial performance. And that they are significantly positively linked with financial performance. This finding is consistent with Singal (2014) and Montabon (2007) who found a positive relationship between environmental management practices with financial performance. Further, the results in the study indicates that energy conservation practices had the greatest contribution on financial performance, followed by waste management practices then water conservation practices. These findings have implication to the hotel managers, from the results it pays to invest on environmental management practices because EMPs are significantly positively linked with financial performance, especially energy conservation practices and waste management practices. Unfortunately, these two practices (energy conservation practices and waste management practices) require high initial cost of investment therefore, hoteliers are urged to invest more resources without fear of payback.

CHAPTER SIX
CONCLUSIONS, RESEARCHIMPLICATIONS AND RECOMMENDATIONS

This chapter presents conclusion and recommendation based on the study findings. The conclusions are made in line with the research objectives and research questions. Recommendations are made for the hospitality and tourism practitioners and scholars who may want to conduct further research in this line of academic discipline.

6.1 Conclusions

This study has identified environmental management practices (EMPs) implemented in the hotel sector relating to energy conservation, waste management and water conservation practices, assess the financial performance of hotels and subsequently, investigated the linkage between these EMPs and financial performance. The study results indicate that within the context of Kenyan hotel sector, water conservation practices were generally highly implemented followed by waste management practices then lastly energy conservation practices. However, the study findings concluded that energy conservation practices had the highest contribution on the financial performance compared to water conservation practices and waste management practices. Finally, the results of this study find significant positive linkage between EMPs and financial performance. Therefore, the study concludes that hotels should proactively implement environmental management practices in order to improve their financial performance

6.2 Research Implications

The current study has both theoretical and practical implication to researchers and practitioners of hospitality management.

6.2.1 Theoretical Implications

This study has identified EMPs that have been implemented by hotels in Kenya, therefore, has significantly contributed to the field of environmental management which is currently limited in the Kenyan hotel sector. Majority of studies on environmental management practices in hotels have been conducted in developed regions like Europe, Asia and North America (Mensah, 2006). The study has also contributed to the ongoing debate of the performance implication of EMPs, most studies have investigated this linkage using competitiveness and environmental performance. Financial dimension of performance has received little attention in hospitality research (Singal, 2014) yielding inconclusive findings (Orlitzky, 2011). The current study provides empirical support for the linkage between EMPs

and financial performance, the study therefore demonstrates that proactive implementation of EMPs can translate to improved financial performance to some degree.

6.2.2 Practical Implications

The study findings identified EMPs that have been implemented within the context of hotel sector in Kenya this should enable other hotel managers in Kenya to follow suit by putting in place environmental management measures in their operations. The finding also provides support for the linkage between EMP variables and financial performance, this provides an important insight for managers to consider proactive engagement of EMPs in order to improve their financial performance

6.3 Recommendations

Based on the survey results, the following recommendations are made

1. Hotels need to sensitize guests to encourage them to participate in environmental management programs such as linen and towel reuse program as they will save on energy and water.
2. It is recommended that hotels invest more financial resources even on those EMPs that require high initial cost of investment because it actually pays to invest on Environmental Management Practices (EMPs).

6.4 Suggestions for Further Research

First, the study recommends the need for other studies to consider moderation and mediation analysis when investigating the linkage between environmental management practices and financial performance. Secondly, future studies should consider investigating the linkage between environmental management practices and financial performance using other aspects of environmental management not investigated in the current study. Thirdly, future studies should also incorporate the non-financial performance measures. Fourthly, the study recommends longitudinal studies when investigating the linkage between EMP variables and performance, this is done to overcome the issue of time lag between implementation of environmental management practices and financial performance outcome. Finally, future studies should consider the individual practices measuring each aspect of environmental management practices and performance

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APPENDICES

Appendix A:School of Graduate Studies

(SGS) Approval Letter

MASENO UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Office of the Dean

Our Ref: MSC/SC/00012/15

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 2nd August, 2018

TO WHOM IT MAY CONCERN

RE: PROPOSAL APPROVAL FOR OMUNE BERYL ATIENO — MSC/SC/00012/2015

The above named is registered in the Master of Science in Hospitality Management Programme in the School of Physical and Biological Science, Maseno University. This is to confirm that her research proposal titled "Environmental Management Practices and Financial Performance of Hotels in Kenya." has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.

