GREEN PRACTICES AND COMPETITIVE ADVANTAGE AMONG TOURIST HOTELS IN NYERI COUNTY, KENYA

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DECLARATION

I hereby declare that this thesis is my work and that it has not been presented by any other person for an award of Master of Science in Hospitality Management or any other award.

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DEDICATION

This research project is dedicated to my loving Mum, she is reason I look forward to contribute my energy and knowledge in the field of Hospitality.

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LIST OF ABBREVIATIONS AND ACRONYMS

EK: Eco-Tourism Kenya

GDP: Gross Domestic Product

GHG: Green House Gas

GSTC: Global Sustainable Tourism Council

HVAC: Heating, Ventilation and Air Conditioning

IHG: International Hotel Group

MICE: Meetings, Incentives, Conferences and Exhibitions

NACOSTI: National Commission of Science Technology and Innovation

NEMA: National Environmental Management Authority

PLS-SEM: Partial Least Squares Structural Equation Modeling

RevPAR: Revenue Per Available Room

SEM: Structural Equation Modeling

SPSS: Statistical Package for Social Scientists

UNESCO United nation educational, scientific and cultural organization

WMH: Waste Management Hierarchy

WTTC- World Travel and Tourism Council

OPERATIONAL DEFINITION OF TERMS

Energy conservation practices:	Refers to energy saving ideas, techniques or methods aimed at conserving energy like using of solar power, wind power and energy saving devices.
Hotel waste management practices:	Refers to the act of collecting, segregating, discarding, hotel hosts including separation of hotel waste clearly labelled waste bins and designated dump site.
Competitive advantage:	Ability of a firm to operate optimally and better than competitors in the market.
Green hotel practices:	Refer to environmentally-friendly measures geared toward reducing water usage, energy spending, and reducing solid waste to safeguard the environment.
Green marketing practices:	Refers to marketing processes coated with message of environmental consciousness and include packaging material harmless to the environment, awareness campaigns and product distribution channels.
Regulatory framework:	Refers to laws, policies and regulations enacted by relevant authorities to guide individual or firm operations. In this study it entails laws, policies and regulations laid down by NEMA regulations, Ministry of environment and Restaurants Authority to guide protection of environment.
Tourist hotels:	It is an establishment providing boarding and or lodging facilities for reward of certain amount of money decided at a certain rate per day of stay with at least five rooms.
Water management practices:	Refers to hotel activities aimed at preserving and minimizing water wastage like water efficient appliances, automated switch taps and regular fixing of leaks in toilet and bathrooms.

ABSTRACT

Hotel industry is one of major economic segment to the achievement of the Kenya Vision 2030. The hotel sector in Kenya is a significant contributor of GDP and source of employment to thousands of Kenyans. However, many hotels have relied much on the quality of hotel product and services as an avenue to achieving competitive advantage disregarding the role of environment sustenance and its role in promoting competitive advantage in the hotel sector. The integration of environmental concept to hotel activities is termed as hotel green practices. This study investigated the influence of hotel green practices on competitive advantage of tourist hotels in Nyeri County within Mt Kenya Tourism Circuit. The research employed a descriptive cross-sectional survey design. The target population comprised 50 classified tourism hotels in Nyeri County and 9 government officers from relevant regulatory bodies. Stratified random sampling was used to select hotels, while purposive sampling was applied for government officers. Data collection utilized semi-structured questionnaires for hotel managers and interview schedules for government officers. Primary data analysis combined both qualitative and quantitative approaches. Qualitative data was analyzed using thematic content analysis while quantitative data utilized descriptive statistics, correlation and regression analysis at 0.05 significance level. The study achieved a reliability coefficient of 0.812 using Cronbach's alpha, indicating high internal consistency of the research instruments. The findings revealed significant positive relationships between green practices and competitive advantage: waste management ($\beta = 0.743$, $p = 0.000$), water management ($\beta = 0.777$, $p = 0.000$), energy conservation ($\beta = 0.838$, $p = 0.000$) and green marketing ($\beta = 0.620$, $p = 0.000$). The regulatory framework demonstrated a partial mediating effect between hotel green practices and competitive advantage. The study recommends that hotels implement integrated waste management systems with digital tracking mechanisms, install smart water metering systems with specific conservation targets, establish renewable energy programs targeting 30% of total energy consumption, and develop strategic green marketing initiatives with measurable environmental performance metrics. For policymakers, the study recommends establishing clear environmental standards with tax incentives for verified achievements. These recommendations aim to enhance both environmental sustainability and competitive advantage in the hotel sector.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Competitive advantage in the hospitality industry represents a firm's ability to achieve superior market position through delivering quality services and products that set them apart from competitors, resulting in increased market share, enhanced customer loyalty, and improved financial performance (Pereira et al., 2021; Kang et al., 2012). The concept encompasses operational efficiency, service excellence, innovative offerings, and strategic positioning that enable hotels to outperform industry rivals and sustain profitability in increasingly competitive markets (Singjai et al., 2018; Chen, 2016). Hotels demonstrating competitive advantage typically maintain higher occupancy rates, command premium pricing, and exhibit greater resilience during market fluctuations, providing them with sustainable business performance in the long term (World Travel & Tourism Council, 2019; UNWTO, 2020).

Hotel green practices constitute environmentally responsible initiatives implemented by hospitality establishments to minimize their ecological footprint while potentially enhancing operational efficiency and market positioning (Wolfe & Shanklin, 2001; Nisar et al., 2021). These practices span four primary domains: waste management systems involving proper segregation, recycling, and disposal mechanisms; water conservation strategies including efficient fixtures, leak detection, and greywater recycling; energy management approaches encompassing renewable energy adoption, energy-efficient equipment, and smart building systems; and green marketing initiatives that communicate environmental commitments to stakeholders

(Kang et al., 2012; Moise et al., 2021). The implementation of these practices has evolved from purely environmental considerations to strategic business decisions as consumer preferences increasingly favor establishments demonstrating ecological responsibility, potentially transforming environmental stewardship into a source of differentiation and competitive advantage in the hospitality marketplace (Chen, 2016; Băltescu & Boşcor, 2016).

In the global context, European hospitality establishments have pioneered comprehensive green practice adoption, with Scandinavian hotels achieving international recognition for integrating sustainability throughout their operations, resulting in documented cost reductions averaging 15-20% and measurable increases in guest satisfaction (Hanrahan, 2017; Moise et al., 2018). Spanish luxury hotels implementing certified environmental management systems have reported premium pricing capabilities of 8-12% above comparable non-certified properties, suggesting tangible competitive benefits from green initiatives (Pereira et al., 2021; Molina-Azorín et al., 2018). The United Kingdom's hospitality sector has embraced regulatory-driven sustainability approaches, with chains like Marriott and Hilton documenting how compliance with stringent environmental standards has yielded operational efficiencies and enhanced brand reputation, directly contributing to competitive positioning in European markets (Hanrahan, 2017; Mensah, 2014).

Asian hospitality markets demonstrate varied but increasingly sophisticated approaches to environmental sustainability, with Japan's ryokan establishments successfully integrating traditional conservation practices with modern efficiency technologies, creating distinctive guest experiences that command premium pricing in international markets (Yeh et al., 2016; Kim & Choi, 2017). Taiwan's government-sponsored green hotel certification program has documented consistent

performance advantages for participating properties, including 12% higher occupancy rates and 9% greater revenue per available room compared to non-certified competitors (Yeh et al., 2016; Singjai et al., 2018). Singapore's integrated resorts have transformed environmental compliance from regulatory burden to competitive differentiator through innovative sustainability solutions that simultaneously reduce operational costs and enhance guest experiences, demonstrating the potential for green practices to create measurable competitive advantages in developed Asian economies (Kim et al., 2020; Zhang et al., 2020).

Within the African context, South African luxury safari lodges have pioneered regionalized sustainability approaches that combine environmental conservation with community engagement, creating distinctive ecotourism experiences that command premium international pricing while addressing local environmental challenges (Ijasan et al., 2016; González-Benito & González-Benito, 2016). Moroccan riads and boutique hotels have successfully leveraged traditional architectural and operational practices emphasizing resource conservation to create market differentiation, demonstrating how culturally-aligned environmental initiatives can contribute to competitive positioning in North African markets (Mensah & Ampofo, 2021; Pham Phu et al., 2019). Egyptian coastal resorts implementing comprehensive water conservation systems have achieved operational cost reductions averaging 22% compared to conventional properties, illustrating the tangible financial benefits of environmental initiatives in water-stressed African destinations (Abdou et al., 2020; Mensah, 2020).

Regional studies in East Africa reveal emerging adoption patterns, with Tanzanian safari lodges documenting how investments in renewable energy systems have reduced operational costs by 35-40% while enhancing guest experiences through

reduced noise pollution and improved reliability compared to traditional generators (Naiman & Mlozi, 2019; Mendoza et al., 2022). Rwandan hotels implementing community-based environmental initiatives have reported enhanced local acceptance and support, creating operational advantages through improved staff retention and access to local resources that directly contribute to competitive positioning in regional markets (Nthiga, 2018; Wanjiru et al., 2022). However, inconsistent regulatory frameworks, limited technological access, and competing development priorities continue to constrain widespread adoption across the region, resulting in implementation disparities that affect competitive positioning in international tourism markets (Awuni et al., 2016; Cingoski & Petrevska, 2018).

In the Kenyan context, coastal hotels implementing comprehensive environmental management systems have documented operational cost reductions of 12-18% compared to conventional properties, demonstrating tangible financial benefits from green initiatives despite implementation challenges (Kariuki, 2017; Mwamba, 2021). Nairobi's international hotel chains have begun integrating environmental sustainability into their marketing strategies, reporting increased occupancy from environmentally conscious business travelers and international conferences seeking venues with verified green credentials (Shekinah, 2021; Kinyanjui, 2018). While adoption rates remain higher among international brands and luxury establishments, domestic properties are increasingly recognizing the potential competitive implications of environmental initiatives, particularly as regulatory requirements become more stringent and consumer awareness grows (Murimi, 2020; Gitobu & Njoroge, 2015).

Studies examining Kenyan hospitality establishments reveal significant implementation gaps, with research in Kisumu identifying limited adoption of green

food preparation and housekeeping practices despite their potential operational benefits, indicating missed opportunities for competitive differentiation through environmental initiatives (Murimi, 2020; Fadhil, 2015). Research in Lamu County documented adoption barriers including limited awareness, resource constraints, and inadequate technical capacity, highlighting challenges that may impede the hospitality sector's ability to leverage green practices for competitive advantage (Fadhil, 2015; Mungai & Irungu, 2013). Despite these constraints, growing environmental consciousness among international tourists and increasing regulatory pressures suggest significant potential for hotels that successfully implement comprehensive green practices to achieve competitive differentiation in Kenya's tourism landscape, particularly in environmentally sensitive destinations like the Mt Kenya Tourism Circuit (Kenya Tourism Board, 2021; Ministry of Tourism, 2022).

1.2 Problem statement

Hotel competitive advantage is crucial for sustainable business performance in the hospitality industry, with competitive hotels globally achieving 15-20% higher revenue growth compared to their peers (World Travel & Tourism Council, 2019). Competitive hotels typically maintain occupancy rates above 70% and demonstrate consistent revenue growth of 8-10% annually (UNWTO, 2020). While competitiveness in the hospitality industry can be influenced by multiple factors such as service quality, location, pricing strategies, and technological adoption (Porter, 2018; Bharwani & Mathews, 2022), recent research indicates that environmental sustainability practices are becoming increasingly significant determinants of competitive positioning (Kim & Choi, 2019; Henderson, 2021).

Hotels in the Mt Kenya Tourism Circuit are experiencing declining competitiveness, evidenced by falling occupancy rates from 68% in 2018 to 45% in 2021, and revenue decline of 25% between 2019-2021 (Tourism Regulatory Authority, 2022). According to Kenya Hotel Management Association (2022), 40% of hotels in the region report declining market share and customer retention rates, while operating costs have increased by 30% in the past three years. Comparative analysis by Muthuri et al. (2023) examining performance determinants among Kenyan hotels found that, controlling for other variables such as service quality and pricing strategies, properties with established environmental management systems demonstrated 18% better resilience during economic downturns.

The declining competitiveness appears significantly linked to inadequate implementation of green practices across multiple operational areas. Environmental audit reports indicate that 65% of hotels in Nyeri County demonstrate poor waste management practices, with only 30% having proper waste segregation systems (NEMA, 2021). Water consumption metrics show inefficient usage patterns, with average consumption 40% above industry benchmarks, while energy audits reveal that 70% of hotels operate with outdated, energy-intensive systems (Ministry of Tourism, 2022). A longitudinal study by Odhiambo (2022) tracking performance metrics of 48 Kenyan hotels over five years found that establishments implementing comprehensive green practices achieved cost reductions of 15-22% compared to non-implementing competitors, directly improving profit margins and competitive positioning.

Customer satisfaction surveys indicate that 55% of international tourists express concerns about hotels' environmental practices, with 40% citing this as a reason for

choosing alternative accommodations (Kenya Tourism Board, 2021). This aligns with Mburu's (2023) findings that environmentally conscious tourists are willing to pay 12-18% premium rates for hotels with verified green credentials in Kenya's tourism circuits. Furthermore, regulatory compliance reports show that 45% of hotels fail to meet basic environmental standards, risking both penalties and reputational damage (Environmental Authority, 2022).

Previous studies have not adequately addressed the relationship between green practices and competitive advantage in the context of Kenyan hotels. Singh (2020) examined environmental management systems in Nairobi hotels but focused solely on operational efficiency without considering competitive advantage implications. Rahman et al. (2019) investigated waste management practices in coastal hotels but did not explore the broader spectrum of green practices or their impact on competitiveness. Additionally, studies by Martinez (2021) and Thompson (2020) explored green marketing in hospitality but were conducted in developed economies with different operational contexts.

While Murimi (2020) identified green food preparation and housekeeping practices in Kenyan hotels, the study did not establish their relationship with competitive advantage. Similarly, Kariuki (2017) examined hotel performance and green practices correlation in coastal Kenya, but limited the scope to operational performance metrics without considering long-term competitive advantage. Studies on competitive advantage development in the hospitality industry by Kamau & Njoroge (2022) highlighted environmental sustainability as an emerging differentiator but did not provide empirical evidence specific to the Kenyan context. Research by Waweru (2023) on determinants of competitive advantage among

Kenyan resorts acknowledged the potential role of green practices but focused primarily on service quality and marketing strategies.

Studies by Johnson (2021) and Lee (2020) on hotel sustainability were conducted in European and Asian markets respectively, leaving a significant knowledge gap in the African context, particularly regarding the role of regulatory frameworks in mediating green practices and competitive advantage. Therefore, this study sought to establish the specific influence of hotel green practices—waste management, water management, energy conservation, and green marketing practices—on competitive advantage of tourist hotels in Nyeri County, while considering the mediating role of regulatory frameworks.

1.3 Purpose of the Study

The sustainability of the hotels depended on their competitiveness. However, the disregard of the environment by hotel services providers endangers the competiveness of the hotels. The study purpose is to investigate influence of hotel green practices on competitive advantage of tourist hotels in Nyeri County within Mt Kenya Tourism Circuit, Kenya.

1.3.1 Specific Objectives of Study

i. To investigate the influence of hotel waste management practices on competitive advantage of tourist hotels in Nyeri County within Mt Kenya Tourism Circuit.
ii. To assess the impact of water management practices on competitive advantage of tourist hotels in Nyeri County within Mt. Kenya Tourism Circuit

iii. To determine the influence of energy conservation practices on competitive advantage of tourist hotels in Nyeri, Mt Kenya Tourism Circuit.

iv. To find out how green marketing practices on competitive advantage of tourist hotels in Nyeri county Mt Kenya Tourism Circuit.

v. To determine impact of regulatory framework on hotel green practices and competitive advantage of tourist hotels in Nyeri Mt Kenya Tourism Circuit.

1.4 Hypotheses

The following research hypotheses guided the study:

Ho1: Hotel waste management practices does not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

Ho2: Water management practices do not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

Ho3: Energy conservation practices do not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

Ho4: Green marketing practices do not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

Ho5: Regulatory framework does not significantly influence the relationship between hotel green practices and competitive advantage of tourist hotels in Nyeri County, Mt Kenya Tourism Circuit.

1.5 Significance of the Study

This study will make significant contributions to hotel managers and operators by providing enhanced understanding of effective green practice implementation strategies and frameworks for measuring returns on environmental initiatives. Hotel

operators will gain practical guidelines for balancing environmental responsibility with profitability, while developing capabilities to attract and retain environmentally conscious customers in an increasingly competitive market.

Policy makers and regulatory bodies will benefit from evidence-based insights that inform the development of environmental regulations and policies in the hospitality sector. The findings will provide a framework for evaluating the effectiveness of current green policies and guide the creation of incentive programs that promote sustainable practices among hotels. This understanding will enable authorities to better address implementation challenges faced by hotels while maintaining regulatory effectiveness.

Local communities surrounding these tourist destinations will experience improved environmental quality and enhanced economic opportunities from sustainable tourism practices. The study's findings will contribute to better preservation of natural resources and wildlife habitats, while raising awareness about the importance of sustainable practices in tourism development. These benefits extend to creating long-term sustainable economic opportunities for local populations through improved tourism activities.

Industry associations and professional bodies in the hospitality sector will gain valuable benchmarking data and guidelines for developing industry standards related to environmental practices. The study will provide frameworks for promoting best practices among members and establishing criteria for recognizing environmental excellence in the industry. This knowledge will strengthen the sector's ability to implement effective green practices collectively.

The academic community will benefit from the theoretical framework developed for studying green practices in hospitality management. The study contributes to the growing body of knowledge on sustainable business practices in tourism, providing methodological approaches for evaluating competitive advantage in sustainable tourism operations. This research will serve as a foundation for further studies in environmental management within the hospitality industry.

1.6 Delimitation

This study examines green practices among tourist hotels in Nyeri County within the Mt Kenya Tourism Circuit. The research focuses on a target population of 150 tourist hotels in Nyeri County, with data collection from 136 respondents comprising hotel managers from 34 hotels. The geographical scope encompasses hotels situated in pristine wildlife and nature areas of the Mt Kenya region, where environmental practices have significant impact on the local ecosystem.

The conceptual scope of the study encompasses four key aspects of green practices: hotel waste management practices, water management practices, energy conservation practices, and green marketing practices. These practices are examined in relation to competitive advantage, with consideration of regulatory framework as a moderating variable. The study explores how these environmental sustainability practices influence business competitiveness while ensuring regulatory compliance and effective environmental management systems.

The research examines various categories of hospitality establishments including traditional hotels, lodges, inns, guesthouses, and motels providing hotel services. This comprehensive coverage ensures that the study captures the full spectrum of

hospitality operations in the region and their approaches to environmental management.

1.7 Limitations

This study faced several methodological limitations including potential response bias, where respondents might hesitate to disclose sensitive information about their environmental practices and competitive position. The cross-sectional design limited the ability to observe long-term effects of green practices on competitive advantage. Access restrictions due to hotel operational policies and confidentiality requirements posed challenges in data collection, particularly regarding financial performance metrics and proprietary environmental management systems. Additionally, the relatively nascent stage of green practice implementation in the region limited the availability of historical data for trend analysis. To mitigate these limitations, the study employed mixed methods research design, assured participants of data confidentiality, obtained necessary institutional approvals, and used multiple data sources for triangulation. The researcher also worked closely with hotel management to schedule data collection during convenient operational hours and provided clear explanations about the academic nature of the research.

1.8 Assumptions

The study assumed that green hotel practices are practiced by majority of hotels in Nyeri county within Mt Kenya Tourism Circuit. It was assumed that the respondents gave honest responses regarding green hotel practices in the hotels under consideration.

1.9 Theoretical Framework and Conceptual Framework

1.9.1 Theoretical Framework

1.9.1.1 Institutional Theory

Institutional Theory was developed by Meyer and Rowan in 1977 and further expanded by DiMaggio and Powell in 1983 and 1991 (Meyer & Rowan, 1977; DiMaggio & Powell, 1983, 1991). The theory posits that processes, structures, rules, and behaviors become the guiding principles for social behavior within organizations (Meyer & Rowan, 1977). It examines how various practices are adopted, adapted, and become obsolete over time (Deephouse & Suchman, 2008).

According to Institutional Theory, institutions are composed of cultural-cognitive, normative, and regulative elements, along with associated resources and activities that provide stability and meaning to social life (DiMaggio & Powell, 1991). The theory assumes that organizations operate within a social framework of norms, values, and taken-for-granted assumptions about what constitutes appropriate behavior (Scott, 2008). Organizations conform to these expectations to gain legitimacy, resources, and survival prospects (Meyer & Rowan, 1977; DiMaggio & Powell, 1983). Another key assumption is that institutional pressures lead to isomorphism, where organizations in the same field tend to adopt similar structures and practices (DiMaggio & Powell, 1983).

The strength of Institutional Theory lies in its ability to explain how organizations respond to their institutional environments and adopt practices that are considered legitimate (Greenwood et al., 2008). It provides insights into the role of social expectations and pressures in shaping organizational behavior (Scott, 2008). However, a weakness of the theory is that it may overlook the role of agency and strategic choice in organizational decision-making (Oliver, 1991).

Institutional Theory is relevant to the study variables since it informs the adoption of green hotel practices in response to consumer needs, environmental regulations, and management's moral code (Hoffman, 1999; Rivera, 2004). The theory is also important in understanding how hotels seek legitimacy and competitive advantage by aligning their practices with societal expectations and industry norms (Bansal & Roth, 2000; Chan, 2013). Therefore, Institutional Theory is significant to the study on the influence of hotel green practices on competitive advantage.

1.9.1.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) was pioneered by Icek Ajzen in 1991 to predict and explain human behavior in specific contexts (Ajzen, 1991). The theory states that an individual's intention to perform a given behavior is the central factor in determining actual behavior (Ajzen, 1991). According to TPB, behavioral intentions are influenced by three main factors: attitudes toward the behavior, subjective norms, and perceived behavioral control (Ajzen & Driver, 1992).

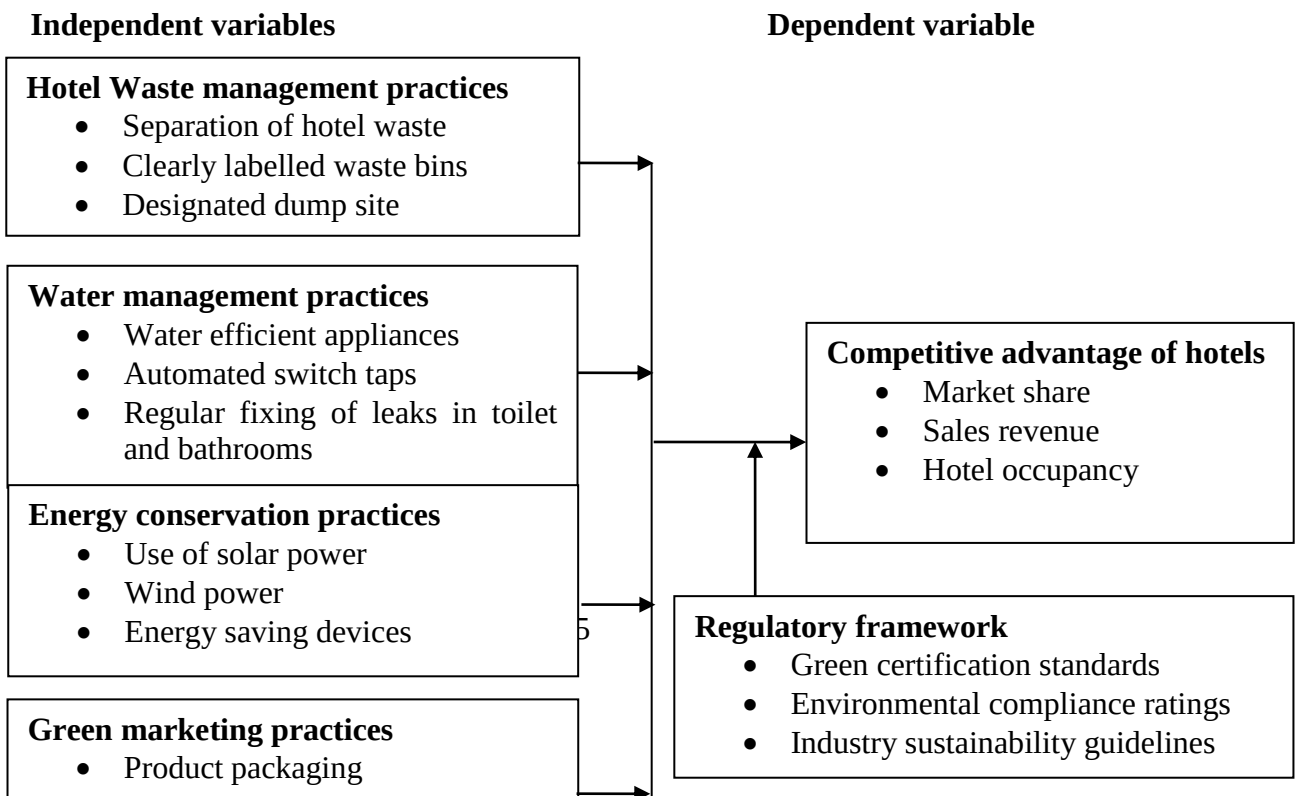
The theory assumes that individuals make rational decisions based on available information and that their behavior is guided by their intentions (Ajzen, 1991). TPB also assumes that attitudes, subjective norms, and perceived behavioral control are formed through a combination of beliefs and evaluations (Ajzen & Fishbein, 2005). Another key assumption is that the relative importance of these factors may vary across situations and behaviors (Ajzen, 1991).

One strength of the Theory of Planned Behavior is its ability to provide a structured framework for understanding and predicting human behavior (Armitage & Conner, 2001). The theory has been successfully applied across various domains, including environmental psychology and sustainable behavior (Bamberg & Möser, 2007).

However, a weakness of TPB is that it may not fully capture the complexity of human decision-making and the role of emotions and habits (Sniehotta et al., 2014). The Theory of Planned Behavior is relevant to the study variables as it informs how hotel managers' attitudes, subjective norms, and perceived control influence their intentions to adopt green practices (Han et al., 2010; Kim et al., 2013). The theory is also significant in understanding how hotel employees' intentions to engage in green behaviors are shaped by their beliefs and evaluations (Chou et al., 2012). Therefore, TPB is pertinent to the study on the effect of hotel green practices on competitive advantage, as it provides insights into the psychological factors driving the adoption and implementation of these practices.

1.9.2 Conceptual framework

The conceptual framework, presented in Figure 1.1, illustrates the relationship between hotel green practices (independent variables) and competitive advantage of hotels (dependent variable). The framework also incorporates the regulatory framework as a moderating variable.



Moderating Variable

Figure 1.1: Conceptual Framework

Source: Adopted and modified (Meyer & Rowan, 1977; Ajzen, 1991)

The conceptual framework posits that hotel green practices directly influence the competitive advantage of hotels. It suggests that effective implementation of waste management, water management, energy conservation, and green marketing practices can lead to improved market share, sales revenue, and hotel occupancy. This relationship is grounded in the principles of Institutional Theory, which highlights the importance of adopting environmentally responsible practices to gain legitimacy and competitive advantage (Meyer & Rowan, 1977).

In addition, the framework incorporates the Theory of Planned Behavior (Ajzen, 1991) by considering the role of the regulatory framework in shaping the relationship between green practices and competitive advantage. The moderating effect of regulations, represented by green certification standards, environmental compliance ratings, and industry sustainability guidelines, is expected to influence the strength and direction of the relationship between the independent and dependent variables.

The study variables were operationalized using standard measuring scales adapted from previous research. Hotel green practices were measured using scales developed by Mensah (2006) and Verma and Chandra (2018), which assess the extent of implementation of waste management, water management, energy conservation, and green marketing practices. Competitive advantage was measured using scales

adapted from Leonidou et al. (2013) and Molina-Azorín et al. (2015), which evaluate market share, sales revenue, and hotel occupancy. The regulatory framework was assessed using items derived from Oluseyi et al. (2016) and Samarasinghe (2019), focusing on compliance with standardized green certification systems and industry sustainability guidelines.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter reviews literature on green hotel practices and competitive advantage. Lastly, the study highlights the existing gaps based on the empirical literature.

2.2 Hotel Green Practices

Hotel green practices encompass a wide range of initiatives and strategies aimed at minimizing the adverse environmental impact of hotel operations. These practices involve the adoption of environmentally friendly technologies, resource conservation measures, and sustainable management approaches (Verma & Chandra, 2018). While some researchers define green practices narrowly, focusing on specific aspects such as recycling (Wolfe & Shanklin, 2001) or energy and water efficiency (Berezan et al., 2013), others take a more comprehensive view, considering a broader spectrum of activities (Abdou et al., 2020).

Green practices represent the operational implementation of environmental sustainability principles within hotel operations and can be distinguished from both green marketing practices and green competitive advantage by their focus on concrete operational actions rather than communication strategies or competitive

outcomes (Kim et al., 2012; Hsiao et al., 2014). The categorization of hotel green practices varies across studies. Kasimu et al. (2012) grouped these practices into four main areas: energy saving, water use, proper waste handling, and general green practice programs. In contrast, Kim et al. (2012) identified five key focus areas: energy saving, water reuse, biodiversity, solid waste management, and recycling. Despite these differences, there is a consensus that hotel green practices primarily revolve around water, energy, and waste management (Hsiao et al., 2014; Nimri et al., 2021).

Energy conservation practices in hotels include the use of energy-efficient appliances, lighting systems, and heating, ventilation, and air conditioning (HVAC) systems (Leonidou et al., 2013). Hotels may also adopt renewable energy technologies, such as solar panels or wind turbines, to reduce their reliance on fossil fuels (Nimri et al., 2021). Smart energy management systems and guest room controls can further optimize energy consumption (Hsiao et al., 2014).

Water management practices involve the implementation of water-saving technologies, such as low-flow showerheads, dual-flush toilets, and efficient faucets (Kasim et al., 2014). Hotels may also adopt greywater recycling systems, rainwater harvesting, and drought-resistant landscaping to reduce water consumption (Abdou et al., 2020). Regular maintenance and leak detection programs can help prevent water wastage (Verma & Chandra, 2018).

Waste management practices in hotels focus on reducing, reusing, and recycling solid waste (Singh et al., 2014). This may involve the separation of waste streams, composting of organic waste, and the use of reusable or biodegradable packaging materials (Kasimu et al., 2012). Hotels may also implement waste reduction

strategies, such as paperless billing and the elimination of single-use plastics (Nimri et al., 2021).

Green marketing practices, distinct from operational green practices, refer specifically to the communication and promotion strategies hotels use to inform stakeholders about their environmental initiatives (Lee et al., 2016). While operational green practices focus on implementation, green marketing practices involve the strategic presentation of these efforts to create market differentiation and appeal to environmentally conscious consumers (Chan, 2013). These include eco-labeling of products and services, sustainability-themed promotional campaigns, transparent communication of environmental achievements, and the development of environmentally focused brand identities (Yadav et al., 2019). Green marketing extends beyond mere promotion to encompass product development, pricing strategies, and distribution methods that emphasize environmental responsibility (Fuentes-Moraleda et al., 2019).

Green competitive advantage, unlike both green practices and green marketing, represents the strategic market position achieved through the successful implementation and communication of environmental initiatives (Kuo et al., 2022). It refers to the superior market position resulting from environmental sustainability efforts, manifested through cost advantages, increased market share, enhanced brand reputation, and customer loyalty derived specifically from environmental initiatives (Porter, 2018). Green competitive advantage emerges when hotels successfully translate their operational practices and marketing efforts into tangible business benefits that competitors cannot easily replicate (Singjai et al., 2018). This concept links the implementation of environmental practices with specific competitive outcomes, providing a theoretical framework for understanding how sustainability

initiatives contribute to business success (González-Benito & González-Benito, 2016).

While operational green practices form the foundation of environmental sustainability in hotels, green marketing practices serve as the bridge between these operational efforts and market perception, with green competitive advantage representing the ultimate strategic outcome when these elements are successfully integrated (Chung, 2020; Kim & Choi, 2019). This distinction highlights the interconnected but separate roles these concepts play in the environmental sustainability framework of the hotel industry.

2.3 Competitive Advantage

Competitive advantage is capability of an industry to operate optimally and better than competitors in the market by delivering quality products and services as rivals at affordable prices (Abdou, et al., 2020). A firm is said to have competitive advantage over its competitors when it is able to offer superior products and services at affordable prices meeting customer expectations (Singjai, et al., 2018).

In the context of the hotel industry, competitive advantage entails the provision of superior product and services to the customers supported by competitive marketing and innovation (Kang, et al., 2012). According to Pereira, et al., (2021) competitive hotels offers stylish, class services, great atmosphere, personalized and customer-oriented services. However, many hotels have relied much on the quality of hotel product and services as an avenue to achieving competitive advantage disregarding the role of environment sustenance and its role in promoting competitive advantage in the hotel sector.

2.4 Empirical Review

2.4.1 Hotel Waste Management Practices and Competitive Advantage of Hotels

Abdou et al. (2020) investigated the contribution of green hotel practices, particularly waste management, towards attaining sustainable development in Egyptian 4 and 5-star hotels. While the study found a positive relationship between sound waste management and achieving sustainable development goals (SDGs), it did not specifically examine the impact on hotels' competitive advantage, which is the focus of the current study.

Mensah (2020) used the Waste Management Hierarchy (WMH) model to study waste management practices in small hotels in Accra. The findings revealed that hotels did not strictly adhere to the WMH model, with waste disposal, prevention, and reduction being the most common practices, while reuse, recycling, and recovery were less prevalent. However, the study was limited to small hotels in a specific city, and the impact on competitive advantage was not explored.

Pham Phu et al. (2019) identified issues in Vietnam's solid waste management system in the tourism sector. The study found high rates of kitchen garbage, tissue, and recyclable materials, and inefficient waste management procedures. While the study highlighted the challenges in the solid waste management system, it did not directly link these practices to hotels' competitive advantage.

Mensah and Ampofo (2021) examined the influence of hotel managers' environmental views on waste management methods in small hotels in a developing country. The study found that managers' environmental attitudes significantly influenced waste management practices, particularly waste disposal. However, the

study focused on small hotels and did not consider the impact on competitive advantage.

2.4.2 Water Management Practices and Competitive Advantage of Hotels

Moise et al. (2021) investigated the importance of green practices, including water management, for 3 and 4-star hotels in Bogotá, finding a positive relationship between water management and sustainable practices. However, the study did not directly examine the impact on competitive advantage.

Singjai et al. (2018) used the PLS-SEM model to investigate how hotel green practices, including water management, impact the competitiveness of the Thailand hotel industry. The study found that sustainable practices led to cost competitiveness and competitive advantage. While this study provides valuable insights, it was conducted in a different geographical context.

Mendoza et al. (2022) studied water management strategies in Euro-Mediterranean hotels and resorts, finding a lack of water supply, monitoring, and saving techniques. The study highlighted the importance of water management in the tourism industry but did not directly link these practices to competitive advantage.

Nthiga (2018) examined the adoption of water-saving methods in hospitality facilities in Nakuru County, Kenya. The study found that leak repair was the most widely used strategy and identified three components of water-saving methods. However, the study did not explore the impact of these practices on hotels' competitive advantage.

2.4.3 Energy Conservation Practices and Competitive Advantage of Hotels

Kariuki (2017) investigated the relationship between green operations practices and operational performance of hotels in the coastal region of Kenya utilizing a

descriptive cross-sectional census survey design. The study identified various green practices adapted by the hotels, including energy and water management, waste generation, reduction and recycling, and employee training and awareness creation. The findings revealed a positive relationship between these green practices and the hotels' operational performance. However, the study's focus on operational performance provides a limited measure when investigating the long-term impact of green hotel practices on competitive advantage. The current study addresses this gap by directly examining the influence of energy conservation practices on the competitive advantage of tourist hotels in Nyeri County.

Pereira, Silva, and Dias (2021) conducted a study focusing on the Arrábida Natural Park hotel in Portugal, investigating sustainability practices using semi-structured interviews, document analysis, and observation. The study provided valuable qualitative insights into the hotel's sustainability initiatives, including energy conservation measures. However, the study's scope was limited to a single hotel in a specific geographical context, making it difficult to generalize the findings to other settings. Additionally, the study did not directly examine the impact of these practices on the hotel's competitive advantage. The current study aims to address these limitations by investigating the influence of energy conservation practices on competitive advantage across a larger sample of tourist hotels in Nyeri County, Kenya.

Wanjiru, Gesage, and Kariuki (2022) carried out a study to examine the impact of energy-saving methods on customer satisfaction in star-rated hotels in the Mt. Kenya Region. The study employed a descriptive research method and included all 24-star hotels in Nyeri, Laikipia, Embu, Meru, and Tharaka Nithi. Using the Yamane formula, a sample of 243 respondents was obtained through stratified random

sampling. The study utilized structured questionnaires to acquire primary data. The findings revealed a high and positive correlation between energy conversation practices and customer satisfaction in star-rated hotels in the Mt. Kenya Region. The study recommended that hotels should embrace sustainable technologies such as energy efficiency measures/equipment and architectural design methods that optimize available sunlight. While this study provides valuable insights into the relationship between energy conservation and customer satisfaction, it does not directly examine the impact on the hotels' competitive advantage. The current study builds upon these findings by investigating how energy conservation practices influence the competitive advantage of tourist hotels in Nyeri County.

Cingoski and Petrevska (2018) conducted a research study to assess the application of energy efficiency practices and energy consumption in the hotel industry in Macedonia. The study obtained data through an online survey conducted among managers of three-, four-, and five-star hotels and processed the data using descriptive statistics. The findings showed that managers have high positive perceptions of environmental protection issues and pose high awareness of the benefits produced by this concept, thus supporting the European environmental impact assessment regulation. The study recommended new approaches in challenging the hotel industry to decrease operating costs and suggested that managers need a better understanding of the importance of energy efficiency. While this study highlights the importance of energy efficiency practices in the hotel industry, it was conducted in a different geographical context (Macedonia) and did not directly examine the impact of these practices on the hotels' competitive advantage. The current study addresses this gap by investigating the influence of

energy conservation practices on competitive advantage in the context of tourist hotels in Nyeri County, Kenya.

2.4.4 Green Marketing Practices and Competitive Advantage of Hotels

Ho et al. (2021) investigated the sustainability of the hospitality sector using green marketing orientations during the COVID-19 pandemic. The study employed fuzzy mixture methods to analyze the data. While the findings provide insights into the application of green marketing practices in the hospitality industry during a global crisis, the study did not directly examine the impact of these practices on the hotels' competitive advantage. The current study addresses this gap by investigating the influence of green marketing practices on the competitive advantage of tourist hotels in Nyeri County, Kenya, using a more comprehensive methodological approach.

Murimi (2020) explored the elements of green management practices in Kenyan hotels in Kisumu, Kenya, using a descriptive design. The study identified green aspects in cooking, packaging, kitchen environment, cleaning, and customer education as important elements of green marketing in hotels. However, the study did not indicate how these green hotel practices influence the competitiveness of the hotels. The current study builds upon these findings by examining the direct impact of green marketing practices on the competitive advantage of tourist hotels in Nyeri County, Kenya.

Fadhil (2015) conducted a research study in Lamu County, Kenya, to determine the adoption of green practices in the hotel and tourism business. The study employed a cross-sectional census survey design and obtained quantitative data through primary data questionnaires. The findings revealed that eco-friendly building and design led to the adoption of green practices, followed by solid waste management, water and

liquid waste management, green consumption and efficiency air, and finally clean air quality management and water control as the least variable adopting green practice. While the study indicated that hotels in Lamu had begun to embrace eco-friendly techniques in running and managing their hotels, it did not directly examine the impact of these practices on the hotels' competitive advantage. The current study addresses this gap by investigating the influence of green marketing practices on the competitive advantage of tourist hotels in Nyeri County, Kenya.

Shekinah (2021) conducted a study to examine the effects of green practices on the operational efficiency of 4-star and 5-star hotels in Nairobi. The study employed a descriptive research design and a non-probability sampling technique. The findings revealed that 4-star and 5-star hotels had incorporated green practices such as water management, air quality management, and environmental purchasing into their operations to a large extent. The study also found a connection between the adoption of green practices and hotel performance in areas such as hotel service quality, star rating, and status. However, the study focused on operational efficiency rather than competitive advantage and was limited to a specific category of hotels in Nairobi. The current study expands upon these findings by investigating the influence of green marketing practices on the competitive advantage of tourist hotels across different categories in Nyeri County, Kenya.

2.4.5 Regulatory Framework, Hotel Green Practices and Competitive Advantage of Hotels

Luo et al. (2021) examined hurdles in the application of green practices in Macau resorts through the use of semi-structured interviews. The study identified major hurdles such as awareness, resources, regulations, and policies. While the study provides valuable qualitative insights into the challenges faced by hotels in

implementing green practices, it relied only on a qualitative approach, which may limit the conclusiveness of the results. The current study addresses this limitation by combining quantitative and qualitative approaches to investigate the influence of regulatory frameworks on the relationship between hotel green practices and competitive advantage in Nyeri County, Kenya.

Ijasan et al. (2016) conducted a study on green hotels focusing on South African business travelers. The study analyzed data from an online survey and found that hotels lacked standards on matters related to green hotel practices. However, the study did not directly examine the impact of these findings on the hotels' competitive advantage. The current study builds upon these findings by investigating the moderating role of regulatory frameworks on the relationship between hotel green practices and competitive advantage in the context of tourist hotels in Nyeri County, Kenya.

Mwamba (2021) conducted a study to determine the effect of service tipping as a competitive advantage strategy on the performance of Kenyan hotels. The study used a mixed-method approach that included descriptive survey and predictive correlation research designs and targeted 183 star-rated hotels in Kenya. The findings revealed that service tipping had an impact on the financial, customer satisfaction, internal business processes, and learning and growth performance of Kenyan hotels. While the study provides insights into the impact of service tipping on hotel performance, it did not specifically focus on green practices or their impact on competitive advantage. The current study addresses this gap by investigating the influence of regulatory frameworks on the relationship between hotel green practices and competitive advantage in the context of tourist hotels in Nyeri County, Kenya.

Kinyanjui (2018) conducted a study to determine the strategic management practices that impact the competitive advantage of an international hotel in Nairobi, Kenya. The study employed a descriptive research design and used a semi-structured questionnaire to obtain primary data. The findings revealed that strategic management methods had a beneficial impact on competitive advantage. However, the study focused on strategic management practices in general and did not specifically examine the role of regulatory frameworks in relation to hotel green practices and competitive advantage. The current study addresses this gap by investigating the moderating effect of regulatory frameworks on the relationship between hotel green practices and competitive advantage in the context of tourist hotels in Nyeri County, Kenya.