Prof. J.O. Agure
DEAN, SCHOOL OF GRADUATE STUDIES

Maseno University   *ISO 9001:2008 Certified*

49

Appendix B: Ethics Approval Letter

MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel +254 057 351 622   Ext 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 20th December, 2018

TO: Beryl Atieno Omune
      PG/MSc/SC/00012/2015
      Department of Eco-Tourism, Hotel and Institutional Management
      School of Physical and Biological Sciences
      Maseno University
      P. O. Box, Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00631/18

RE: Environmental Management Practices and Financial Performance of Three to Five-star Hotels in Kenya. Proposal Reference Number MSU/DRPI/MUERC/00631/18

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 20th day of December, 2018 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 19th December, 2019. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 15th November, 2019.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 15th November, 2019.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advice MUERC when the study is completed or discontinued.

Thank you,

Dr. Bernard Guyah
Ag. Secretary,
Maseno University Ethics Review Committee.

Cc: Chairman,
Maseno University Ethics Review Committee.

50

Appendix C: Consent Form

My name is Omune Beryl Atieno, I am a masters student in the school of physical and Biological science at Maseno University. I am conducting a study on Environmental management practices and financial performance of three to five- star hotels in Kenya. The purpose of this study is to investigate the linkage between environmental management practices and financial performance of hotels in Kenya. I intent to use self-administered structured questionnaire and a cross-sectional census survey research design to gather data via online survey using google forms. The questionnaire contains three sections, section A requires you to give a brief profile of the hotel and yourself, Section B requires you to answer questions on environmental management practices of the hotel and finally section C on financial performance of the hotel.

The study will be conducted within a period of three months. The researcher will ensure confidentiality of your response by first, not including your name in the questionnaire as well as the hotel name. Secondly, upon submission of the filled questionnaire, the response will be automatically recorded in the google drive and researcher will be able to view your response but will not be able to associate it to any hotel or person. This is because the online survey application used hides the respondent email address once the response is received by the researcher and therefore ensuring anonymity to all participants of the study. Lastly, your response will be used for academic purposes only and results of this survey will appear largely in the form of statistical reports and will be destroyed three months following completion of the study.

The researcher will avoid any questions that may cause discomfort, inconvenience, harm or risks. In case of any discomfort you are free to withdraw your participation. The participation in the study will be voluntary it will be based on your free will; no any form of compensation or benefits will be given to participate. The result arising from this study will be of benefit not only to scholars of hospitality management but also to hotel managers as it will identify environmental management practices associated with financial performance improvement. This will be of great value when it comes to decision making of your hotel environmental management. Summary report of the study will be availed to you in your email address upon completion of the study.

In case of any questions or concerns about the study contact Omune Beryl Atieno. Telephone number:0723636972. Email address: berylomune7@gmail.com. For any questions pertaining to yours rights as a research participant, contact; Secretary, Maseno University Ethics Review Committee (MUERC), Private Bag, Maseno; Telephone number; 057-51622, 0722203411.

Participant   signature………………………………………….

Witness (s) signature………………………………………..

Appendix D: Research Questionnaire
SECTION A: Hotel and Manager profile

Please respond to the following questions by ticking in the spaces provided

Q. 1   Classification of the hotel

1. one -star ☐ 2. two-star ☐   3. three- star ☐   4. four- star ☐   5. five- star ☐

Q.2 Type of your hotel

1. Town/city hotel☐   2. Beach resort hotel ☐   3. Ecotel ☐   4. Boutique hotel☐   others
(please specify…………………………………………………….)

Q. 3 Current employees in this hotel

1. 100 and below☐   2. 101-200 ☐   3. 201-300 ☐   4. 301-400 ☐ 5. More than 400 ☐

Q.4 Number of rooms

1. 100 and below ☐   2. 101-200 ☐ 3. 201-300 ☐   4. 301-400 ☐ 5. 400 and above☐

Q. 5 Select your gender

1. Male ☐2. Female☐

Q.6 Select your highest education qualifications?