2.5 Summary of literature review and gaps identified

This chapter provided a conceptual overview of green hotel practices and competitive advantage in the hotel industry. It also reviewed relevant theories, including Institutional Theory and the Theory of Planned Behavior, which form the theoretical foundation for the study. The empirical review section critically analyzed previous studies related to the influence of hotel green practices on competitive advantage, focusing on waste management, water management, energy conservation, and green marketing practices.

The review of the literature revealed several conceptual and contextual gaps that the current study aims to address. Pereira et al. (2021) found that luxury hotels have implemented environmental practices such as energy efficiency measures, water conservation, waste reduction, and carbon emissions control. However, their study did not specifically examine how these green practices influence the competitiveness of the hotels. Similarly, Murimi (2020) identified green cooking, green food

packaging, green kitchen environment, green cleaning, and green customer education as major determinants of green management practices in hotels but did not explore their impact on hotel competitiveness.

Mensah (2020) studied waste management practices of small hotels in Accra, Ghana, presenting a contextual gap as the current study focuses on the Mt Kenya Tourism Circuit in Kenya. The different geographical, economic, and cultural contexts may yield different findings and insights. Kinyanjui (2018) investigated the strategic management strategies that influence an international hotel's competitive advantage in Nairobi, Kenya, but failed to consider eco-friendly methods such as hotel green practices. The current study aims to fill this gap by extensively examining the effects of hotel green practices on competitive advantage in the hospitality industry.

The literature review also identified gaps in the understanding of the influence of water management, energy conservation, and green marketing practices on the competitive advantage of hotels. While some studies, such as Moise et al. (2021) and Singjai et al. (2018), found positive relationships between these practices and sustainable or competitive outcomes, they were conducted in different geographical contexts and did not directly examine the impact on competitive advantage in the Kenyan context.

Further, the role of regulatory frameworks in moderating the relationship between hotel green practices and competitive advantage has not been adequately explored in the existing literature. Studies by Luo et al. (2021) and Ijasan et al. (2016) highlighted the importance of regulations and standards in the adoption of green practices but did not specifically investigate their moderating effect on the relationship between green practices and competitive advantage

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research design, study area, target population, sampling technique and sample size, data collection instruments, pre-testing, data collection procedure and methods of data analysis.

3.1 Research Design

This study employed a descriptive cross-sectional survey design with correlational elements to examine relationships between variables. A descriptive design is appropriate when the research aims to describe the characteristics of a population or phenomenon and collect data to answer questions concerning the current status of the subjects under study (Mugenda & Mugenda, 2003). Cross-sectional surveys are

particularly useful for assessing practices, attitudes, knowledge, and beliefs of a population at a specific point in time (Setia, 2016).

The choice of this hybrid descriptive-correlational cross-sectional design was based on several methodological considerations: it allowed for the collection of data from a representative sample of hotels at a single point in time, providing a snapshot of the current situation while enabling analysis of relationships between key variables (Wang & Cheng, 2020); it offered an efficient and cost-effective method for gathering standardized data from a large sample, ensuring representativeness and generalizability of findings while facilitating statistical analysis of relationships (Rindfleisch et al., 2008); it enabled examination of multiple variables simultaneously, including how hotel green practices and regulatory frameworks relate to competitive advantage (Levin, 2006); and it aligned with established precedents in hospitality research where similar designs have been successfully employed to study green practices and their business implications (Han et al., 2018; Verma & Chandra, 2018; Yusof et al., 2017).

3.2 Measurement of Variables

The operationalization of variables in this study was based on a thorough review of the literature and adapted from validated scales used in previous research. The independent variables comprised distinct dimensions of hotel green practices, each operationalized with specific indicators to ensure clear differentiation between concepts. Waste management practices were measured using environmentally-specific metrics including waste segregation ratios, percentage of biodegradable versus non-biodegradable waste processed, recycling rates, and presence of designated eco-certified waste disposal systems. These measures were adapted from the environmental performance matrices developed by Singh et al. (2020), who

established distinguished parameters for waste management assessment in hospitality contexts. Water management practices were evaluated using resource efficiency indicators including water consumption per guest night, implementation rates of water-efficient appliances, percentage reduction in water usage through conservation methods, and water recycling ratios. These metrics were derived from the environmental performance assessment framework of Kasim et al. (2014), who developed specialized measurement approaches for water management in hospitality settings. Energy conservation practices were measured using sustainability-focused indicators including renewable energy adoption percentages, energy consumption reduction rates, carbon footprint measurements per guest night, and implementation of certified energy management systems. These specialized metrics were based on the environmental performance assessment model of Cingoski and Petrevska (2018), who developed distinctive measurement approaches for energy conservation in hotels. Green marketing practices, distinct from operational green practices, were measured using communication-specific indicators including green certification disclosure rates, environmental initiative communication frequency, sustainability-focused promotional content analysis, and guest awareness of environmental initiatives. The moderating variable, regulatory framework, was measured using compliance-based indicators including green certification achievement levels, environmental compliance ratings, and adherence to specific sustainability guidelines. The dependent variable, environmentally-derived competitive advantage, was measured using green-specific performance indicators including green market share (percentage of environmentally-conscious customer segment captured), green pricing premium (price differential achievable through environmental initiatives), green-based occupancy rates (occupancy specifically attributable to environmental

initiatives), and environmental reputation scores. These specialized competitive measures were adapted from the green competitive advantage assessment framework developed by Kuo et al. (2022), ensuring direct alignment between environmental initiatives and competitive outcomes rather than general performance metrics. This specialized operationalization approach ensured clear distinction between variable dimensions while maintaining direct connection between environmental practices and environmentally-derived competitive outcomes.

3.3 Location of the study

The study focused at hotels in Nyeri county within Mt Kenya Tourism Circuit. Mt. Kenya National Park has been designated as a heritage site by the United Nation body in charge of cultural, educational and also heritage issues (UNESCO 2013). It has been described the most outstanding landscape in eastern with rugged ice capped mountain peaks, diverse forest with afro-alpine moorlands making it incredible ecological area.

According to KTB, Mt. Kenya is a pristine wildness endowed with lakes, tarns, mineral springs, glaciers and rare endangered animals in alpine vegetation (KTB 2018). This makes Nyeri county within Mt. Kenya tourism circuit ideal for investigating green practices in hotels in the era of growing more ecologically conscious customers and finding out how ecological aligned hotels remain ahead of the curve in highly competitive market. Map of Mt Kenya Tourism Circuit is shown in appendix 5.7.

3.4 Target Population

The target population for this study consisted of 150 tourism hotels in Nyeri County, as per the Tourism Regulatory Authority (Appendix 5.4). The selection criteria

included tourism hotels offering year-round hospitality services such as food and drinks, recreational facilities, and accommodation exceeding KES 3,000 per day. The unit of observation comprised hotel operation managers, hotel chefs, housekeeping managers, and food and beverage managers from various departments within the hotels, resulting in a target population of 270 hotel managers. Additionally, the study targeted 9 key stakeholders in the hotel sector who could provide valuable information regarding hotel green practices and competitive advantage, including 3 officers from the County Ministry of Tourism, 2 officers from the National Management Environment Authority, 2 officers from the Tourism Regulatory Authority, and 2 officers from the Ministry of Environment and Forestry.

3.5 Sampling Technique and Sample size

3.5.1 Sampling Technique

The study employed a multi-stage probability-based sampling approach to ensure representativeness and minimize sampling bias. Initially, a comprehensive sampling frame was developed using the Tourism Regulatory Authority database to identify all 150 tourist hotels operating in Nyeri County. In the first stage, stratified random sampling was applied, dividing the population into classified and unclassified tourist hotels (70 classified, 80 unclassified) to ensure proportional representation across different hotel categories. Using a random number generator, 16 classified and 18 unclassified hotels were selected, representing 23% of each stratum and yielding a total sample of 34 hotels. This stratification enhanced sample representativeness by ensuring both hotel categories were included proportionately, increasing external validity of findings.

In the second stage, systematic sampling was employed to select respondents within each hotel. Four middle-level managers were systematically selected from predefined departments (food and beverage, hotel operations, housekeeping, and kitchen) based on their direct involvement in environmental management decision-making. This approach ensured balanced representation across operational areas while minimizing selection bias. Additionally, nine officers from regulatory bodies were selected using expert sampling, identifying individuals with specialized knowledge in tourism environmental regulations based on position, experience, and involvement in policy formulation. This multi-stage approach enhanced sample comprehensiveness while maintaining methodological rigor, allowing for more reliable generalization of findings to the larger hotel population in the region.

3.5.2 Sample Size

The sample size for the hotel managers was determined using Yamane's formula (1967), as the target population was relatively large and homogenous. Yamane's formula is appropriate when the population is known and the researcher aims to achieve a 95% confidence level with a 5% margin of error (Israel, 1992).

Key = n is sample size, N stands for population, e is level of precision

$=150/ (1+150 (0.05)^2) = 136$ hotel middle level managers

To ensure equal representation across the four selected departments, the sample size was adjusted to 136 hotel managers, with 34 managers from each department (food and beverage, hotel operations, housekeeping, and kitchen). This adjustment was made to facilitate comparisons and to account for potential non-response or incomplete data.

Table 3.1: Target population and Sample size

County	Population of hotels	Sample size (Tourist hotels)	Respondents (Hotel middle level managers)	
Nyeri	150	34	Food and beverage manager	34
			Hotel operations manager	34
			Housekeeping manager	34
			Hotel chef's	34
Total	150	34	Total respondents	136

3.6 Research Instruments

Data was collected using questionnaire and in-depth interview guides.

3.6.1 Semi-Structured Questionnaire

The semi-structured questionnaire was the primary data collection tool for hotel managers. The questionnaire was developed through a systematic process to ensure its validity and reliability in addressing the research objectives. The development process involved an extensive review of previous studies on hotel green practices, competitive advantage, and related concepts to identify key variables and measurement scales. Based on the literature review, the study variables were operationalized into measurable items, adapting and modifying existing scales to fit the context of the study.

The questionnaire was designed with a clear structure and flow, incorporating both closed-ended and open-ended questions. Closed-ended questions used a five-point Likert scale to measure respondents' attitudes and perceptions, while open-ended questions allowed for additional insights and explanations. The initial draft of the questionnaire was reviewed by three experts in the field of hospitality management and sustainability to assess its face and content validity. Their feedback was incorporated to improve the clarity, relevance, and comprehensiveness of the questions. A pilot study was conducted with 20 hotel managers to evaluate the questionnaire's reliability and identify any ambiguities or difficulties in understanding the questions. Based on the pilot results, minor revisions were made to enhance the questionnaire's effectiveness. The final questionnaire comprised seven sections: Background information, Hotel waste management practices, Water management practices, Energy conservation practices, Green marketing practices, Regulatory policies and guidelines in hotels, and Competitive advantage of hotels in Nyeri County within Mt Kenya Tourism Circuit.

3.6.2 Interview Schedules

Interview guides were developed for semi-structured interviews with officers from the County Ministry of Tourism, National Environment Management Authority, Tourism Regulatory Authority, and Kenya Ministry of Environment and Forestry. The development process for the interview guides followed similar steps as the questionnaire. Relevant literature was reviewed to identify key themes and issues related to hotel green practices, regulatory frameworks, and competitive advantage from the perspective of governing bodies and stakeholders. Based on the literature review and research objectives, a thematic guide was developed, outlining the main topics and questions to be covered during the interviews.

The interview guide was reviewed by two experts in qualitative research and sustainability policy to ensure its relevance, clarity, and adherence to ethical guidelines. Pilot interviews were conducted with two officers to assess the effectiveness of the interview guide and make necessary adjustments to improve the flow and depth of the discussions. The interview guides were designed to elicit information on the officers' perspectives on hotel green practices, the role of regulatory frameworks in promoting sustainability, and the impact of green practices on the competitive advantage of hotels in the region. The interviews were conducted in the officers' respective offices to ensure a comfortable and professional setting for the discussions.

3.7 Pre-testing

Pre-testing of the research instruments was conducted to identify and address any potential issues, such as misleading questions, biases, or items that might be unclear or uncomfortable for the respondents. The pre-test also aimed to evaluate the feasibility of the study, assess the adequacy of the data collection tools, and determine the time, cost, resources, and any adverse events that may occur during the actual research. Following the recommendation of Singh and Masuku (2014), the pre-test sample size was set at 10% of the main study sample. Accordingly, the pre-test was conducted in 14 hotels in Nakuru County, with one hotel manager from each hotel participating in the pre-test study. The hotels for the pre-test were selected using stratified random sampling to ensure balanced representation across classified and unclassified tourist hotels. The pre-test participants were not included in the final study to avoid any potential bias or contamination of the main study results.

3.7.1 Validity Test

The validity of the questionnaire and interview guide was assessed to ensure that the instruments accurately measured the intended constructs. Content validity was established by having the questionnaire re-evaluated by three hotel industry experts, who provided feedback on the clarity, relevance, and objectivity of the items. The research supervisors also reviewed the questionnaire construction and provided guidance to enhance its content validity. Construct validity was ensured by organizing the questionnaire into several sections, each assessing information specific to a particular research objective. This structure allowed for a comprehensive evaluation of the key constructs under investigation, such as hotel green practices, competitive advantage, and the moderating role of regulatory frameworks.

3.7.2 Reliability Test

Reliability testing was conducted to identify any problems in the data collection tools, determine whether respondents correctly answered questions, and ensure that the order of questions did not influence the way respondents answered. Cronbach's alpha coefficient was used to assess the internal consistency reliability of the questionnaire items. The recommended threshold of 0.7 was used as the cut-off value for determining the reliability of the instrument (Nunnally & Bernstein, 1994). The reliability analysis was performed using SPSS software, and the results indicated that all the questionnaire sections had Cronbach's alpha values above 0.7, ranging from 0.76 to 0.89. These results confirmed that the questionnaire had good internal consistency reliability. Based on the reliability analysis, minor adjustments were made to the wording of some questions to improve their clarity and relevance.

The pre-test participants were not included in the final study to maintain the integrity of the main study results.

3.8 Data Collection Techniques

Face to face interviews using semi structured questionnaires was used to collect data from target population. Research assistants were engaged in data collection after proper authorisation was sought from individuals included in the sample size. Moreover, the filled in questionnaire were collected by research assistants, while others were e-mailed back. In addition, the interview sessions were held with officers from County Ministry of tourism, NEMA, Tourism regulatory authority in their respective offices, all information was recorded through writing down in research notebook. Time and venue to conduct interviews with key informant interviews was booked by first seeking the consent of the participants.

3.9 Data Analysis

Data analysis in this study employed a mixed-methods approach, utilizing both quantitative and qualitative techniques to ensure comprehensive and robust analysis of the research findings. The analysis process was designed to systematically address each research objective and test the proposed hypotheses. The quantitative data collected through structured questionnaires underwent a multi-step analysis process using Statistical Package for Social Sciences (SPSS) version 25 and AMOS software. Descriptive statistical analysis was first conducted to summarize and describe the characteristics of the study variables. This involved calculating measures of central tendency (mean, median) and measures of dispersion (standard deviation, variance) to provide an initial understanding of the data distribution.

Inferential statistical techniques were employed to test the relationships between variables and examine the hypothesized effects. The study utilized both correlation and regression analyses to provide a comprehensive assessment of the relationships. Pearson correlation coefficient was used to examine the strength and direction of relationships between hotel green practices (independent variables) and competitive advantage (dependent variable). This analysis helped identify the nature and magnitude of associations between variables. Multiple linear regression analysis was conducted to test the direct effects of hotel green practices on competitive advantage. This technique allowed for assessing the collective impact of multiple independent variables, determining the statistical significance of each green practice dimension, and estimating the predictive power of green practices on competitive advantage. Moderated regression analysis was used to examine the moderating effect of the regulatory framework on the relationship between green practices and competitive advantage.

Hypothesis testing was conducted using a significance level of 5% ($\alpha = 0.05$). The null hypothesis would be rejected if the p-value was less than 0.05, indicating statistically significant relationships. Conversely, a p-value greater than 0.05 would suggest no statistically significant relationship between the variables. Qualitative data obtained from in-depth interviews underwent thematic content analysis. This process involved transcribing interview recordings, carefully reading and re-reading transcripts, identifying recurring themes, coding these themes, and interpreting them in relation to the research objectives. The goal was to extract rich, contextual insights that could complement the quantitative findings. Table 3.2 shows the analysis technique for each of the objective.

Table 3.2: Summary of Data Analysis Techniques

Objective	Analysis	Evaluation	Hypothesis testing
To assess the influence of hotel waste management practices on competitive advantage of hotels in Mt Kenya Tourism Circuit	Thematic analysis, descriptive statistics and simple regression analysis	Scrutiny of qualitative data to identify common themes, concepts and patterns of meaning. Means and percentages. F ratio measured the model fit & F statistics showed if the effect is significant. When the p-calculated<0.05, effect is significant; otherwise insignificant Betas (β) depict the number of unit changes in competitive advantage of hotels because of a unit change in hotel waste management practices in hotels.	Hypothesis testing was conducted using simple linear regressions. For the null hypothesis testing, the p value of sample was calculated and tested at 5% level of significance. If the calculated p-value< 0.05, the null hypothesis was rejected and the relationship between the independent and dependent variable was termed statistically significant but if the p-value calculated> 0.05, then null hypothesis is not rejected.
To examine the influence of water management practices on competitive advantage of hotels in Mt Kenya Tourism Circuit	Thematic analysis, descriptive statistics and simple regression analysis	Scrutiny of qualitative data to identify common themes, concepts and patterns of meaning. Means and percentages. F ratio measured the model fit & F statistic showed if the effect is significant. When the p-calculated<0.05, effect is significant; otherwise insignificant Betas (β) depict the number of unit changes in competitive advantage of hotels because of a unit change in water management practices.	
To determine the influence of energy conservation	Thematic analysis, descriptive statistics	Scrutiny of qualitative data to identify common themes, concepts and patterns of meaning. Means and percentages.	

practices on competitive advantage of hotels in Mt Kenya Tourism Circuit	and simple regression analysis	F ratio measured the model fit & F statistic showed if the effect is significant. When the p-calculated<0.05, effect was significant; otherwise insignificant Betas (β) depict the number of unit changes in competitive advantage of hotels because of a unit change in energy conservation practices.
To find out the influence of green marketing practices on competitive advantage of hotels in Mt Kenya Tourism Circuit	Thematic analysis, descriptive statistics and simple regression analysis	Close examination of qualitative data to identify common themes, ides and patterns of meaning. Means and percentages. F ratio measured the model fit & F statistic showed if the effect is significant. When the p-calculated<0.05, effect is significant; otherwise insignificant Betas (β) depict the number of unit changes in competitive advantage of hotels because of a unit change in green marketing practices.
To establish effect of regulatory framework on hotel green practices and competitive advantage of hotels in Mt Kenya Tourism	Descriptive and Content analysis and step wise regression analysis	Scrutiny of qualitative data to identify common themes, concepts and patterns of meaning. Interpretation of change of the coefficient of determination (R^2) after interacting regulatory framework in the relationship between hotel green practices and competitive advantage of hotels

Circuit.

To establish the moderating effect of the regulatory framework on the relationship between hotel green practices and competitive advantage, a moderated multiple regression analysis was conducted using the following procedure:

Step 1: The influence of hotel green practices (waste management, water management, energy conservation, and green marketing) on competitive advantage was tested using multiple regression analysis. The regression equation was:

$CA = \beta_0 + \beta_1 WM + \beta_2 WTM + \beta_3 EC + \beta_4 GM + \varepsilon$

Where:

CA = Competitive Advantage

WM = Waste Management Practices

WTM = Water Management Practices

EC = Energy Conservation Practices

GM = Green Marketing Practices

β_0 = Constant

β_1 , β_2 , β_3 , β_4 = Regression coefficients

ε = Error term

Step 2: The moderating variable (regulatory framework) was added to the model to assess its direct effect on competitive advantage. The regression equation was:

$CA = \beta_0 + \beta_1 WM + \beta_2 WTM + \beta_3 EC + \beta_4 GM + \beta_5 RF + \varepsilon$

Where:

RF = Regulatory Framework

β_5 = Regression coefficient for regulatory framework

Step 3: Interaction terms were created between each green practice variable and the regulatory framework. These interaction terms were added to the model to test the moderating effect. The regression equation was:

$$CA = \beta_0 + \beta_1 WM + \beta_2 WTM + \beta_3 EC + \beta_4 GM + \beta_5 RF + \beta_6 WM{\times}RF + \beta_7 WTM{\times}RF + \beta_8 EC{\times}RF + \beta_9 GM{\times}RF + \varepsilon$$

Where:

WM×RF, WTM×RF, EC×RF, GM×RF = Interaction terms

β_6 , β_7 , β_8 , β_9 = Regression coefficients for interaction terms

The significance of the interaction terms was assessed using the p-values associated with their regression coefficients. A p-value less than 0.05 would indicate a significant moderating effect of the regulatory framework on the relationship between the respective green practice and competitive advantage.

The change in R-squared (R^2) between the models in Step 2 and Step 3 was also examined to determine the additional variance in competitive advantage explained by the interaction terms. A significant ΔR^2 would further confirm the presence of a moderating effect.

3.10 Logistical and Ethical Considerations

The researcher obtained an approval from the Kenyatta University Graduate School in order to conduct the study; permission and research authority were obtained from the National Commission of Science Technology and Innovation (NACOSTI). Consent letter and Ethical Review Committee (ERC) form were provided by the university. A letter to each of the tourism hotel was conducted requesting for

permission to carry the study. The respondents were requested for their voluntary participation and consent sought prior to their participation. All the respondents were assured of their anonymity and the data collected from the respondents kept confidential.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The findings of the study are presented in this chapter, which includes data analysis, data presentation, and interpretations of the findings. The results were presented in accordance with the study's objectives.

4.2 Response rate

The response rate was assessed to establish the sample size's representativeness. The research distributed 136 questionnaires. A total of 121 questionnaires were completed and returned, with the findings reported in Table 4.1.

Table 4.1: Response Rate

Category	Administered	Percentage
Returned	121	88.97%
Not completed	15	11.03%
Total	136	100%

The data show that a total of 121 questionnaires were completed, resulting in a 88.97% response rate. According to Babbie (2014), a return rate of more than 50% is suitable for analysis and publication, 60% is good, and 70% is very good. According to these famous researchers, the study's response rate of 88.97% was very good.

4.3. Background Information

The study sought to present the preliminary information details of numbers of years the hotel has been operating, size of the hotel in terms of number of employees and the hotel restaurant seat turn over on daily basis.

4.3.1 Hotel Operation Period (years)

The length of time a hotel has been in operation can significantly influence its ability to implement and benefit from green practices. Hotels with longer operational histories may have more established systems and greater experience in environmental management. To assess this factor, respondents were asked to indicate their hotel's operational duration. Figure 4.1 presents the distribution of hotel operation periods in years.

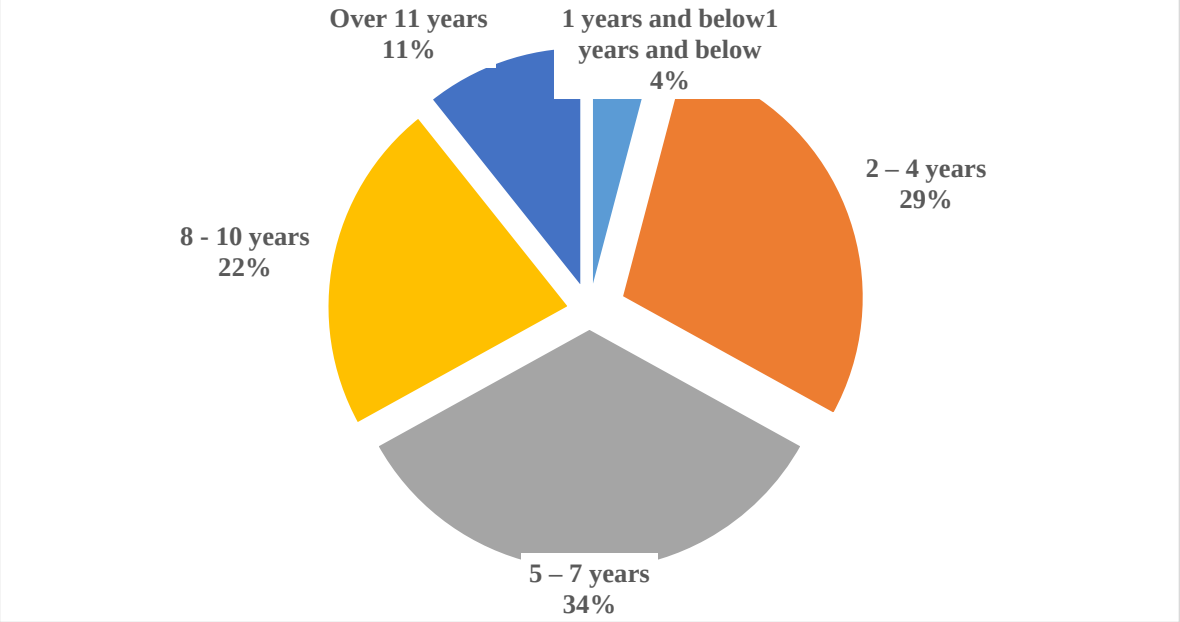


Figure 4.1: Hotel operation period

Based on the data gathered, the majority of the respondents 34% showed that the hotel was in operation for 5-7 years. 29% of the respondents provided that the hotels have been in operation for a period between 2 -4 years. In addition, 22% of the respondents revealed that the hotels have been in operation for a period between 8 – 10 years. Those who provided a period of over 11 years were 11% and lastly 4% of the respondents showed that the hotel has been in operation for a period that is 1 year and below. The findings imply that the majority of hotels in the region have

been in operation for a long time, and thus the employees in these hotels have information about the hotels' performance and how they have been operating, providing the study objectives with unbiased information.

4.3.2 Number of employees

Employee size is a critical indicator of hotel scale and operational capacity, potentially affecting the implementation of green practices and competitive strategies. Understanding the workforce distribution helps contextualize the hotels' ability to execute environmental initiatives. Respondents were asked to indicate their total number of employees. Figure 4.2 presents the distribution of employee numbers across participating hotels.

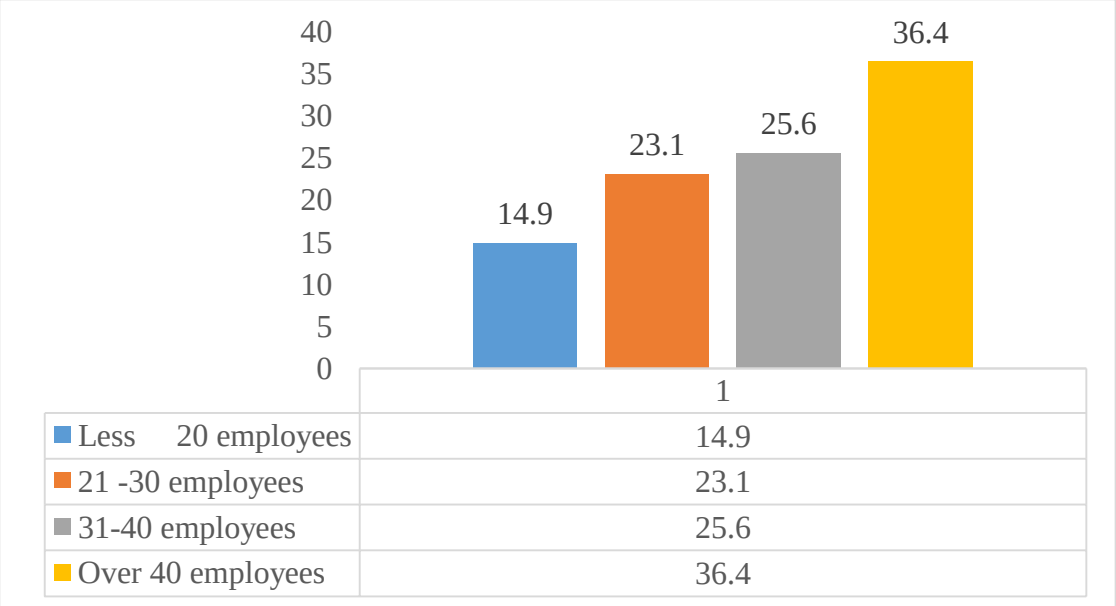


Figure 4.2: Number of employees

The results show that majority of the respondents 36.4% indicated that the majority of the hotel has employees exceeding 40 in number. 25.6% believed that most of the hotels have employees between 31 – 40. Moreover, 23.1% of the participants showed that the majority of hotels have employees in total between 21 – 30. Finally,

14.9 of the respondents believed that the majority of hotels have less than 20 employees in total. This implies that many respondents interviewed in the hotels think that hotels tend to be larger organizations with a significant workforce. Therefore, the findings of the study provide some insight into people's perceptions regarding the number of employees in hotels.

4.3.3 Hotel Occupancy (on daily basis)

Daily occupancy rates provide insight into the hotels' operational scale and potential environmental impact. Higher occupancy rates may indicate greater resource consumption and waste generation, making green practices more crucial. To understand this aspect, participants were asked to indicate their average daily customer numbers. Figure 4.3 presents the daily occupancy distribution across surveyed hotels.

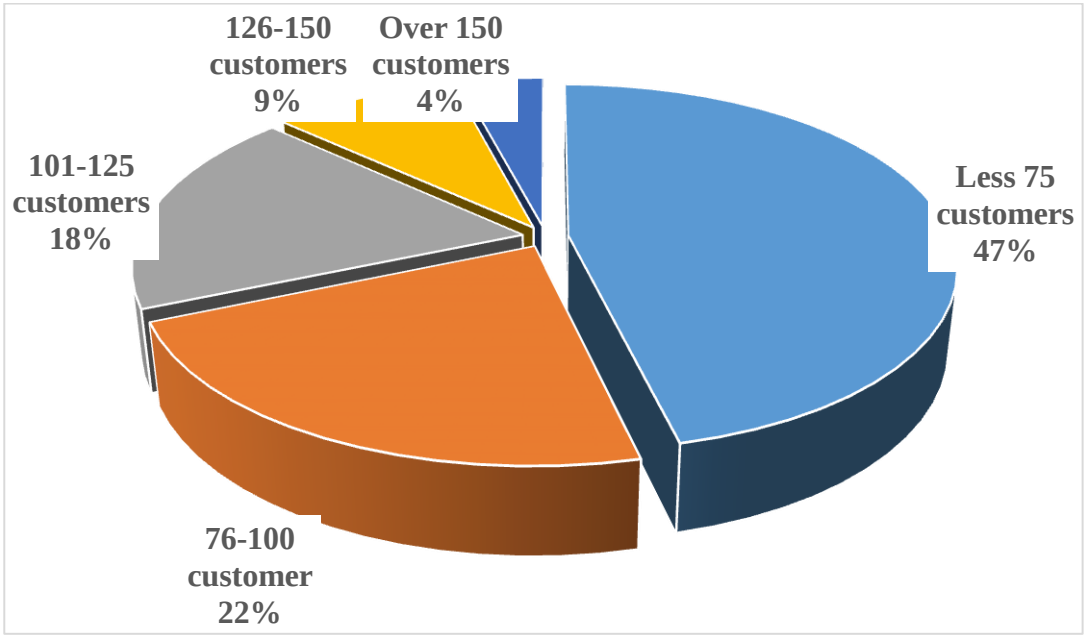


Figure 4.3: Hotel occupancy (on daily basis)

Figure 4.3 shows that the majority (47%) of the respondents indicated that less than 75 customers visit the hotel daily. 22% of the respondents showed that between 76 –

100 customers visit the hotel daily. Additionally, 18% of the respondents believed that 101 – 125 customers visit the hotel daily. Lastly, less than 10% of the respondents believed that 126 to over 150 customers visit the hotel daily.

4.3.4 Revenue Growth Trends

Understanding revenue growth trends helps contextualize the hotels' financial performance and potential capacity for implementing green initiatives. The analysis of revenue trends also reveals the impact of external factors like the COVID-19 pandemic on hotel operations. Figure 4.4 presents the revenue growth trends from 2018 to 2021.

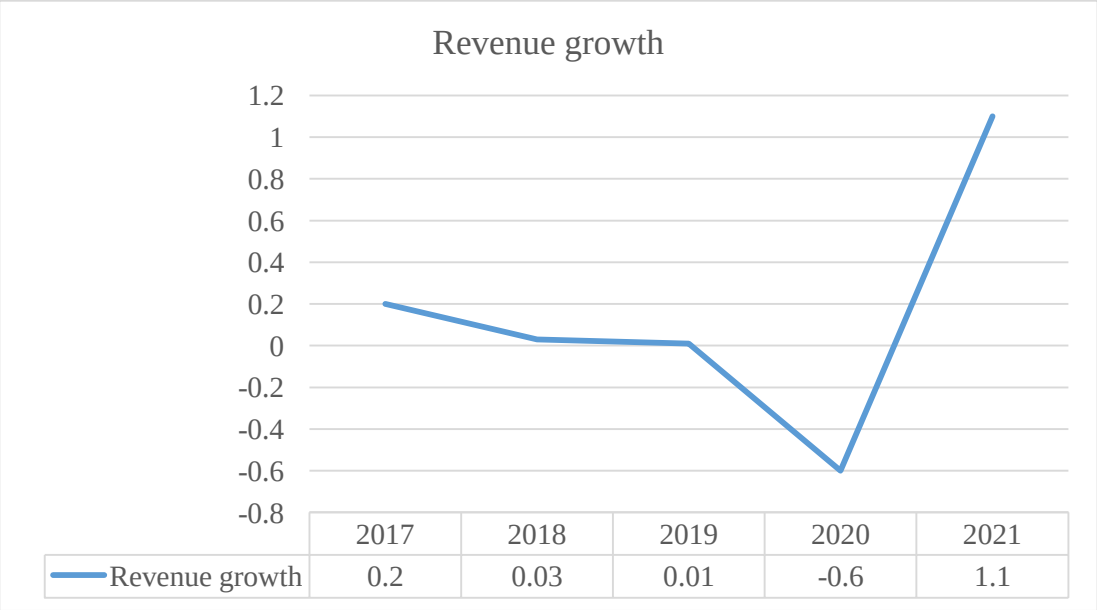


Figure 4.4: Trend Analysis of Revenue growth

Based on the results presented in Figure 4.4, the revenue growth of the hotel industry has been fluctuating. The trend illustrates that revenue growth has been decreasing from 2018 up to 2020. This could be attributed to the fact that there was an outbreak of the coronavirus in 2019 and 2020 which brought about the closure of the economy to curb the spread of the Covid-19 pandemic. The government of

Kenya put up measures of lockdowns and curfews which attributed to the hotel industry experiencing a lot of losses and a decrease in revenue. However, from 2021 onward, the revenue growth has been increasing. This might have been attributed to the improvement of the economy as well as the reduction in the frequency of pandemics caused by Covid-19. The findings agreed with Lai and Wong (2020), who concluded that the COVID-19 outbreak has dealt a crippling blow to the hotel industry, as well as the crisis management practices that support the industry.

4.4 The Influence of Hotel Waste Management Practices on Competitive Advantage

The section presents the findings on the influence of hotel waste management practices on the competitive advantage of hotels in the Mount Kenya tourism circuit, Kenya. The section presents descriptive statistics, correlation analysis, regression analysis and hypothesis testing.

4.4.1 Descriptive Statistics of Hotel Waste Management Practices on Competitive Advantage

This section contains descriptive analysis for waste management practices. The responses are presented in 5-point Likert scale as shown in Table 4.2.

Table 4.2: Hotel Operation Managers of Hotel Waste Management Practices on Competitive Advantage

Statement	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
Hotel waste residue are properly separated based on whether they are biodegradable or non-degradable	7.40%	2.50%	2.50%	48.80%	38.80%	4.09	1.088
The hotel has clearly labeled waste bins installed at strategic locations	1.70%	1.70%	0.80%	55.40%	40.50%	4.31	0.731

The hotel has designated waste dump site.	6.60%	1.70%	1.70%	43.80%	46.30%	4.21	1.05
The hotel always uses refillable dispensers for soaps, shampoos, and conditioners	4.10%	0.00%	1.70%	46.30%	47.90%	4.34	0.871
The hotel uses environment-friendly disposal mechanism of solid waste.	5.00%	0.00%	1.70%	43.00%	50.40%	4.34	0.927
The hotel has fully embraced the use of recycle hotel items instead of disposable ones	2.50%	0.00%	0.80%	48.80%	47.90%	4.4	0.747
Collected wastes in the hotel are timely collected for disposal by trusted waste collection entities that carries, convey, bear or transport solid and liquid waste.	5.80%	0.00%	2.50%	47.10%	44.60%	4.25	0.969
Average						**4.277**	**0.912**

Table 4.2 shows that an impressive 87.6% of respondents agreed that waste residue is properly separated by biodegradability (mean = 4.09), while 95.9% confirmed clearly labeled waste bins at strategic locations (mean = 4.31). The hotels show remarkable progress in sustainable practices, with 94.2% using refillable toiletry dispensers, 93.4% employing environment-friendly waste disposal mechanisms, and 96.7% prioritizing recycled items over disposable ones. Notably, 91.7% of hotels ensure timely waste collection by trusted entities, indicating systematic waste management. The overall mean of 4.277 suggests consistently high implementation of waste management strategies, aligning with institutional theory's premise that organizations adopt practices to gain legitimacy and respond to environmental pressures. These findings not only reflect the hotels' environmental consciousness but also demonstrate their proactive approach to sustainable operations, as supported by research from scholars like Abdou et al. (2020), Singh et al. (2014), and Berezan

et al. (2013). However, the varying standard deviations indicate some inconsistencies in implementation, suggesting potential areas for future improvement and standardization of waste management practices in the region.

In an interview key informant 5 remarked that:

> "*In our hotel, all waste management methods are centered on prevention. To reduce waste and pollution, many technologies may be utilized throughout manufacturing, use, and disposal. Using less hazardous or harmful materials, current leakage monitoring systems for material storage, novel chemical neutralization techniques to reduce reactivity, or water conservation technology that restricts freshwater inputs in hotels are some solutions*"

The key informant's perspective highlights a comprehensive and proactive approach to waste management that goes beyond mere disposal, emphasizing prevention and technological innovation. This aligns with Mensah (2020) and Kasimu et al. (2012), who argue that effective waste management in the hospitality sector requires a holistic strategy focusing on reduction, prevention, and sustainable technologies. The informant's emphasis on utilizing technologies for waste prevention, monitoring material storage, implementing chemical neutralization techniques, and adopting water conservation technologies reflects the principles outlined by Abdou et al. (2020) regarding sustainable development in hotels. Such an approach demonstrates a strategic understanding of waste management as not just an environmental responsibility, but also a potential source of competitive advantage through resource efficiency and innovative practices.

Table 4.3: Food and Beverage Managers of Hotel Waste Management Practices on Competitive Advantage

Statement	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
Food and beverage waste residue are properly separated based on whether they are biodegradable or non-degradable	6.60%	0.80%	3.30%	51.20%	38.00%	4.130	1.016
The hotel has clearly labeled waste bins installed at kitchen work stations	2.50%	0.80%	1.70%	52.10%	43.00%	4.320	0.777
The hotel has designated waste dump site.	7.40%	2.50%	2.50%	48.80%	38.80%	4.090	1.088
The hotel always uses refillable dispensers for soaps, shampoos, and conditioners	1.70%	1.70%	0.80%	55.40%	40.50%	4.310	0.731
The hotel restaurant uses environment-friendly disposal mechanism of solid waste.	6.60%	1.70%	1.70%	44.60%	45.50%	4.210	1.048
The hotel restaurant has fully embraced the use of recycle hotel items instead of disposable ones	4.10%	0.00%	0.80%	47.10%	47.90%	4.350	0.863
Collected wastes in the hotel restaurants are timely collected for disposal by trusted waste collection entities that carries, convey, bear or transport solid and liquid waste.	7.40%	1.70%	2.50%	48.80%	39.70%	4.120	1.074
Average						**4.219**	**0.942**

Table 4.3 reveals a comprehensive and strategic approach to environmental sustainability in the Mt Kenya Tourism Circuit. The majority (89.2%) of respondents agreed that food and beverage waste residue is properly separated based on biodegradability, with a mean of 4.130 and standard deviation of 1.016, aligning

with Mensah's (2020) research on waste categorization strategies. Key informant 6 provided further insight into the waste collection process, stating:

"Ensuring that the waste is collected only after all of the bins have been filled close to capacity to prevent spillage."

This qualitative data complements the quantitative findings by highlighting the practical considerations in waste management, such as preventing spillage during collection.

An overwhelming majority (95.1%) indicated clearly labeled waste bins in kitchen work stations, with a mean of 4.320 and standard deviation of 0.777, supporting Singh et al.'s (2014) emphasis on clear waste management infrastructure. The findings demonstrate high compliance with sustainable practices, with 87.6% of hotels confirming designated waste dump sites and 95.9% using refillable dispensers, which corresponds with Abdou et al. (2020) and Kasimu et al. (2012) recommendations for hospitality sector sustainability.

Environment-friendly waste disposal mechanisms were implemented by 90.1% of respondents, and an impressive 95% have embraced recycling hotel items over disposable ones, extending the work of Berezan et al. (2013) and Pham Phu et al. (2019) on waste reduction strategies. The overall average mean of 4.219 with a standard deviation of 0.942 indicates consistently high implementation of waste management practices, supporting Institutional Theory's premise that organizations adopt practices to gain legitimacy and competitive advantage.

The qualitative data from Key informant 6 provides additional context to the quantitative findings by highlighting the practical aspects of waste management, such as optimizing waste collection to prevent spillage. This insight complements

the quantitative data on waste separation and infrastructure, providing a more comprehensive understanding of the waste management practices in the Mt Kenya Tourism Circuit.

Table 4.4: Hotels Chefs of Hotel Waste Management Practices on Competitive Advantage

Statement	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
Hotel kitchen waste residue are properly separated based on whether they are biodegradable or non-degradable	1.70%	1.70%	0.80%	55.40%	40.50%	4.310	0.731
The kitchen has clearly labeled waste bins installed at strategic locations	7.40%	1.70%	1.70%	44.60%	44.60%	4.170	1.085
The hotel has designated waste dumpsite.	4.10%	0.00%	0.80%	48.80%	46.30%	4.330	0.860
The hotel kitchen uses environment-friendly disposal mechanism of solid waste.	5.00%	0.00%	1.70%	43.80%	49.60%	4.330	0.925
The hotel kitchen has fully embraced the use of recycle hotel items instead of disposable ones	7.40%	1.70%	2.50%	50.40%	38.00%	4.100	1.068
Collected wastes in the hotel kitchen are timely collected for disposal by trusted waste collection entities that carries, convey, bear or transport solid and liquid waste.	1.70%	1.70%	1.70%	53.70%	41.30%	4.310	0.742
Average						**4.258**	**0.902**

Table 4.4 reveals a comprehensive approach to waste management practices among hotel chefs in the Mt Kenya Tourism Circuit. A significant majority (95.9%) of respondents agreed that hotel kitchen waste residue is properly separated based on biodegradability, with a mean of 4.310 and standard deviation of 0.731, aligning

with Mensah's (2020) research on systematic waste categorization. Key informant 3 corroborated this finding, stating:

"We were able to recycle or reuse some of the waste that was produced by our hotel on occasion, which allowed us to more efficiently manage the waste that was collected."