1. PHD☐   2. Masters☐   3. Bachelors ☐   4. Diploma ☐   5. Certificate ☐

SECTION B: Environmental Management Practices

Q.7 Do your hotel have Environmental management programs/policies (e.g Waste management, Energy conservation and water conservation practices?

1.Yes ☐   2. No ☐ (If No, please proceed to section C of the questionnaire)

Q.8 To what extent do the following environmental management practices important in your hotel?

Use the scale provided below to indicate the value that nearly describes your opinion (kindly tick one option).

1= Not important   2=Slightly important   3=Moderately important   4= Very important
5= Extremely important

	Not important	Slightly important	Moderately important	Very important	Extremely important
Energy conservation practices	1	2	3	4	5
Water conservation	1	2	3	4	5

practices					
Waste management practices	1	2	3	4	5

Q.9 To what extent does your hotel **IMPLEMENT** the following Environmental management practices?

Use the scale provided below to indicate the value that nearly describes your opinion (kindly tick one option).

 1= No extent at all   2=to a little extent   3=to some extent   4=to a great extent
5= Completely

ENVIRONMENTAL MANAGEMENT PRACTICES	Not at all	To a little extent	To some extent	To a greater extent	Completely
(A) ENERGY CONSRVATION PRACTICE					
Install and check meters in each department to monitor energy consumption	1	2	3	4	5
Reviewing and Monitoring of energy bills	1	2	3	4	5
Calculate energy consumption costs for the hotel	1	2	3	4	5
Servicing of all major energy appliances according to suppliers recommendation	1	2	3	4	5
Use energy efficient lighting system e.g. Light Emitting Diodes (LED) and compact florescent Light Lamps (CFL lamps), instead of traditional lighting system	1	2	3	4	5
Install lighting management control systems (occupancy sensors, timers, photo sensors)	1	2	3	4	5
Procure energy efficient appliances	1	2	3	4	5
Install double glazed windows	1	2	3	4	5
Reduce the number of lifts operated during off-peak hours	1	2	3	4	5
Use renewable energy sources (solar, wind, Biomass and waste, hydro and geothermal energy sources)	1	2	3	4	5
Install automated energy control system (key-card activation of room)	1	2	3	4	5
Implement energy management plan and set process level energy target	1	2	3	4	5
(B) WATER CONSERVATION PRACTICES					
Determine monthly water consumption and cost	1	2	3	4	5
Identify activities and areas that cause high water consumption	1	2	3	4	5
Install efficient water devices (low flow taps and showerheads)	1	2	3	4	5
Ensure taps are not opened unnecessarily	1	2	3	4	5
Ensuring cleaning is not done with high pressure hoses	1	2	3	4	5
Regular maintenance of plumbing fixtures and piping in order to avoid losses	1	2	3	4	5
Install grey water for irrigation and toilet flushing	1	2	3	4	5
Install grey water collection, treatment and distribution system	1	2	3	4	5
Implement towel reuse program	1	2	3	4	5
Train staffs to reduce water use	1	2	3	4	5

Install rainwater collection and distribution system	1	2	3	4	5
Provide guest with information to encourage reduced water consumption	1	2	3	4	5
(C) WASTE MANAGEMENT PRACTICES					
Reduce packaging by purchasing in bulk	1	2	3	4	5
Avoid burning wastes outdoor	1	2	3	4	5
Install containers specific to a particular type of waste	1	2	3	4	5
Transform old bed sheets and napkins to laundry bags and rags	1	2	3	4	5
Encourage paperless transaction whenever possible	1	2	3	4	5
Avoid burning waste outdoors, dispersing waste in nature or burring them	1	2	3	4	5
Recycle electric and electronic appliances and donate unwanted appliances that are still working to local associations	1	2	3	4	5
Check expiration dates of foodstuffs	1	2	3	4	5
Ensure fresh and perishable products are stored appropriately	1	2	3	4	5
Install soaps and shampoo dispensers	1	2	3	4	5
Avoid using disposable tableware and napkins	1	2	3	4	5
Donate leftover guest amenities and items	1	2	3	4	5
Compost organic and food wastes	1	2	3	4	5
Monitor and report waste generation and collection	1	2	3	4	5

SECTION C: Financial Performance of the Hotel

Q.14 For the last one year how has your hotel been **performing** in regard to the following financial performance indicators? *If you have not been at your hotel since 2017, please give your best estimation.*

Use the scale provided below to indicate the value that nearly describes your opinion (kindly tick or circle one option).