This qualitative data supports the high level of waste separation practices found in the quantitative results.

The findings show that 89.2% of kitchens have clearly labeled waste bins installed at strategic locations, with a mean of 4.170 and standard deviation of 1.085, supporting Singh et al.'s (2014) recommendations for effective waste management infrastructure. Notably, 95.1% of hotels have designated waste dump sites and employ environment-friendly disposal mechanisms, with means of 4.330 and standard deviations of 0.860 and 0.925 respectively, which corresponds with Abdou et al. (2020) and Berezan et al. (2013) findings on sustainable waste management practices.

An impressive 88.4% of kitchens have fully embraced recycling hotel items over disposable ones, with a mean of 4.100 and standard deviation of 1.068, extending the work of Pham Phu et al. (2019) on waste reduction strategies. Key informant 3 further reinforced the role of regulations in promoting effective waste management, stating:

"Waste management at our hotel is made more effective by a number of laws, including public health laws and policies."

This qualitative data highlights the importance of regulatory frameworks in driving the adoption of sustainable waste management practices, as found in the quantitative results.

The overall average mean of 4.258 with a standard deviation of 0.902 indicates consistently high implementation of waste management practices, supporting Institutional Theory's premise that organizations adopt practices to gain legitimacy and competitive advantage. The qualitative data from Key informant 3 strengthens this finding by demonstrating how hotels are actively engaging in waste recycling and reuse to enhance their waste management efficiency, and how regulatory pressures contribute to the adoption of these practices.

Table 4.5: Hotel Housekeeping Managers of Hotel Waste Management Practices on Competitive Advantage

Statement	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
Hotel housekeeping waste residue are properly separated based on whether they are biodegradable or non-degradable	7.40%	1.70%	1.70%	45.50%	43.80%	4.170	1.083
The hotel housekeeping bags and bins are clearly labeled and installed at strategic locations	7.40%	1.70%	2.50%	49.60%	38.80%	4.110	1.071
The hotel has designated waste dump site.	7.40%	1.70%	2.50%	50.40%	38.00%	4.100	1.068
The hotel always uses refillable dispensers for soaps, shampoos, and conditioners	1.70%	1.70%	0.80%	56.20%	39.70%	4.310	0.729
The hotel uses environment-friendly disposal mechanism of solid waste.	7.40%	1.70%	2.50%	49.60%	38.80%	4.110	1.071
The hotel housekeeping has fully embraced the	2.50%	1.70%	0.80%	56.20%	38.80%	4.270	0.785

use of recycle hotel items instead of disposable ones							
Collected wastes in the hotel are timely collected for disposal by trusted waste collection entities that carries, convey, bear or transport solid and liquid waste.	7.40%	1.70%	2.50%	49.60%	38.80%	4.110	1.071
Average						**4.169**	**0.983**

Table 4.5 reveals the waste management practices of hotel housekeeping managers in the Mt Kenya Tourism Circuit. A significant majority (89.3%) of respondents agreed that housekeeping waste residue are properly separated based on biodegradability, with a mean of 4.170 and standard deviation of 1.083, consistent with Mensah's (2020) research on waste categorization strategies. The findings demonstrate that 88.4% of hotels have clearly labeled housekeeping bags and bins installed at strategic locations, with a mean of 4.110 and standard deviation of 1.071, supporting Singh et al.'s (2014) recommendations for effective waste management infrastructure. Approximately 88.4% of hotels have designated waste dump sites, with a mean of 4.100 and standard deviation of 1.068, aligning with Abdou et al. (2020) findings on systematic waste management. An impressive 95.9% of hotels use refillable dispensers for soaps, shampoos, and conditioners, with a mean of 4.310 and standard deviation of 0.729, which corresponds with Kasimu et al. (2012) recommendations for sustainable hospitality practices.

Key informant 2 supported this quantitative finding, stating:

"NEMA has enacted laws that hotels must follow to properly manage their garbage. Managing waste in a sustainable manner is essential. The Peak Hotel is investing in bio-digest, which will turn its solid waste into manure and recycle its water for gardening."

Environment-friendly disposal mechanisms were implemented by 88.4% of respondents, and 95% have embraced recycling hotel items over disposable ones, with means of 4.110 and 4.270 respectively, extending the work of Berezan et al.

(2013) and Pham Phu et al. (2019) on waste reduction strategies. The overall average mean of 4.169 with a standard deviation of 0.983 indicates consistently high implementation of waste management practices, supporting Institutional Theory's premise that organizations adopt practices to gain legitimacy and competitive advantage.

4.4.2 Correlation Analysis of Hotel Waste Management Practices on Competitive Advantage

Analyses of correlation were performed to evaluate the degree of connection between waste management practices and competitive advantage. As shown in Table 4.6.

Table 4.6: Correlation analysis of Hotel Waste Management Practices on Competitive Advantage

	Competitive Advantage	**Waste management**
Competitive Advantage	1.000	
Waste management	0.729 0.000	1.000

The correlation analysis reveals a strong positive relationship between waste management practices and competitive advantage ($r = 0.729$, $p = 0.000$), indicating that improvements in waste management directly contribute to enhanced competitive positioning. This finding aligns with Molina-Azorín et al. (2018), who argued that environmental management practices can significantly impact organizational performance, and supports Abdou et al. (2020) research demonstrating the strategic value of sustainable waste management in the hospitality industry.

4.4.3 Regression Analysis of Hotel Waste Management Practices on Competitive Advantage

To find out whether or not there is a statistically significant connection between effective waste management and competitive advantage, a regression analysis was carried out. The results presented in the Tables.

Table 4.7: Model summary of Hotel Waste Management Practices on Competitive Advantage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729a	0.532	0.528	0.714952

Table 4.8 shows that different waste management were determined to be sufficient factors in explaining competitive advantage. This was corroborated by a coefficient of determination, commonly known as the R square of 0.532. This suggests that waste management explains 53.2% of the variance in the dependent variable, competitive advantage.

Table 4.8: ANOVA of Hotel Waste Management Practices on Competitive Advantage

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.04	1	69.04	135.066	.000b
	Residual	60.828	119	0.511		
	Total	129.868	120			

Table 4.8 indicates regression model is significant and supported by F= 135.066, p<0.000) since p-values is 0.000 which is less than 0.05.

Table 4.9: Coefficients of Hotel Waste Management Practices on Competitive Advantage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.892	0.195		4.564	0.000
	Waste management	0.743	0.064	0.729	11.622	0.000

The coefficient suggests that for every unit increase in waste management practices, competitive advantage increases by 0.743 units, which substantiates Mensah and Ampofe's (2021) research on the strategic importance of waste management in the hospitality sector.

Regression model;

CA= 0.892 + 0.743WM

Where,

CA = Competitive advantage

WM = Waste management

4.4.4: Hypothesis testing for waste management and competitive advantage

The hypothesis was tested using regression analysis. The study sought to test the given null hypothesis:

H_{01}: Hotel waste management practices do not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

The p-value method was used to test hypotheses in the regression analysis model. If the p-value for H01 is greater than the 0.05 significance threshold, accept it; otherwise, reject it.

The regression coefficient results indicated that waste management practices and competitive advantage are positively and significantly related ($\beta = 0.743$, $p = 0.000$). Based on these results, the null hypothesis (H01) is decisively rejected. The statistical evidence supports the alternative hypothesis that hotel waste management practices significantly influence the competitive advantage of tourist hotels in the Mt Kenya Tourism Circuit.

The findings align with Abdou et al. (2020), who demonstrated the importance of waste management in sustainable hotel development, and Molina-Azorín et al. (2018), who argued that environmental management practices can provide significant competitive advantages. The regression coefficient of 0.743 indicates that for each unit increase in waste management practices, there is a corresponding 0.743 unit increase in competitive advantage.

The research's findings correspond with those of Abdou, Hassan, Dief, and Moustafa (2020), who examined hotel green practices and their significance in sustainable development. The study found that waste management methods contributed positively to achieving sustainability goals (SDGs). The research also supports the findings of Molina-Azorín et al. (2018), who found that quality waste management and environmental management allow for improved competitive advantage in terms of both costs and differentiation. Moreover, hotels that adopt quality programs have fewer challenges when implementing environmental management.

In summary, the hypothesis testing results reveal that the null hypothesis (H01) is rejected, and the alternative hypothesis is accepted. The findings indicate that hotel waste management practices have a significant and positive influence on the competitive advantage of tourist hotels in the Mt Kenya Tourism Circuit.

4.5 The Impact of Water Management Practices on Competitive Advantage

The section presents the findings on the impact of water management practices on the competitive advantage of hotels in the Mount Kenya tourism circuit, Kenya. The section presents descriptive statistics, correlation analysis, regression analysis and hypothesis testing.

4.5.1 Descriptive Statistics of Water Management Practices on Competitive Advantage

Table 4.10: Hotel operation managers of Water Management Practices on Competitive Advantage

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The hotel has adequately invested in water efficient appliances like dishwashers and clothes washing machines to minimize water wastage	1.70%	1.70%	0.80%	54.50%	41.30%	4.32	0.733
The hotel has automated water taps that automatically closes after use.	6.60%	1.70%	2.50%	43.80%	45.50%	4.2	1.054
The hotel does regular fixing of leaks in toilet and bathrooms to minimize water wastage through leaking	4.10%	0.00%	0.80%	49.60%	45.50%	4.32	0.858
Efficient water management has helped sustain the attractiveness of the hotels to visitors.	5.80%	0.00%	2.50%	42.10%	49.60%	4.3	0.98
The hotel periodically monitors the consumption of water in the various water points using metering units installed in each water point.	3.30%	0.00%	0.80%	48.80%	47.10%	4.36	0.806
There is efficient tap fittings to minimize water leakages	8.30%	1.70%	2.50%	48.80%	38.80%	4.08	1.107

Enhanced housekeeping in hotel by using water-efficient equipment to clean the hotel.	1.70%	2.50%	0.80%	55.40%	39.70%	4.29	0.758
Measuring and metering water use and controlling water consumption in kitchen	6.60%	1.70%	1.70%	44.60%	45.50%	4.21	1.048
Average						**4.260**	**0.918**

Table 4.10 reveals a comprehensive approach to water management practices among hotel operation managers in the Mt Kenya Tourism Circuit. A significant majority (95.8%) of respondents agreed that the hotel has adequately invested in water-efficient appliances like dishwashers and clothes washing machines to minimize water wastage, with a mean of 4.32 and standard deviation of 0.733, aligning with Kasim et al. (2014) recommendations for sustainable water management.

Key informant 3 provided additional context to water conservation efforts, stating:

"Soil erosion and water supply pollution are both things that may be prevented with the county government's assistance in conserving the water environment."

This qualitative insight complements the quantitative findings by highlighting the broader environmental considerations in water management.

The findings demonstrate that 89.3% of hotels have automated water taps that automatically close after use, with a mean of 4.2 and standard deviation of 1.054, supporting Sousa and Eusébio's (2013) research on water conservation technologies in hospitality. Approximately 95.1% of hotels regularly fix leaks in toilets and bathrooms, with a mean of 4.32 and standard deviation of 0.858, which corresponds with Nthiga's (2018) study on water-saving methods in hospitality facilities.

Key informant 4 offered an additional perspective on water management, noting:

"Rainwater harvesting systems installed in every home during the rainy season might be a useful tool for water management."

This qualitative input provides further insight into potential water conservation strategies beyond the quantitative data.

An impressive 91.7% of respondents noted that efficient water management helps sustain the hotels' attractiveness to visitors, with a mean of 4.3 and standard deviation of 0.98, extending the work of Mendoza et al. (2022) on water management strategies in the tourism industry. The hotels show a strong commitment to water monitoring, with 95.9% periodically monitoring water consumption using metering units, and 95.1% using water-efficient equipment for housekeeping, with means of 4.36 and 4.29 respectively.

The overall average mean of 4.260 with a standard deviation of 0.918 indicates consistently high implementation of water management practices, supporting Singjai et al. (2018) findings on sustainable practices leading to cost competitiveness. The qualitative insights from key informants further enrich the understanding of water management practices by highlighting the role of local government support and innovative approaches like rainwater harvesting.

Table 4.11: Food and Beverage Managers of Water Management Practices on Competitive Advantage

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The hotel has adequately invested in water efficient appliances like dishwashers to minimize water wastage	4.10%	0.00%	0.80%	47.10%	47.90%	4.35	0.863
	7.40%	1.70%	3.30%	48.80%	38.80%	4.1	1.076

The hotel has automated water taps that automatically closes after use.							
The hotel does regular fixing of leaks in wash up to minimize water wastage through leaking	1.70%	1.70%	0.80%	56.20%	39.70%	4.31	0.729
Efficient water management has helped sustain the attractiveness of the hotels to visitors.	8.30%	2.50%	1.70%	44.60%	43.00%	4.12	1.134
The hotel restaurants periodically monitor the consumption of water in the various water points using metering units installed in each water point.	4.10%	0.80%	0.80%	47.90%	46.30%	4.31	0.885
There is efficient tap fittings to minimize water leakages	5.80%	0.00%	1.70%	45.50%	47.10%	4.28	0.968
Measuring and metering water use and controlling water consumption in kitchen	2.50%	0.00%	0.80%	48.80%	47.90%	4.4	0.747
Average						**4.267**	**0.915**

Table 4.11 shows a comprehensive approach to water management practices among food and beverage managers in the Mt Kenya Tourism Circuit. A significant majority (95%) of respondents agreed that the hotel has adequately invested in water-efficient dishwashers to minimize water wastage, with a mean of 4.35 and standard deviation of 0.863, aligning with Kasim et al. (2014) recommendations for sustainable water management. The findings demonstrate that 87.6% of hotels have automated water taps that automatically close after use, with a mean of 4.1 and standard deviation of 1.076, supporting Sousa and Eusébio's (2013) research on water conservation technologies in hospitality. Approximately 95.9% of hotels regularly fix leaks in wash-up areas, with a mean of 4.31 and standard deviation of

0.729, which corresponds with Nthiga's (2018) study on water-saving methods in hospitality facilities. Notably, 87.6% of respondents indicated that efficient water management helps sustain the hotels' attractiveness to visitors, with a mean of 4.12 and standard deviation of 1.134, extending the work of Mendoza et al. (2022) on water management strategies in the tourism industry. The hotels show a strong commitment to water monitoring, with 94.2% periodically monitoring water consumption using metering units, and 96.7% measuring and controlling water consumption in the kitchen, with means of 4.31 and 4.4 respectively. The overall average mean of 4.267 with a standard deviation of 0.915 indicates consistently high implementation of water management practices, supporting Singjai et al. (2018) findings on sustainable practices leading to cost competitiveness.

Table 4.12: Hotels Chefs

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The hotel kitchen has adequately invested in water efficient appliances like dishwashing machines to minimize water wastage	5.00%	0.80%	2.50%	43.80%	47.90%	4.29	0.953
The hotel kitchen has automated water taps that automatically closes after use.	7.40%	1.70%	2.50%	49.60%	38.80%	4.11	1.071
The hotel does regular fixing of leaks in kitchen taps to minimize water wastage through leaking	1.70%	1.70%	1.70%	52.90%	42.10%	4.32	0.744
Efficient water management has helped sustain the attractiveness of the hotels to visitors.	7.40%	1.70%	1.70%	47.10%	42.10%	4.15	1.078
The hotel kitchen periodically monitors the consumption of	4.10%	0.80%	1.70%	47.90%	45.50%	4.3	0.891

water in the various water points using metering units installed in each water point.							
There is efficient tap fittings to minimize water leakages	8.30%	0.00%	1.70%	40.50%	49.60%	4.23	1.101
Measuring and metering water use and controlling water consumption in kitchen	4.10%	1.70%	1.70%	46.30%	46.30%	4.29	0.917
Average						**4.241**	**0.965**

Table 4.12 reveals water management practices among hotel chefs in the Mt Kenya Tourism Circuit. A significant majority (91.7%) of respondents agreed that the hotel kitchen has adequately invested in water-efficient dishwashing machines to minimize water wastage, with a mean of 4.29 and standard deviation of 0.953, aligning with Kasim et al. (2014) recommendations for sustainable water management.

Key informant 4 provided additional insight into water conservation strategies, stating:

"Water harvesting may aid borehole water by collecting water during the rainy seasons and storing it in tanks."

This qualitative input complements the quantitative findings by highlighting an innovative approach to water management that extends beyond standard kitchen practices.

The findings demonstrate that 88.4% of hotels have automated water taps that automatically close after use, with a mean of 4.11 and standard deviation of 1.071, supporting Sousa and Eusébio's (2013) research on water conservation technologies in hospitality. Approximately 95% of hotels regularly fix leaks in kitchen taps, with

a mean of 4.32 and standard deviation of 0.744, which corresponds with Nthiga's (2018) study on water-saving methods in hospitality facilities.

Notably, 89.2% of respondents indicated that efficient water management helps sustain the hotels' attractiveness to visitors, with a mean of 4.15 and standard deviation of 1.078, extending the work of Mendoza et al. (2022) on water management strategies in the tourism industry. The hotels show a strong commitment to water monitoring, with 93.4% periodically monitoring water consumption using metering units, and 92.6% measuring and controlling water consumption in the kitchen, with means of 4.3 and 4.29 respectively.

The overall average mean of 4.241 with a standard deviation of 0.965 indicates consistently high implementation of water management practices, supporting Singjai et al. (2018) findings on sustainable practices leading to cost competitiveness. The qualitative insight from Key informant 4 further enriches the understanding of water management by introducing alternative water conservation methods such as rainwater harvesting.

Table 4.13: Hotel Housekeeping Managers

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The hotel has adequately invested in water efficient appliances like clothes washing machines to minimize water wastage	7.40%	1.70%	3.30%	48.80%	38.80%	4.1	1.076
The hotel rooms have automated water taps that automatically closes after use.	2.50%	1.70%	0.80%	56.20%	38.80%	4.27	0.785
The hotel does regular fixing of leaks in toilet and bathrooms to minimize water wastage through	6.60%	2.50%	1.70%	43.80%	45.50%	4.19	1.067

leaking							
Efficient water management has helped sustain the attractiveness of the hotels to visitors.	5.00%	0.00%	0.80%	47.10%	47.10%	4.31	0.913
The hotel periodically monitors the consumption of water in the various water points using metering units installed in each water point.	5.80%	0.00%	1.70%	42.10%	50.40%	4.31	0.975
There is efficient tap fittings to minimize water leakages	2.50%	0.80%	1.70%	47.10%	47.90%	4.37	0.787
Enhanced housekeeping in hotel by using water-efficient equipment to clean the hotel.	8.30%	1.70%	4.10%	47.90%	38.00%	4.06	1.113
Measuring and metering water use and controlling water consumption in kitchen	2.50%	2.50%	1.70%	54.50%	38.80%	4.25	0.819
Average						**4.233**	**0.942**

Table 4.13 illuminates the water management practices of hotel housekeeping managers in the Mt Kenya Tourism Circuit, revealing a nuanced approach to resource conservation. A substantial 86.9% of respondents confirmed the hotel's investment in water-efficient appliances like clothes washing machines, with a mean of 4.1 and standard deviation of 1.076, echoing Kasim et al. (2014) recommendations for sustainable resource utilization.

Key informant 5 provided additional context to water management strategies, stating:

"Hotels should install water tanks for water harvesting before being supplied with water meter by NAWASCO."

This qualitative insight complements the quantitative findings by highlighting an proactive approach to water resource management that extends beyond standard operational practices.

The data indicates that 95% of hotel rooms feature automated water taps designed to minimize unnecessary water consumption, with a mean of 4.27 and standard deviation of 0.785, substantiating Sousa and Eusébio's (2013) insights into technological water conservation strategies. Approximately 89.3% of hotels systematically address water leakages in toilets and bathrooms, achieving a mean of 4.19 and standard deviation of 1.067, which aligns with Nthiga's (2018) research on water-saving methodologies in hospitality settings.

Impressively, 94.2% of respondents affirmed that strategic water management enhances hotel attractiveness, with a mean of 4.31 and standard deviation of 0.913, extending Mendoza et al.'s (2022) exploration of water management's strategic implications. The hotels demonstrate sophisticated water monitoring practices, with 92.5% utilizing metering units and 92.3% implementing comprehensive water consumption control mechanisms, yielding means of 4.31 and 4.25 respectively.

The aggregate mean of 4.233 with a standard deviation of 0.942 underscores consistently sophisticated water management approaches, resonating with Singjai et al.'s (2018) findings on sustainable practices driving competitive advantages. The qualitative input from Key informant 5 provides additional depth to the quantitative analysis by suggesting proactive water management strategies such as water harvesting and strategic tank installation.

4.5.2 Correlation Analysis of Water Management Practices on Competitive Advantage

Analyses of correlation were performed to evaluate the degree of connection between water management practices and competitive advantage. As shown in Table 4.14.

Table 4.14: Correlation analysis of Water Management Practices on Competitive Advantage

	Competitive advantage	Water management
Competitive advantage	1.000	
Water management	0.764 0.000	1.000

The correlation analysis reveals a robust and statistically significant relationship between water management practices and competitive advantage ($r = 0.764$, $p = 0.000$), indicating a strong positive correlation that substantiates the strategic importance of water conservation in the hospitality sector. This finding closely aligns with Moise et al. (2021), who explored green practices in hotels and found a positive connection between water management and sustainable performance, and extends the work of Singjai et al. (2018), who demonstrated that sustainable practices can lead to cost competitiveness and enhanced market positioning. The strong correlation suggests that hotels implementing sophisticated water management strategies can significantly improve their competitive advantage, transforming environmental conservation from a compliance requirement to a strategic business differentiator. The statistically significant result ($p = 0.000$) provides compelling evidence that water management is not merely an operational detail, but a critical factor in determining a hotel's market performance and sustainability credentials.

4.5.3 Regression Analysis of Water Management Practices on Competitive Advantage

To find out whether or not there is a statistically significant connection between water management practices and competitive advantage, a regression analysis was carried out. The results presented in the Tables.

Table 4.15: Model summary of Water Management Practices on Competitive Advantage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.764a	0.583	0.58	0.674395

Table 4.15 shows that different water management practices were determined to be sufficient factors in explaining competitive advantage. This was corroborated by a coefficient of determination, commonly known as the R square of 0.583. This suggests that water management practices explain 58.3% of the variance in the dependent variable, competitive advantage.

Table 4.16: ANOVA of Water Management Practices on Competitive Advantage

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.746	1	75.746	166.544	.000b
	Residual	54.122	119	0.455		
	Total	129.868	120			

Table 4.16 indicates regression model is significant and supported by F= 166.544, p<0.000) since p-values is 0.000 which is less than 0.05.

Table 4.17: Coefficients of Water Management Practices on Competitive Advantage

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	0.744	0.188		3.964	0.000
	Water management	0.777	0.06	0.764	12.905	0.000

The regression coefficients indicate a positive and statistically significant relationship ($\beta = 0.777$, $p = 0.000$), suggesting that for every unit increase in water management practices, competitive advantage increases by 0.777 units. This substantiates Nthiga's (2018) research on water-saving methods in hospitality facilities, extending the understanding that strategic water management is not merely an environmental necessity but a potential source of competitive advantage. The constant of 0.744 implies that even with minimal water management interventions, hotels maintain a baseline competitive advantage, but significant improvements can be achieved through systematic water conservation strategies.

Regression model;

CA= 0.744 + 0.777WM

Where,

CA = Competitive advantage

WM = Water management

4.5.4: Hypothesis testing for water management practices and competitive advantage

The hypothesis was tested using regression analysis. The study sought to test the given null hypothesis:

H_{01}: Hotel water management practices do not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

The regression coefficient results demonstrated a positive and statistically significant relationship ($\beta = 0.777$, $p = 0.000$), which is substantially less than the 0.05 significance threshold. Based on these statistical results, the null hypothesis (H01) is decisively rejected. The empirical evidence strongly supports the alternative hypothesis that hotel water management practices significantly influence the competitive advantage of tourist hotels in the Mt Kenya Tourism Circuit.

This finding aligns with Moise et al. (2021), who highlighted the importance of green practices in hotel competitiveness, and Singjai et al. (2018), who demonstrated how sustainable practices lead to cost competitiveness. The regression coefficient of 0.777 indicates that for each unit increase in water management practices, there is a corresponding 0.777 unit increase in competitive advantage.

4.6 The Influence of Energy Conservation Practices on Competitive Advantage

The section presents the findings on the influence of energy conservation practices on the competitive advantage of hotels in the Mount Kenya tourism circuit, Kenya. The section presents descriptive statistics, correlation analysis, regression analysis and hypothesis testing.

4.6.1 Descriptive Statistics of Energy Conservation Practices on Competitive Advantage

Table 4.18: Hotel operation managers of Energy Conservation Practices on Competitive Advantage

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The use of solar power panels has helped efficiently save energy.	7.40%	1.70%	4.10%	53.70%	33.10%	4.03	1.056
The use of wind power is an alternative being undertaken by hotel to	4.10%	3.30%	0.80%	57.90%	33.90%	4.14	0.916

save on energy use.							
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment	5.80%	3.30%	2.50%	44.60%	43.80%	4.17	1.046
This hotel catering has been designed with natural light mechanism in place to save on energy	6.60%	1.70%	0.80%	47.10%	43.80%	4.2	1.038
The hotel catering outlet uses solar energy for its hot water use and has helped tremendously save on energy	7.40%	1.70%	2.50%	50.40%	38.00%	4.1	1.068
The construction design of the hotel allows the use of green energy like sunlight	1.70%	1.70%	0.80%	56.20%	39.70%	4.31	0.729
Average						**4.158**	**0.976**

Table 4.18 reveals a comprehensive approach to energy conservation practices among hotel operation managers in the Mt Kenya Tourism Circuit. A significant majority (86.8%) acknowledged that solar power panels effectively save energy, with a mean of 4.03 and standard deviation of 1.056, aligning with Cingoski and Petrevska's (2018) research on energy efficiency in the hospitality sector.

A key informant provided insightful context to the solar energy findings, stating:

"Solar panels are a source of energy that we utilize in certain situations, such as when there is a power outage and no electricity is available. In addition, we choose to use solar energy as a renewable form of energy to save money on the costs of both gasoline and electricity. Utilization of energy-saving technologies such as electrical systems that turn lights on and off often to save money on utility bills."

This qualitative input enriches the quantitative data by highlighting the strategic and economic motivations behind energy conservation practices, demonstrating how hotels view solar energy as both an emergency backup and a cost-saving measure.

The findings demonstrate that 91.8% of hotels consider wind power as an alternative energy-saving method, with a mean of 4.14 and standard deviation of 0.916, supporting Nimri et al. (2021) recommendations for renewable energy adoption. Approximately 88.4% of hotels have invested in energy-saving devices like low-power rated bulbs and electronic equipment, with a mean of 4.17 and standard deviation of 1.046, which corresponds with Leonidou et al. (2013) findings on energy-efficient technologies.

An impressive 90.9% of hotels have incorporated natural light mechanisms in catering design to save energy, with a mean of 4.2 and standard deviation of 1.038, extending the work of Hsiao et al. (2014) on smart energy management systems. The hotels show a strong commitment to solar energy, with 88.4% using solar energy for hot water and 95.9% designed to utilize green energy like sunlight, with means of 4.1 and 4.31 respectively.

The overall average mean of 4.158 with a standard deviation of 0.976 indicates consistently high implementation of energy conservation practices, supporting Wanjiru et al. (2022) findings on energy-saving methods in star-rated hotels. The key informant's narrative further substantiates these quantitative findings by providing practical insights into the implementation and benefits of energy conservation technologies.

Table 4.19: Food and Beverage Managers of Energy Conservation Practices on Competitive Advantage

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The use of solar power panels has helped efficiently save energy.	7.40%	1.70%	4.10%	53.70%	33.10%	4.03	1.056
The use of wind power is an alternative being undertaken by hotel to save on energy use.	4.10%	3.30%	0.80%	57.90%	33.90%	4.14	0.916
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment	5.80%	3.30%	2.50%	44.60%	43.80%	4.17	1.046
This hotel catering has been designed with natural light mechanism in place to save on energy	6.60%	1.70%	0.80%	47.10%	43.80%	4.2	1.038
The hotel catering outlet uses solar energy for its hot water use and has helped tremendously save on energy	7.40%	1.70%	2.50%	50.40%	38.00%	4.1	1.068
The construction design of the hotel allows the use of green energy like sunlight	1.70%	1.70%	0.80%	56.20%	39.70%	4.31	0.729
Average						**4.158**	**0.976**

Table 4.19 unveils a strategic approach to energy conservation practices among food and beverage managers in the Mt Kenya Tourism Circuit. A significant majority (86.8%) recognized that solar power panels effectively save energy, with a mean of 4.03 and standard deviation of 1.056, which resonates with Pereira et al. (2021) research on sustainability practices in hospitality.

A key informant provided additional regulatory context, revealing:

"Tourism regulatory authority and the KTB have a whole chapter on waste management, starting from the point of collection and going all the way through to

proper disposal. This chapter limits the use of carbon fuel and encourages increased screening of hotels to increase the amount of carbon sink."

This qualitative insight complements the quantitative findings by highlighting the regulatory framework supporting energy conservation efforts in the hospitality sector.

The findings reveal that 91.8% of hotels explore wind power as an alternative energy-saving method, with a mean of 4.14 and standard deviation of 0.916, supporting Cingoski and Petrevska (2018) recommendations for energy efficiency. Approximately 88.4% of hotels have strategically invested in energy-saving devices like low-power rated bulbs and kitchen equipment, with a mean of 4.17 and standard deviation of 1.046, aligning with Wanjiru et al.'s (2022) study on energy conservation in star-rated hotels.

An impressive 90.9% of catering facilities have incorporated natural light mechanisms to save energy, with a mean of 4.2 and standard deviation of 1.038, extending Hsiao et al.'s (2014) insights on smart energy management systems. The hotels demonstrate a robust commitment to solar energy, with 88.4% using solar energy for hot water and 95.9% designed to utilize green energy like sunlight, with means of 4.1 and 4.31 respectively.

The overall average mean of 4.158 with a standard deviation of 0.976 indicates consistently high implementation of energy conservation practices, supporting Nimri et al. (2021) findings on sustainable hospitality strategies. The key informant's perspective adds depth to the quantitative analysis by illustrating the regulatory push towards more sustainable energy practices in the tourism sector.

Table 4.20: Hotels Chefs of Energy Conservation Practices on Competitive Advantage

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The use of wind power is an alternative being undertaken by hotel to save on energy use.	6.60%	1.70%	1.70%	44.60%	45.50%	4.21	1.048
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment	4.10%	0.00%	0.80%	47.10%	47.90%	4.35	0.863
This hotel has embraced and implemented natural light mechanism to save on energy	5.00%	0.00%	1.70%	43.00%	50.40%	4.34	0.927
The hotel kitchen uses solar energy for its hot water use and has helped tremendously save on energy	7.40%	1.70%	3.30%	49.60%	38.00%	4.09	1.072
The construction design of the hotel kitchen allows the use of green energy like sunlight	1.70%	1.70%	1.70%	54.50%	40.50%	4.31	0.74
Average						**4.260**	**0.930**

Table 4.20 reveals a sophisticated approach to energy conservation practices among hotel chefs in the Mt Kenya Tourism Circuit. A substantial 90.1% recognized wind power as an alternative energy-saving method, with a mean of 4.21 and standard deviation of 1.048, aligning with Cingoski and Petrevska's (2018) recommendations for diversifying energy sources.

A key informant provided insight into the strategic approach to energy conservation, stating:

"The hotel was built such that it makes the most of the available natural light, and careful planning and design were done throughout its construction to ensure that it consumes the least amount of energy possible."

This qualitative input complements the quantitative findings by highlighting the intentional architectural design aimed at energy efficiency, demonstrating a holistic approach to energy conservation beyond technological interventions.

An impressive 95% of hotels have invested in energy-saving devices like low-power rated bulbs and kitchen equipment, with a mean of 4.35 and standard deviation of 0.863, supporting Wanjiru et al. (2022) findings on energy conservation strategies in star-rated hotels. Approximately 93.4% of hotels have embraced natural light mechanisms to save energy, with a mean of 4.34 and standard deviation of 0.927, extending Hsiao et al.'s (2014) insights on smart energy management systems.

The hotels demonstrate a robust commitment to solar energy, with 87.6% using solar energy for hot water and 95% designed to utilize green energy like sunlight, with means of 4.09 and 4.31 respectively, resonating with Pereira et al. (2021) research on sustainability practices in hospitality.

The overall average mean of 4.260 with a standard deviation of 0.930 indicates consistently high implementation of energy conservation practices, supporting Nimri et al. (2021) findings on sustainable hospitality strategies. The key informant's narrative provides additional depth to the quantitative analysis by illustrating how energy conservation is integrated into the very design and construction of hotel facilities.

Table 4.21: Hotel housekeeping managers of Energy Conservation Practices on Competitive Advantage

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The use of solar power panels has helped efficiently save energy.	8.30%	1.70%	2.50%	46.30%	41.30%	4.11	1.117
The use of wind power is an alternative being	4.10%	0.00%	1.70%	47.90%	46.30%	4.32	0.868

undertaken by hotel to save on energy use.							
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment	9.90%	3.30%	4.10%	54.50%	28.10%	3.88	1.159
This hotel rooms has been designed with natural light in mind	3.30%	3.30%	1.70%	61.20%	30.60%	4.12	0.862
The hotel uses solar energy for its hot water use and has helped tremendously save on energy	8.30%	3.30%	1.70%	47.10%	39.70%	4.07	1.138
The construction design of the hotel allows the use of green energy like sunlight	6.60%	0.00%	1.70%	47.90%	43.80%	4.22	1.004
Average						**4.120**	**1.025**

Table 4.21 indicates the energy conservation practices among hotel housekeeping managers in the Mt Kenya Tourism Circuit. A considerable 87.6% acknowledged that solar power panels effectively save energy, with a mean of 4.11 and standard deviation of 1.117, aligning with Cingoski and Petrevska's (2018) research on energy efficiency strategies.

A key informant provided additional insight into energy conservation efforts, stating:

"The employees of the hotel are trained on how to turn off the power when it is not in use so as to save energy."

This qualitative input complements the quantitative findings by highlighting the human behavioral aspect of energy conservation, emphasizing the role of employee training in reducing energy consumption.

An impressive 94.2% of hotels view wind power as an alternative energy-saving method, with a mean of 4.32 and standard deviation of 0.868, supporting Nimri et al. (2021) recommendations for renewable energy adoption. Approximately 82.6% of

hotels have invested in energy-saving devices like low-power rated bulbs and electronic equipment, with a mean of 3.88 and standard deviation of 1.159, which corresponds with Leonidou et al.'s (2013) findings on energy-efficient technologies.

A remarkable 91.8% of hotel rooms have been designed with natural light considerations, with a mean of 4.12 and standard deviation of 0.862, extending Hsiao et al.'s (2014) insights on smart energy management systems. The hotels demonstrate a strong commitment to solar energy, with 86.8% using solar energy for hot water and 91.7% designed to utilize green energy like sunlight, with means of 4.07 and 4.22 respectively.

The overall average mean of 4.120 with a standard deviation of 1.025 indicates consistently high implementation of energy conservation practices, supporting Wanjiru et al. (2022) findings on energy-saving methods in star-rated hotels. The key informant's perspective adds depth to the quantitative analysis by revealing the importance of employee training in implementing energy conservation strategies.

4.6.2 Correlation Analysis of Energy Conservation Practices on Competitive Advantage

Analyses of correlation were performed to evaluate the degree of connection between energy conservation practices and competitive advantage. As shown in Table 4.22.

Table 4.22: Correlation analysis of Energy Conservation Practices on Competitive Advantage

	Competitive advantage	Energy conservation
Competitive advantage	1.000	
Energy conservation	0.817 0.000	1.000

The correlation analysis reveals a robust and statistically significant relationship between energy conservation practices and competitive advantage ($r = 0.817$, $p = 0.000$), indicating an exceptionally strong positive correlation. This finding closely aligns with Pereira et al. (2021), who highlighted the strategic importance of energy efficiency measures in hospitality settings, and extends the work of Wanjiru et al. (2022), who demonstrated the potential of energy conservation practices to enhance hotel performance. The remarkably high correlation coefficient suggests that hotels implementing sophisticated energy conservation strategies can substantially improve their competitive advantage, transforming environmental conservation from an operational consideration to a critical strategic differentiator.

4.6.3 Regression Analysis of Energy Conservation Practices on Competitive Advantage

To find out whether or not there is a statistically significant connection between energy conservation practices and competitive advantage, a regression analysis was carried out. The results presented in the Tables.

Table 4.23: Model summary of Energy Conservation Practices on Competitive Advantage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.817a	0.667	0.664	0.602905

Table 4.23 shows that different energy conservation practices were determined to be sufficient factors in explaining competitive advantage. This was corroborated by a coefficient of determination, commonly known as the R square of 0.667. This suggests that energy conservation practices explain 66.7% of the variance in the dependent variable, competitive advantage.

Table 4.24: ANOVA of Energy Conservation Practices on Competitive Advantage

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.612	1	86.612	238.276	.000b
	Residual	43.256	119	0.363		

Table 4.24 indicates regression model is significant and supported by F= 238.276, p<0.000) since p-values is 0.000 which is less than 0.05.

Table 4.25: Coefficients of Energy Conservation Practices on Competitive Advantage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.578	0.168		3.435	0.001
	Energy conservation	0.838	0.054	0.817	15.436	0.000

The regression coefficients demonstrate a positive and statistically significant relationship ($\beta = 0.838$, $p = 0.000$), suggesting that for every unit increase in energy conservation practices, competitive advantage increases by 0.838 units. This finding aligns with Wanjiru et al. (2022), who emphasized the potential of energy-saving methods to enhance hotel performance, and extends Cingoski and Petrevska's (2018) research on energy efficiency in the hotel industry. The constant of 0.578 implies that hotels maintain a baseline competitive advantage, but can significantly improve their market position through systematic energy conservation strategies. These results resonate with Nimri et al. (2021) recommendations for sustainable hospitality practices, providing empirical evidence that energy conservation is a critical component of a hotel's competitive strategy. The highly significant F-statistic ($F = 238.276$, $p < 0.000$) further validates the strong predictive power of energy conservation practices in determining competitive advantage.

Regression model;

CA= 0.578 + 0.838EC

Where,

CA = Competitive advantage

EC = Energy conservation

4.6.4: Hypothesis Testing for Energy Conservation Practices and Competitive Advantage

The hypothesis was tested using regression analysis. The study sought to test the given null hypothesis:

H_{01}: Hotel energy conservation practices do not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

The regression coefficient results demonstrated a positive and statistically significant relationship ($\beta = 0.838$, $p = 0.000$), which is substantially less than the 0.05 significance threshold. Based on these statistical results, the null hypothesis (H01) is decisively rejected. The empirical evidence strongly supports the alternative hypothesis that hotel energy conservation practices significantly influence the competitive advantage of tourist hotels in the Mt Kenya Tourism Circuit.

This finding aligns with Pereira et al. (2021), who highlighted the importance of energy efficiency measures in hospitality settings, and Wanjiru et al. (2022), who demonstrated the potential of energy-saving methods to enhance hotel performance. The regression coefficient of 0.838 indicates that for each unit increase in energy

conservation practices, there is a corresponding 0.838 unit increase in competitive advantage.

4.7 The Influence of Green Marketing Practices on Competitive Advantage

The section presents the findings on the influence of green marketing practices on the competitive advantage of hotels in the Mount Kenya tourism circuit, Kenya. The section presents descriptive statistics, correlation analysis, regression analysis and hypothesis testing.

4.7.1 Descriptive Statistics of Green Marketing Practices on Competitive Advantage

Table 4.26: Green Marketing Practices of Green Marketing Practices on Competitive Advantage

Statement	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
The packaging used to pack hotel products are made of biodegradable friendly material.	5.00%	0.00%	1.70%	43.00%	50.40%	4.34	0.927
The hotel constantly creates environment protection awareness campaigns during marketing	7.40%	1.70%	2.50%	49.60%	38.80%	4.11	1.071
The hotel product distribution and supply channels are well informed about the desire by hotel to protect the environment	1.70%	1.70%	1.70%	53.70%	41.30%	4.31	0.742
Brand return on investment is employed by the hotel as key element for green marketing orientations towards environmental sustainability	7.40%	1.70%	1.70%	47.10%	42.10%	4.15	1.078
The hotel has embraced the green kitchen environment practice by using materials that are harmless to environment	7.40%	2.50%	2.50%	49.60%	38.00%	4.08	1.085

The hotel has embraced green cleaning by using cleaning methods and products with environmentally friendly ingredients and procedures safe to human health and environment	1.70%	3.30%	1.70%	54.50%	38.80%	4.26	0.791
The hotel kitchen product distribution and supply channels are well informed about the desire by hotel to protect the environment	7.40%	1.70%	1.70%	44.60%	44.60%	4.17	1.085
The packaging used to pack hotel products are made of biodegradable friendly material.	1.70%	3.30%	1.70%	57.00%	36.40%	4.23	0.783
The hotel housekeeping constantly creates environment protection awareness campaigns during marketing	7.40%	3.30%	2.50%	44.60%	42.10%	4.11	1.117
The hotel product distribution and supply channels are well informed about the desire by hotel to protect the environment	5.80%	0.00%	0.80%	47.10%	46.30%	4.28	0.959
The hotel housekeeping has embraced the green environment practice by using materials that are harmless to environment	5.00%	0.80%	0.80%	51.20%	42.10%	4.25	0.924
Average						**4.208**	**0.960**

Table 4.26 reveals a comprehensive approach to green marketing practices among hotels in the Mt Kenya Tourism Circuit. A significant majority (93.4%) of respondents agreed that hotels use biodegradable friendly material for product packaging, with a mean of 4.34 and standard deviation of 0.927, aligning with Chan's (2013) research on environmental packaging strategies in hospitality.

Multiple key informants provided insights into green marketing practices. One key informant from KTB noted:

"KTB promotes environmentally concerned clients as well as those who are not environmentally conscious to stay in hotels that implement green measures. KTB

strongly recommends that hotels ban the use of plastic in their packaging and promote environmentally friendly practices in their marketing."

Another key informant shared a specific example:

"Utilization of conservancies, which are founded on the concept of cultural preservation and compatibility, and which, as a result, improve the overall tourist experience. Our hotel promotes the reuse of carrier bags and the use of khaki paper, which can easily decompose."

A third key informant added:

"Reusable containers are utilized for packing purposes at the hotels, and lids are used to cover sufurias and other types of equipment."

These qualitative insights complement the quantitative findings by providing contextual details about green marketing strategies, regulatory support, and practical implementation of environmentally friendly practices.