 1= No extent at all   2=to a little extent   3=to some extent   4=to a great extent   5= Completely

Financial performance indictors	No extent at all	To a little extent	To some extent	To a great extent	Completely
Net profit and gross profit attained	1	2	3	4	5
Average Daily room rate achieved	1	2	3	4	5
Revenue par available room attained (Rev par)	1	2	3	4	5
Return on assets achieved	1	2	3	4	5
Return on equity attained	1	2	3	4	5
Occupancy rate achieved	1	2	3	4	5

Thank you for your contribution, time and effort.

END

Appendix E: List of survey hotels

	Name of the establishment	Star rating
1	Villa Rosa Kempinski	5
2	Hemingway's Nairobi	5
3	Sankara Nairobi	5
4	Fairmont the Norfork	5
5	Tribe Hotel	5
6	The Sarova Stanley	5
7	Radisson Blu Hotel Nairobi	5
8	Dusit D2	5
9	Intercontinental Nairobi	5
10	The Boma Nairobi	5
11	Medina Palms suites and villas	5
12	Leopard Beach Resort and Spa	5
13	Swahili Beach Resort	5
14	Olare Mara Kempinski	5
15	Enashipai Resort and spa	5
16	Crown Plaza	4
17	Ole Serani hotel	4
18	House of Waine	4
19	Weston Hotel	4
20	Southern Sun Mayfair Nairobi	4
21	Fairview hotel	4
22	Sarova Panafric hotel	4
23	Silver Springs hotel	4
24	Hilton Nairobi Limited	4
25	Nairobi Safari club	4
26	Windsor Golf hotel and country club	4
27	Baobab beach resort and spa	4
28	Msambweni Beach House and Private Villas	4
29	Serena Beach Resort and Spa	4
30	Voyager Beach resort	4
31	Marina English Point	4
32	Sarova White Sands Beach Resort and Spa	4
33	Diamond Dream of Africa	4
34	Turtle Bay Beach Resort and Spa	4
35	Diani Reef Beach Resort and Spa	4
36	Silver Palm Spa and Resort	4
37	Boma Inn, Eldoret	4
38	White Rhino hotel	4
39	Acacia premier hotel	4
40	Ngong Hills Hotel	3
41	The Heron Portico	3
42	Utalii Hotel	3
43	The Panari Hotel	3
44	Marble Arch Hotel	3
45	Kenya Comfort suits	3

46	Sportview hotel Kasarani	3
47	Boma Inn, Nairobi	3
48	La masion Royale	3
49	Sandies Tropical Village	3
50	Crystal Bay Beach Resort	3
51	The Clarion hotel	3
52	Bahari Beach Hotel	3
53	Royal court hotel	3
54	Isinya resorts Limited	3
55	Azal margarita beach resort	3
56	Indian ocean beach resort	3
57	Diani sea resort	3
58	Hotel Cathay	3
59	Lake Naivasha sopa resort	3
60	Samich resort	3
61	Hotel Nyakoe	3
62	Kisumu hotel	3
63	Sovereign hotel	3
64	Imperial hotel	3
65	The Vic hotel	3
66	Mountain Breeze Hotel Ltd	3
67	Sportsman's Arms hotel	3
68	Green hills hotel	3
69	Outspan hotel	3
70	Westwood hotel	3

Source: (Tourism Regulatory Authority, 2018)

Appendix F: Research Budget

Items	Cost (Ksh)	Total
Internet	1,000	1,000
Airtime for telephone follow up	3000	3000
3 Note book	3@ 100	300
10 Biro pens	10 @ 10	100
Proposal printing cost	3000	3000
Photocopying cost	1,000	1,000
Research assistants	3 people@ 5000	15000
Ethics review fee	3000	3000
	Grand total	Ksh. 26,400