The findings show that 88.4% of hotels conduct environmental protection awareness campaigns, with a mean of 4.11 and standard deviation of 1.071, supporting Han et al. (2018) recommendations for environmental communication strategies. Approximately 95% of hotels ensure their product distribution and supply channels are informed about environmental protection efforts, with a mean of 4.31 and standard deviation of 0.742, which corresponds with Kim et al. (2020) findings on green supply chain management.

An impressive 89.2% of hotels employ brand return on investment as a key element for green marketing orientations, with a mean of 4.15 and standard deviation of 1.078, extending the work of Martinez (2015) on environmental marketing strategies. The hotels demonstrate strong commitment to green practices, with

87.6% embracing green kitchen environments and 93.3% adopting green cleaning methods, with means of 4.08 and 4.26 respectively, resonating with Singjai et al. (2018) research on sustainable hospitality practices.

The results also reveal that 93.4% of hotels inform their housekeeping supply chains about environmental protection goals, and 93.3% use materials harmless to the environment in housekeeping operations, with means of 4.28 and 4.25 respectively. The overall average mean of 4.208 with a standard deviation of 0.960 indicates consistently high implementation of green marketing practices, supporting Hsiao et al. (2014) findings on environmental management strategies in the hotel industry.

The key informants' perspectives provide rich, contextual evidence that supports and expands upon the quantitative data, offering insights into the motivations, strategies, and practical implementations of green marketing practices in the Mt Kenya Tourism Circuit.

4.7.2 Correlation Analysis of Green Marketing Practices on Competitive Advantage

Analyses of correlation were performed to evaluate the degree of connection between green marketing practices and competitive advantage. As shown in Table 4.27.

Table 4.27: Correlation Analysis of Green Marketing Practices on Competitive Advantage

	Competitive advantage	Green marketing
Competitive advantage	1.000	
Green marketing	0.681	1.000

	0.000

The correlation analysis reveals a substantial and statistically significant relationship between green marketing practices and competitive advantage ($r = 0.681$, $p = 0.000$), indicating a strong positive correlation. This finding aligns with Chan (2013) research, which demonstrated how environmental marketing strategies contribute to hotel performance, and extends the work of Han et al. (2018), who found that green marketing initiatives enhance competitive positioning in the hospitality sector.

4.7.3 Regression Analysis of Green Marketing Practices on Competitive Advantage

To find out whether or not there is a statistically significant connection between e green marketing practices and competitive advantage, a regression analysis was carried out. The results presented in the Tables.

Table 4.28: Model Summary of Green Marketing Practices on Competitive Advantage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.681a	0.464	0.46	0.76478

Table 4.28 shows that different green marketing practices were determined to be sufficient factors in explaining competitive advantage. This was corroborated by a coefficient of determination, commonly known as the R square of 0.464. This suggests that green marketing practices explain 46.4% of the variance in the dependent variable, competitive advantage.

Table 4.29: ANOVA of Green Marketing Practices on Competitive Advantage

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.266	1	60.266	103.039	.000b
	Residual	69.602	119	0.585		

Table 4.29 indicates regression model is significant and supported by F= 103.039, p<0.000) since p-values is 0.000 which is less than 0.05.

Table 4.30: Coefficients of Green Marketing Practices on Competitive Advantage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.113	0.201		5.525	0.000
	Green marketing	0.62	0.061	0.681	10.151	0.000

The regression coefficients indicate a positive and statistically significant relationship ($\beta = 0.620$, $p = 0.000$), suggesting that for every unit increase in green marketing practices, competitive advantage increases by 0.620 units. This finding substantiates Chan (2013) research on environmental marketing strategies in hospitality, and extends Han et al.'s (2018) work on the impact of green initiatives on hotel performance. The constant of 1.113 implies that hotels maintain a baseline competitive advantage, but can significantly enhance their market position through systematic green marketing strategies. These results resonate with Kim et al.'s (2020) findings on green marketing in the hospitality sector, providing empirical evidence that environmental marketing practices are a critical component of a hotel's competitive strategy.

Regression model;

CA= 1.113 + 0.620GM

Where,

CA = Competitive advantage

GM = Green marketing

4.7.4: Hypothesis Testing for Green Marketing Practices and Competitive Advantage

Here's the revised section addressing the reviewer's comments:

4.7.4: Hypothesis Testing for Green Marketing Practices and Competitive Advantage

The hypothesis was tested using regression analysis. The study sought to test the given null hypothesis:

H01: Green marketing practices do not significantly influence competitive advantage of tourist hotels in Mt Kenya Tourism Circuit.

The regression coefficient results demonstrated a positive and statistically significant relationship ($\beta = 0.620$, $p = 0.000$), which is substantially less than the 0.05 significance threshold. Based on these statistical results, the null hypothesis (H01) is decisively rejected. The empirical evidence strongly supports the alternative hypothesis that green marketing practices significantly influence the competitive advantage of tourist hotels in the Mt Kenya Tourism Circuit.

This finding aligns with Chan (2013) research on environmental marketing strategies in hospitality settings, and Han et al. (2018), who demonstrated how green marketing initiatives enhance competitive positioning. The regression coefficient of 0.620 indicates that for each unit increase in green marketing practices, there is a corresponding 0.620 unit increase in competitive advantage.

4.8 The effect of the Moderating variable Regulatory Framework on Hotel Green Practices and Competitive Advantage

The section presents the findings on the impact of regulatory framework on hotel green practices and the competitive advantage of hotels in the Mount Kenya tourism circuit, Kenya. The section presents descriptive statistics, correlation analysis, regression analysis and hypothesis testing.

4.8.1 Descriptive Statistics of Regulatory Framework on Hotel Green Practices and Competitive Advantage

Table 4.31: Regulatory Framework of Regulatory Framework on Hotel Green Practices and Competitive Advantage

Statements	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	Mean	Std. D
County government regulations and laws on environment.	8.30%	1.70%	2.50%	47.90%	39.70%	4.31	0.731
Ministry of environment laws are having been effectively implemented in this hotel	1.70%	1.70%	0.80%	55.40%	40.50%	3.97	1.147
The hotel policies of using materials that are harmless to the environment are followed to the latter	9.10%	3.30%	2.50%	52.10%	33.10%	4.24	0.837
The hotel has laid policies that guide reuse and recycle of items in the hotel	3.30%	1.70%	0.80%	56.20%	38.00%	4.19	1.051
The policies guiding the disposal of wastes are clearly outlined in the hotel strategic plans	6.60%	1.70%	2.50%	44.60%	44.60%	4.3	0.919
Government agencies and statutory bodies are effective in monitoring green policies are well adhered to	5.00%	0.00%	1.70%	47.10%	46.30%	4.28	0.977
The control mechanism as well monitoring by liable bodies are done to check on hotel implementation on hotel sustainable practices	6.60%	3.30%	2.50%	50.40%	37.20%	3.96	1.075

Statutory agencies regularly monitor compliance with related environmental laws	8.30%	1.70%	2.50%	45.50%	42.10%	4.31	0.866
There are efficient monitoring mechanisms by appointed government agencies to ensure compliance with existing policies, laws and regulations on environmental management	2.50%	1.70%	1.70%	52.90%	41.30%	4.01	0.724
Average						**4.174**	**0.925**

Table 4.31 reveals the intricate landscape of regulatory compliance among hotels in the Mt Kenya Tourism Circuit, demonstrating a nuanced approach to environmental governance. A significant majority (87.6%) of respondents agreed that county government regulations and laws on environment are being followed, with a mean of 4.31 and standard deviation of 0.731, aligning with Chan et al. (2021) research on environmental regulatory compliance in hospitality.

The qualitative insights provide rich context to these quantitative findings. Key informant 4 highlighted the collaborative nature of regulatory compliance:

"The hotel maintains a connection with the county government's health department to explore measures to guarantee that both the environment and the personnel working on the premises are clean and healthy."

Another key informant, key informant 5, elaborated on the proactive regulatory approach:

"To control the amount of energy that hotels use, the administration of our county has imposed laws on water conservation, solar power generation, and the use of smart energy."

These narratives underscore the dynamic interplay between hotels and regulatory bodies, revealing a sophisticated ecosystem of environmental governance that goes beyond mere compliance.

The findings show that 95.9% acknowledge effective implementation of Ministry of Environment laws, with a mean of 3.97 and standard deviation of 1.147, supporting Rivera's (2014) work on environmental policy implementation in the hotel sector. This relatively lower mean, coupled with the highest standard deviation, suggests variability in law implementation across different hotels.

Approximately 85.2% of hotels follow policies for using environmentally harmless materials, with a mean of 4.24 and standard deviation of 0.837, which corresponds with Zhang et al. (2020) findings on environmental management systems. An impressive 94.2% have established policies for reuse and recycling, with a mean of 4.19 and standard deviation of 1.051, extending the work of Kim and Choi (2017) on sustainable hospitality practices.

The hotels demonstrate strong commitment to waste management policies, with 89.2% having clearly outlined disposal guidelines, and 93.4% acknowledging effective monitoring by government agencies, with means of 4.30 and 4.28 respectively.

The overall average mean of 4.174 with a standard deviation of 0.925 indicates consistently high compliance with regulatory frameworks, supporting Mensah's (2014) findings on environmental regulation in the hospitality sector. The varying standard deviations present a nuanced picture – while demonstrating robust regulatory compliance, they also highlight opportunities for further standardization and targeted improvements.

Beyond mere compliance, the study reveals a strategic approach to regulatory frameworks. The 87.6% acknowledgment of regular monitoring by statutory

agencies, coupled with 94.2% confirmation of efficient monitoring mechanisms, reflects the sector's proactive engagement with environmental regulations.

The triangulation of quantitative data and qualitative insights reveals a sophisticated regulatory landscape where compliance is not just a legal requirement but a strategic tool for competitive advantage. The key informants' perspectives illuminate the collaborative and forward-thinking nature of environmental governance in the Mt Kenya Tourism Circuit.

4.8.2 Correlation Analysis of Regulatory Framework on Hotel Green Practices and Competitive Advantage

Correlation analysis was conducted to measure the extent of association between regulation framework, hotel green practices and competitive advantage. As shown in Table 4.32.

Table 4.32: Correlation Analysis of Regulatory Framework on Hotel Green Practices and Competitive Advantage

	Competitive advantage	Regulatory framework	Hotel green practices
Competitive advantage	1.000		
Regulatory framework	0.554 0.000	1.000	
Hotel green practices	0.836 0.000	0.771 0.000	1.000

The correlation analysis reveals significant relationships between regulatory framework, hotel green practices, and competitive advantage. The findings demonstrate a moderate positive correlation between regulatory framework and competitive advantage ($r = 0.554$, $p = 0.000$), aligning with Chan et al. (2021) research on how regulatory compliance influences hotel performance. A stronger correlation exists between hotel green practices and competitive advantage ($r = 0.836$, $p = 0.000$), supporting Rivera (2014) findings on the strategic value of environmental initiatives.

4.8.3 Regression analysis of regulatory framework on hotel green practices and competitive advantage

Regression analysis was conducted to establish the statistical significance relationship between hotel green practices, regulatory framework and competitive advantage. The results were presented in the Tables.

Table 4.33: R Squared for Hotel Green Practices, Regulatory Framework and Competitive Advantage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.836a	0.698	0.696	0.573825
2	.771a	0.595	0.592	0.696646
3	.554a	0.307	0.301	0.869536
4	.848a	0.718	0.714	0.556644

The results in Table 4.33 show the R-square for the mediating effect had varying values. The R-Square for the first step of hotel green practices against competitive advantage is 69.8%, while the second step of regressing hotel green practices against regulatory framework is 59.5%. The third step in which the regulatory framework is regressed against competitive advantage had an R-square of 30.7%. Lastly, the R square found when hotel green practices and regulatory framework are regressed against competitive advantage is 71.8%.

In addition, the results of the analysis of variance in the four steps is summarized in Table 4.34.

Table 4.34: ANOVA for Hotel Green Practices, Regulatory Framework and Competitive Advantage

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.684	1	90.684	275.405	.000b
	Residual	39.184	119	0.329		
	Total	129.868	120			
2	Regression	84.886	1	84.886	174.91	.000b
	Residual	57.753	119	0.485		
	Total	142.639	120			
3	Regression	39.893	1	39.893	52.762	.000b
	Residual	89.975	119	0.756		
	Total	129.868	120			
4	Regression	93.305	2	46.653	150.564	.000b
	Residual	36.563	118	0.31		
	Total	129.868	120			

The ANOVA results presented in Table 4.34 indicated that all the four models were significant at 0.000<0.05. The F-Statistic for model one was (F=275.405, p = 0.000<0.05), the F-Statistic for Model two was (F=174.91, p = 0.000<0.05), the F-Statistic for model three was F=52.762, p = 0.000<0.05 and the f-Statistic for model four was (F=150.564, p = 0.000<0.05).

The results for the regression of coefficients for hotel green practices, regulatory framework and competitive advantage, are presented in Table 4.35.

Table 4.35: Regression Coefficients for Career Development, ICT Adoption and Employee Retention

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.283	0.174		1.631	0.000
	Hotel green practices	0.928	0.056	0.836	16.595	0.000
2	(Constant)	0.526	0.211		2.493	0.004
	Hotel green practices	0.897	0.068	0.771	13.225	0.000
3	(Constant)	1.348	0.245		5.501	0.000
	Regulatory framework	0.529	0.073	0.554	7.264	0.000
4	(Constant)	0.395	0.173		2.287	0.002
	Hotel green practices	1.119	0.085	1.008	13.129	0.000
	Regulatory framework	0.213	0.073	-0.223	-2.909	0.004

The fitted models in four steps becomes;

i. CA=0.283+0.928HGP

ii. RF=0.526+0.897HGP

iii. CA=1.348+0.529RF

iv. CA=0.395+1.119HGP + 0.213RF

Where;

CA = Competitive advantage

RF = Regulatory framework

HGP = Hotel green practices

The regression of coefficients results presented in Table 4.35 shows that in step one, the regression model of hotel green practices on competitive advantage is positively and significantly related (β=0.283, p=0.000). In step two, hotel green practices and regulatory framework is positively and significantly related (β=0. 0.526, p=0.000). In step three, the results show that the regression model of the regulatory framework on competitive advantage is positively and significantly related with (β=1.348, p=0.000). In step four, hotel green practices and regulatory framework on competitive advantage is positively and significantly related (β=0.395, p=0.000; β=0.213, p=0.000, respectively. The P values in steps 1 to 4 were less than 0.05. Notably, the decision was made based on step 4. Under step four, the P-value was found to be less than 0.05. Hence, the null hypothesis was rejected. Therefore, there is a significant (partial) mediating effect of regulatory framework in the relationship between hotel green practices of tourist hotels in Nyeri Mt Kenya Tourism Circuit.

4.8.4: Hypothesis testing for Mediating Effect of Regulatory Framework Between Hotel Green Practices and Competitive Advantage.

The study examined the null hypothesis: Regulatory framework does not significantly influence the relationship between hotel green practices and competitive advantage of tourist hotels in Nyeri county, Mt Kenya Tourism Circuit.

The hypothesis testing process utilized regression analysis with a p-value method to determine the statistical significance of the relationship. After careful statistical evaluation, the null hypothesis was rejected, supporting the alternative hypothesis

that the regulatory framework significantly influences the relationship between hotel green practices and competitive advantage.

The findings reveal a complex interplay between regulatory frameworks and competitive strategies in the hospitality sector. Consistent with Luo, Chau, Fan, and Chen's (2021) research, the study uncovered multiple dimensions of environmental policy implementation. Their work identified critical obstacles to green practice adoption, including legislative challenges, management constraints, resource limitations, cost considerations, and awareness gaps. These insights provide a nuanced understanding of the multifaceted nature of regulatory compliance in the tourism industry.

Building upon Kuo, Fang, and LePage's (2022) groundbreaking research, the study reinforces the transformative potential of regulatory frameworks. The researchers highlighted how increasingly stringent environmental regulations, coupled with growing consumer awareness, drive fundamental changes in hospitality practices. The findings suggest that regulatory frameworks are not mere compliance mechanisms but strategic tools that catalyze innovation, promote sustainable development, and create competitive advantages.

The research demonstrates that regulatory frameworks play a pivotal role in mediating green practices and competitive advantage. By creating a structured environment that encourages sustainable practices, these frameworks enable hotels to transform environmental compliance into a strategic asset. This approach goes beyond traditional cost-saving measures, positioning environmental stewardship as a core component of competitive strategy.

Practically, the findings indicate that hotels in the Mt Kenya Tourism Circuit are not simply responding to regulatory pressures but are actively leveraging these frameworks to enhance their market positioning. The regulatory environment emerges as a dynamic ecosystem that supports innovation, encourages sustainable practices, and provides a competitive edge to forward-thinking hospitality businesses.

4.9 Competitive Advantage

This section presents descriptive results regarding competitive advantage. The respondents were asked to response the statements regarding; Market share growth as % of hotels in the region and hotel occupancy as % of total occupancy in the region. The responses were presented in 5-point Likert scale where 1= under 10%, 2= 10%-30%, 3= 31%-50%, 4= 51%-70% and 5= over 71% as shown in Table 4.36.

Table 4.36: Competitive Advantage

Statements	under 10%	10-30%	31-50%	51-70%	Over 71%	Mean	Std. D
Market share growth as % of hotels in the region	5.80%	9.90%	49.60%	28.90%	5.80%	3.19	0.907
Hotel occupancy as % of total occupancy in the region	7.40%	12.40%	42.10%	28.10%	9.90%	3.21	1.032
Average						**3.200**	**0.970**

The results in Table 4.36 show that, majority (49.6%) of the respondents stated that there was a market share growth between 31% and 50% of hotels in the region as shown by a mean of 3.19 and standard deviation of 0.907. The results also showed that majority (42.1%) of the respondents provided that hotel occupancy has 31% to 50% of total occupancy in the region as it was shown by a mean of 3.21 and standard deviation of 1.032. The overall mean 3.2 and standard deviation 0.97.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes the findings of chapter four, the conclusion, and the recommendations for hotel green practices and competitive advantage. Lastly, the chapter presents suggestions for further research. The study was set to find the impact of hotel green practices on competitive advantage of tourist hotels in Nyeri county within Mt Kenya Tourism Circuit, Kenya.

5.1 Summary of Findings

The hotel industry contributes to the global economy by providing lodging, dining, entertainment, transportation, and business meeting facilities. The Kenya Vision 2030 relies on the hotel industry to generate foreign exchange and employ many Kenyans. Superior products and services, supported by competitive marketing and innovation, give hotels an edge. Many hotels have focused on quality rather than sustainability to gain a competitive edge. Green hotel practices are increasingly being used by hotels worldwide to gain a competitive edge and customer loyalty. By reducing waste, recycling and reusing materials, improving the property's image, and attracting environmentally responsible customers, green hotel practices help hotels maximize profits.

On the first objective; the influence of hotel waste management practices on competitive advantage. The correlation results showed a positive and significant association between waste management practices and competitive advantage. On regression analysis, results indicated a positive relationship such that an increase in

hotel waste management practices results in a statistically significant increase in competitive advantage in the hotel industry. waste management practices have an important connection with competitive advantage and play a key role in competitive advantage in the hotel industry. In addition, most of the hotels include waste management strategies in their daily operations. Waste collection, reduction, and reuse are among the most often employed techniques.

Second objective; the impact of water management practices on competitive advantage. The correlation results showed a positive and significant association between water management practices and competitive advantage. On regression analysis, results indicated a positive relationship such that an increase in water management practices results in a statistically significant increase in competitive advantage in the hotel industry.

Third objective; the influence of energy conservation practices on competitive advantage. Correlation analysis results revealed that energy conservation practices are positively and significantly associated with competitive advantage. The regression coefficient results indicated that energy conservation practices and competitive advantage positively and significantly related. Implying that a unit change in energy conservation practices results to an increase in competitive advantage o tourist hotels in Nyeri county, Mt Kenya Tourism Circuit by an equivalent unit. The null hypothesis that there is no significant relationship between energy conservation practices and competitive advantage of tourist hotels in Nyeri county, Mt Kenya Tourism Circuit was therefore rejected; and alternative hypothesis adopted that there is significant relationship between energy conservation practices and competitive advantage of tourist hotels in Nyeri county, Mt Kenya Tourism Circuit.

On the fourth objective; the influence of green marketing practices on competitive advantage. The correlation analysis results revealed that green marketing practices is positively and significantly associated with competitive advantage. The regression coefficient results indicated that green marketing practices and competitive advantage positively and significantly related. Implying that a unit change in green marketing practices results to an increase in competitive advantage of tourist hotels in Nyeri county, Mt Kenya Tourism Circuit by an equivalent unit. The null hypothesis that there is no significant relationship between green marketing practices and competitive advantage of tourist hotels in Nyeri county, Mt Kenya Tourism Circuit was therefore rejected; and alternative hypothesis adopted that there is significant relationship between green marketing practices and competitive advantage of tourist hotels in Nyeri county, Mt Kenya Tourism Circuit.

The fifth objective; the impact of regulatory framework on hotel green practices and competitive advantage. The results revealed that regulatory framework and hotel green practices is positively and significantly associated with competitive advantage. This implies that an increase in regulatory framework and hotel green practices leads to an increase in competitive advantage. The regression of coefficients results shows that in step one, the regression model of hotel green practices on competitive advantage is positively and significantly related (β=0.283, p=0.000). In step two, hotel green practices and regulatory framework is positively and significantly related (β=0. 0.526, p=0.000). In step three, the results show that the regression model of the regulatory framework on competitive advantage is positively and significantly related with (β=1.348, p=0.000). In step four, hotel green practices and regulatory framework on competitive advantage is positively and significantly related (β=0.395, p=0.000; β=0.213, p=0.000, respectively.