Appendix G: Time schedule

Task (s)	2018/2019 Academic Year							
	Q1		Q2		Q3		Q4	
Objective 1 To identify environmental management practices implemented by hotels in Kenya. **Objective 2** To assess environmental performance based on the identified environmental management practices	███	███						
Objective 3 To assess financial performance of hotels in Kenya			███	███				
Objective 3 To investigate the linkage between environmental management practices and financial performance					███			
Thesis writing and publication							███	

Appendix H: Reliability assessment result

Cronbach's Alpha results for reliability assessment for the main survey

Variables	Cronbach's Alpha	No. of Items
Energy conservation practices	0.837	12
Water conservation practices	0.819	12
Waste management practices	0.792	12
Financial performance	0.700	6
Overall Cronbach's alpha for 42 items	0.924	

Normality Distribution for Energy conservation practices measures

Energy conservation practices	Mean	Skewness	Kurtosis
Reviewing and monitoring of energy bills	4.640	-1.187	.439
Use energy efficient lighting system (LED, CFL instead of traditional lighting)	3.900	-.362	-697
Servicing of all major energy appliances according to suppliers' recommendation	3.710	. 054	-.837
Install lighting management control systems (occupancy sensors, timers, photo sensors)	3.700	-.049	-.664
Install automated energy control systems (key card activation of rooms)	3.570	-.014	-.664
Implement energy management plan and set process level energy targets	3.560	-.074	-.623
Procure energy efficient appliances	3.490	.038	-.605
Install double glazed windows	3.460	.149	-.334
Use renewable energy sources (solar, wind, Biomass, wastes and hydro geothermal)	3.340	-.020	-.545
Install meters in each department to monitor energy consumption	3.300	.262	-.486
Reduce the number of lifts operated during off-peak hours	3.200	. 400	-.271
Calculate energy consumption cost for the hotel	3.090	.080	-.641

N=125

Normality Distribution for Water Conservation Practices Measures

Water conservation practices	Mean	Skewness	Kurtosis
Determine monthly water consumption and cost	4.290	-.762	-.362
Ensure taps are not opened unnecessarily	4.250	-.657	-.951
Ensuring cleaning is not done with high pressure hoses	4.060	-.210	-1.202
Install efficient water devices (low flow taps and showerheads)	3.980	.172	-1.317
Regular maintenance of plumbing fixtures and piping	3.970	-.227	-.755
	3.760	-.143	-.679
Identify activities and areas that cause high water consumption			
	3.680	-.226	-.685
Train staffs to reduce water use			
	3.520	-.030	-.669
Provide guest with information to encourage reduced water consumption			
	3.450	-.234	-.192
Install rainwater collection and distribution system	3.400	-.179	-.332
Install grey water collection, treatment and distribution system	3.380	-.091	-.070
Reuse grey water for irrigation and toilet flushing	3.310	.108	-.507
Implement bed and towel reuse program			

N=125

Normality Distribution for Waste Management Practices Measures

Waste Management Practices	Mean	Skewness	Kurtosis
Ensure fresh and perishable products are stored appropriately	4.300	-1.186	.997
Reduce packaging by purchasing in bulk	4.220	-.721	-.158
Avoid burning wastes outdoor	4.140	-.581	-.621
Install containers specific to a particular type of waste	4.130	-.399	-1.244
Check expiry dates of foodstuffs	3.880	-.225	-1.020
Transform old bed sheets and napkins to laundry bag and rags	3.760	-.240	-.538
Avoid disposable tableware and napkins	3.700	.086	-.515
Install soaps and shampoo dispensers	3.680	.159	-564
Encourage paperless transaction whenever possible	3.660	-.138	-.816
Donate leftover guest amenities & items	3.400	.171	-816
Compost organic and food wastes	3.210	.415	-.545
Monitoring and reporting waste generation and collection	3.200	.447	-.087

N=125

Normality Distribution for Financial Performance Indicators

Financial performance indicators	Mean	Skewness	Kurtosis
Net profit, and gross profit attained	4.090	-.152	-1.119
Return on equity achieved	4.000	-.441	-.418
Return on assets attained	3.950	-.038	-.914
Revenue par available room attained	3.600	.192	-.482
Occupancy rate attained	3.600	.059	-.471
Average daily room rate	3.530	.393	-.530

N=125