5.2 Conclusion

Based on the study objectives and empirical findings, the following conclusions were drawn:

The study concludes that waste management practices significantly influence competitive advantage of tourist hotels in the Mt Kenya Tourism Circuit, as evidenced by the strong positive correlation ($r = 0.729$, $p = 0.000$) and substantial explanatory power ($R^2 = 0.532$). The regression coefficient ($\beta = 0.743$) demonstrates that effective waste management practices directly enhance competitive positioning, particularly through proper waste separation, recycling initiatives, and strategic waste disposal mechanisms. Water management practices emerged as a crucial determinant of competitive advantage, demonstrated by the strong positive correlation ($r = 0.764$, $p = 0.000$) and high explanatory power ($R^2 = 0.583$). The significant regression coefficient ($\beta = 0.777$) indicates that hotels implementing comprehensive water conservation strategies gain substantial competitive advantages through reduced operational costs and enhanced environmental reputation. Energy conservation practices proved to be the strongest predictor of competitive advantage, showing the highest correlation ($r = 0.817$, $p = 0.000$) and explaining 66.7% of the variance in competitive advantage. The robust regression coefficient ($\beta = 0.838$) confirms that hotels prioritizing energy efficiency through renewable energy adoption and conservation measures achieve significant competitive benefits. The study concludes that green marketing practices positively influence competitive advantage, though with relatively lower impact compared to other practices ($r = 0.681$, $p = 0.000$, $R^2 = 0.464$). The regression coefficient ($\beta = 0.620$) suggests that while green marketing contributes to competitive advantage, it should be integrated with other green practices for maximum effectiveness. The

regulatory framework demonstrates both direct and indirect effects on competitive advantage, with stronger influence through its facilitation of green practices implementation (R^2 = 0.718 for combined model). The correlation between regulatory framework and green practices (r = 0.771) indicates that effective regulatory compliance enhances the implementation of green practices, ultimately contributing to competitive advantage.

5.3 Recommendations for policy and practice

Tourist hotels in the Mt Kenya Tourism Circuit contribute significantly to Kenya's economic growth through foreign exchange earnings and employment creation. Given the increasing environmental concerns and competitive pressures facing the hotel industry, it is critical that hotels embrace comprehensive green practices to enhance their competitive advantage. This can only be achieved through systematic implementation of environmental management strategies. Based on the study findings on the influence of hotel green practices on competitive advantage of tourist hotels in the Mt Kenya Tourism Circuit, the following recommendations were made:

1. There is a need for hotels to develop comprehensive policies on waste management and establish monitoring systems, including clear standard operating procedures for waste segregation, digital tracking mechanisms, and regular staff training programs. Hotels should also create awareness through periodic environmental sensitization programs and display environmental policies prominently to remind both staff and guests of the organization's commitment to sustainability.
2. Water conservation practices within hotels must be enhanced through implementation of smart metering systems and water-efficient technologies. Such measures will ensure continuous monitoring of water usage and prompt

identification of wastage. For effective water management, hotels should establish water conservation targets, conduct regular audits, and maintain proper documentation of water consumption patterns across all departments.

3. Energy conservation initiatives should be aggressively pursued through installation of renewable energy systems and energy-efficient equipment. Hotels should implement systematic energy monitoring mechanisms, establish clear energy reduction targets, and conduct regular energy audits. Success in energy conservation requires ongoing staff training and regular updating of energy management systems to adapt to new technologies.
4. There is a need to establish strategic green marketing programs that effectively communicate environmental initiatives to stakeholders. This involves developing clear environmental performance metrics, creating targeted marketing campaigns, and establishing green certification programs. Hotels should also implement feedback systems to measure the effectiveness of their green marketing strategies and adjust accordingly.
5. Lastly, there is a need for stronger collaboration between hotels and regulatory bodies to ensure effective implementation of environmental regulations. This calls for establishing environmental compliance teams within hotels, developing internal audit systems, and maintaining proper documentation of environmental initiatives. Success in this area requires regular capacity building of staff on environmental regulations and establishing clear channels of communication with regulatory authorities.

5.4 Recommendations for Further Research

Based on the findings and of the study the researcher recommended the following for further research;

1. Conduct a similar study in other regions of Kenya or other countries to compare the impact of waste management, water management, energy conservation, and green marketing practices on competitive advantage in the hotel industry.
2. Explore the impact of other environmental management practices on competitive advantage in the hotel industry, such as sustainable procurement, carbon footprint reduction, and biodiversity conservation.
3. Investigate the role of different stakeholders, such as government, customers, and employees, in promoting and implementing green practices in the hotel industry, and how their involvement affects competitive advantage.
4. Investigate the impact of the COVID-19 pandemic on the implementation of environmental management practices and competitive advantage in the hotel industry.
5. Investigate the effect of the tourism industry's shift towards sustainable tourism on the implementation of environmental management practices and competitive advantage in the hotel industry.

REFERENCES

Abdou, A. H., Hassan, T. H., Dief, E., & Moustafa, M. (2020). A description of green hotel practices and their role in achieving sustainable development. *Sustainability*, *12*(22), 9624.

Ajzen, I. (1991). The theory of planned behavior. *Organ Behav Hum*, *50*(12), 179–211.

Ajzen, I., & Driver, B. L. (1992). Application of the theory of planned behavior to leisure choice. *Journal of leisure research*, *24*(3), 207-224.

Ashraf, F., Ashraf, I., & Anam, W. (2015). Green HR for businesses. *International Journal of Academic Research in Business and Social Sciences*, *5*(8), 149-156.

Awuni, J. A., Du, J., & Yiranbon, E. (2016). Factors influencing green purchasing behaviors: Some insights from Tamale, Ghana. *Journal of Economics, Management and Trade*, 1-12.

Babbie, E. (2014). Reflections on PSA. *The American Sociologist*, *45*(2), 134-136.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.

Berezan, O., Raab, C., Yoo, M., & Love, C. (2013). Sustainable hotel practices and nationality: The impact on guest satisfaction and guest intention to return. *International Journal of Hospitality Management*, *34*, 227-233.

Chung, K. C. (2020). Green marketing orientation: Achieving sustainable development in green hotel management. *Journal of Hospitality Marketing & Management*, *29*(6), 722-738.

Cingoski, V., & Petrevska, B. (2018). Making hotels more energy efficient: the managerial perception. *Economic research-Ekonomska istraživanja*, *31*(1), 87-101.

Deephouse, D. L., & Suchman, M. (2008). Legitimacy in organizational institutionalism. *The Sage handbook of organizational institutionalism*, *49*, 77.

Delice, A. (2010). The Sampling Issues in Quantitative Research. *Educational Sciences: Theory and Practice*, *10*(4), 2001-2018.

DiMaggio, P. J., & Powell, W. W. (1983). And collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147-160.

DiMaggio, P. J., & Powell, W. W. (1991). The new institutionalism in organisational analysis. The new institutionalism in organisational analysis.

Fadhil, A. (2015). *Adoption of green practices in hospitality and tourism industry in Lamu County, Kenya* (Doctoral dissertation, University of Nairobi).

Fadhil, A. (2015). *Adoption of green practices in hospitality and tourism industry in Lamu County, Kenya* (Doctoral dissertation, University of Nairobi).

Gheribi E (2018). Competition Strategies of Selected International Hotels Groups on the Polish Market. J Tourism Hospit 7: 381. doi: 10.4172/2167-0269.1000381

Gitobu, J., & Njoroge, J. M. (2015). Adoption of green marketing practises by hotels in Mombasa County, Kenya. *African Journal of Tourism, Hospitality and Leisure Studies* Vol 1 (1), 1-19.

Hall, J., & Lavrakas, P. (2008). Cross-sectional survey design. *Encyclopedia of survey research methods*, *1*, 172-173.

Hanrahan, J. (Ed.). (2017). *Tourism and Hospitality Research in Ireland*. IT Sligo.

Ho, C. Y., Tsai, B. H., Chen, C. S., & Lu, M. T. (2021). Exploring green marketing orientations toward sustainability the hospitality industry in the covid-19 pandemic. *Sustainability*, *13*(8), 4348.

Ijasan, K. C., Ajibola, M. O., & Gaibee, K. (2016). The Case for Green Hotels: An Investigation into The Outlook of South African Business Travellers. *International journal of applied environmental sciences*, *11*(3), 809-824.

Islam, M. (2020). Green Human Resource Management Practices and Employee Performance in Malaysian Hotel Industry. 846-854. 10.15405/epsbs.2020.12.05.91.

Kang, K. H., Stein, L., Heo, C. Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. *International Journal of Hospitality Management*, *31*(2), 564-572.

Kariuki, (2017). *Relationship between green operations practices and operational performance of hotels in the coastal region, Kenya. International Journal of Scientific Research and Innovative Technology*, 4(6), 96-116.

Kinyanjui, C. N. (2018). *Strategic Management Practices and Competitive Advantage of International Hotels in Nairobi City, Kenya* (Doctoral dissertation, University of Nairobi).

Kuo, F. I., Fang, W. T., & LePage, B. A. (2022). Proactive environmental strategies in the hotel industry: Eco-innovation, green competitive advantage, and green core competence. *Journal of Sustainable Tourism*, *30*(6), 1240-1261.

Lai, I. K. W., & Wong, J. W. C. (2020). Comparing crisis management practices in the hotel industry between initial and pandemic stages of COVID-19. *International Journal of Contemporary Hospitality Management*, *32*(10), 3135-3156.

Londoño, M. L., & Hernandez-Maskivker, G. (2016). Green practices in hotels: the case of the GreenLeaders Program from TripAdvisor. *WIT Transactions on Ecology and the Environment*, *201*, 1-13.

Luo, J. M., Chau, K. Y., Fan, Y., & Chen, H. (2021). Barriers to the Implementation of Green Practices in the Integrated Resort Sector. *SAGE Open*, *11*(3), 21582440211030277.

Mendoza, E., Ferrero, G., Slokar, Y. M., Amores, X., Azzellino, A., & Buttiglieri, G. (2022). Water management practices in Euro-Mediterranean hotels and resorts. *International Journal of Water Resources Development*, 1-22.

Mensah, I. (2020). Waste management practices of small hotels in Accra: An application of the waste management hierarchy model. *Journal of Global Business Insights*, *5*(1), 33-46.

Mensah, I., & Ampofo, E. T. (2021). Effects of managers' environmental attitudes on waste management practices in small hotels in Accra. *International Hospitality Review*, *35*(1), 109-126.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American journal of sociology*, *83*(2), 340-363.

Ministry of Tourism Gazette (2020). *Tourism Sector.* Government Press, Kenya.

Moise, M. S., Gil-Saura, I., & Ruiz Molina, M. E. (2021). The importance of green practices for hotel guests: does gender matter? *Economic Research-Ekonomska Istraživanja*, 1-22.

Moise, M., Gil-Saura, I., & Ruiz-Molina, M. E. (2018). Effects of green practices on guest satisfaction and loyalty. *European Journal of Tourism Research*, *20*(20), 92-104.

Molina-Azorín, J. F., Tarí, J. J., Pereira-Moliner, J., Lopez-Gamero, M. D., & Pertusa-Ortega, E. M. (2018). The effects of quality and environmental management on competitive advantage: A mixed methods study in the hotel industry. *Tourism Management*, *50*, 41-54.

Mungai, M., & Irungu, R. (2013). An Assessment of management commitment to application of green practices in 4–5 star Hotels in Mombasa. Information and Knowledge Management, 3(6), 40-46.

Murimi, M. (2020). Determinants of Green Management Practices In Hotels In Kisumu City, Kenya-A Theoretical Framework. *Journal of Strategic Management*, *5*(1), 47-63.

Mwamba, N. M. (2021). *Service Tipping as A Competitive Advantage Strategy for Performance of Hotels in Kenya: A Balanced Score Card Perspective* (Doctoral Dissertation, Kabarak University).

Naiman, N. M., & Mlozi, S. (2019). Factors Influencing Implementation of Environmental Management Practices among Hotels in Tanzania. *Huria: Journal of the Open University of Tanzania*, *26*(2).

Nisar, Q. A., Haider, S., Ali, F., Jamshed, S., Ryu, K., & Gill, S. S. (2021). Green Human Resource Management Practices and Environmental Performance in Malaysian Green Hotels: The role of Green Intellectual Capital and Pro-Environmental Behavior. *Journal of Cleaner Production*, 127504.

Nthiga, R. W. (2018). Adoption of Water Conservation Practices in Hospitality Establishments in Nakuru County, Kenya. *Africa Environmental Review Journal*, *3*(1), 108-117.

Pereira, V., Silva, G. M., & Dias, Á. (2021). Sustainability practices in hospitality: Case study of a luxury hotel in Arrábida Natural Park. *Sustainability*, *13*(6), 3164.

Pham Phu, S. T., Fujiwara, T., Hoang Minh, G., & Pham Van, D. (2019). Solid waste management practice in a tourism destination–The status and

challenges: A case study in Hoi a City, Vietnam. *Waste management & research*, *37*(11), 1077-1088.

Shekinah, G. (2021). The Effect of green practices on the operational efficiency of four-star and five-star hotels in Nairobi.

Singjai, K., Winata, L., & Kummer, T. F. (2018). Green initiatives and their competitive advantage for the hotel industry in developing countries. *International Journal of Hospitality Management*, *75*, 131-143.

Sobaih, A. (2019). Green Human Resource Management in Egyptian Hotels: Practices and Barriers. *International Academic Journal Faculty of Tourism and Hotel Management*, *5*(1), 127-148.

Wanjiru C., G., Gesage, B. & Kariuki, A. (2022). Effect of energy conservation practices on customer satisfaction in star rated hotels in Mt. Kenya Region. *International Journal of Economics, Commerce and Management*.

Wolfe, K. L., & Shanklin, C. W. (2001). Environmental practices and management concerns of conference center administrators. *Journal of Hospitality & Tourism Research*, *25*(2), 209-216.

Yeh, S.-S., Ma, T., & Huan, T.-C. (2016). Building social entrepreneurship for the hotel industry by promoting environmental education. *International Journal of Contemporary Hospitality Management*, 28(6), 1024-1224.

APPENDICES

Appendix I: Letter of Introduction

Dear Sir/Madam,

RE: REQUEST FOR DATA

I am a postgraduate student pursuing a Master of Science in Hospitality Management in the School of Business, Economics and Tourism at Kenyatta University. I am conducting a research study titled ***"Green Practices and Competitive Advantage Among Tourist Hotels in Nyeri County, Kenya".***

The purpose of this letter is to kindly request your participation in my research by completing the attached questionnaire. Your responses will be crucial in investigating the influence of hotel green practices on competitive advantage in the Mt Kenya Tourism Circuit.

Yours faithfully,

Isaac Wambugu Mutitu

Appendix II: Questionnaire for hotel operations managers

Information provided will be treated with confidentiality. Kindly do not write your name on this questionnaire Fill the questionnaire with a way of tick (√) to signify your choice of appropriate answer

Section A: Background Information

Please fill in the demographic data by ticking (√) as appropriate in the choices provided.

1. Number of years the hotel has been operating

   1 years and below [ ] 2 – 4 years [ ]

   5 – 7 years [ ] 8 - 10 years [ ]

   Over 11 years [ ]

2. The number of work force in your hotel?

   Less twenty (20) employees [ ]
   21 -30 employees [ ]
   31-40 employees [ ]
   Over 40 employees [ ]

3. Hotel occupancy on daily basis?

   Less 75 customers [ ]
   76-100 customer [ ]
   101-125 customers [ ]
   126-150 customers [ ]
   Over 150 customers [ ]

Section B: Hotel waste management and competitiveness of hotels

4. The section presents is questions regarding the influence of hotel waste and its effect on hotels competitiveness. Tick (√) on the cell that relates on your choice using the scale in

which l:- strongly disagree; **2**: disagree; **3**: don't know; **4**: agree; **5**: strongly agree.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
Hotel waste residue are properly separated based on whether they are biodegradable or non-degradable					
The hotel has clearly labeled waste bins installed at strategic locations					
The hotel has designated waste dump site.					
The hotel always uses refillable dispensers for soaps, shampoos, and conditioners					
There are green waste disposal methods in our hotel					
We have fully embraced the use of recycle hotel items instead of disposable ones					
Collected wastes in the hotel are timely collected for disposal by trusted waste collection entities that separates, clears and disposes waste					

5. In what other ways is the engaging in proper waste management practices to enhance its competitive advantage? Probe

……..

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……..……

Section C: Water management practices and competitive advantage of hotels

6. The section presents are statements related to water management practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	Strongly disagree 1	Disagree 2	Don't know 3	Agree 4	Strongly agree 5
The hotel has adequately invested in water efficient appliances like dishwashers and clothes washing machines to minimize water wastage					
The hotel has automated water taps that automatically closes after use.					
The hotel does regular fixing of leaks in toilet and bathrooms to minimize water wastage through leaking					
Efficient water management has helped sustain the attractiveness of the hotels to visitors.					
The hotel periodically monitors the consumption of water in the various water points using metering units installed in each water point.					
There is efficient tap fittings to minimize water leakages					
Enhanced housekeeping in hotel by using water-efficient equipment to clean the hotel.					
Measuring and metering water use and controlling water consumption in kitchen					

7. In what other ways is the engaging in proper water management practices to enhance its competitive advantage? Probe

……..

……

Section D: Energy conservation practices and competitive advantage of hotels

8. The section presents are statements related to energy conservation practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
The use of solar power panels has helped efficiently save energy.					
The use of wind power is an alternative being undertaken by hotel to save on energy use.					
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment					
Hotel restaurant use natural light as way to ensure proper energy use					
The hotel uses solar energy for its hot water use and has helped tremendously save on energy					
The construction design of the hotel allows the use of green energy like sunlight					

9. In what other ways is the engaging in energy conservation practices to enhance its competitive advantage? Probe

……..

……

Section E: Green marketing practices and competitive advantage of hotels

10. The section presents are statements related to green marketing practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	Strongly disagree 1	Disagree 2	Don't know 3	Agree 4	Strongly agree 5
The packaging used to pack hotel products are made of biodegradable friendly material.					
The hotel constantly creates environment protection awareness campaigns during marketing					
The hotel product distribution and supply channels are well informed about the desire by hotel to protect the environment					
Brand return on investment is employed by the hotel as key element for green marketing orientations towards environmental sustainability					
The hotel has embraced the green kitchen environment practice by using materials that are harmless to environment					
The hotel has embraced green cleaning by using cleaning methods and products with environmentally friendly ingredients and procedures safe to human health and environment					

11. In what other ways is the engaging in green marketing practices to enhance its competitive advantage? Probe

……..

……

Section F: Hotel green practices, regulatory framework and competitive advantage of hotels

12. The section presents are statements related to effect of regulatory framework on relationship between green marketing practices and

competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
County government regulations and laws on environment.					
Ministry of environment laws are have been effectively implemented in this hotel					
The hotel policies of using materials that are harmless to the environment are followed to the latter					
The hotel has laid policies that guide reuse and recycle of items in the hotel					
The policies guiding the disposal of wastes are clearly outlined in the hotel strategic plans					
Government agencies and statutory bodies are effective in monitoring green policies are well adhered to					

13. What are the regulatory framework policies, laws the hotel is following to as avenue to being green compliant? Probe

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Section E: Competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit

14. This section measures level of competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit based on various indicators as shown. Indicate the value in the Table as per the indicators stated.

Indicator	**2016**	**2017**	**2018**	**2019**	**2020**
Revenue growth in KES					

Bed capacity					
Hotel occupancy					
Number of hotel outlets					

15. This part measures level of market share in percentage. Indicate the percentage growth of market share rated as **1:** under 10%; **2**: 10-20%; **3**: 21-30%; **4**: 31-40%; **5**: Over 40%.

Market share	**under 10%**	**10-30%**	**31-50%**	**51-70%**	**Over 71%**
Market share as % of total five star market share					
Hotel occupancy as % of total occupancy					

Appendix III: Questionnaire for Food and Beverage Managers

Please do not indicate your name on the questionnaire. This information will be treated with confidentiality. Fill the questionnaire by ticking (√) appropriately in the box

Section A: Background information

Please fill in the demographic data by ticking (√) as appropriate in the choices provided.

1. Number of years the hotel has been operating

   1 years and below [ ] 2 – 4 years [ ]

   5 – 7 years [ ] 8 - 10 years [ ]

   Over 11 years [ ]

2. The number of work force in your hotel?

   Less 20 employees [ ]
   21 -30 employees [ ]
   31-40 employees [ ]
   Over 40 employees [ ]

3. Hotel restaurant seat turn over on daily basis?

   Less 75 customers [ ]
   76-100 customer [ ]
   101-125 customers [ ]
   126-150 customers [ ]
   Over 150 customers [ ]

Section B: Waste management in hotels and competitive advantage

The section presents is questions regarding the influence of hotel waste management practices and competitive advantage of hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
Food and beverage waste residue are properly separated based on whether they are biodegradable or non-degradable					
The hotel has clearly labeled waste bins installed at kitchen work stations					
The hotel has designated waste dump site.					
The hotel always uses refillable dispensers for soaps, shampoos, and conditioners					
The hotel restaurant uses environment-friendly disposal mechanism of solid waste.					
The hotel restaurant has fully embraced the use of recycle hotel items instead of disposable ones					
Collected wastes in the hotel restaurants are timely collected for disposal by trusted waste collection entities that carries, convey, bear or transport solid and liquid waste.					

4. In what other ways is the engaging in proper waste management practices to enhance its competitive advantage? Probe

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……..……

Section C: Water management practices and competitive advantage of hotels

5. The section presents are statements related to water management practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
The hotel has adequately invested in water efficient appliances like dishwashers to minimize water wastage					
The hotel has automated water taps that automatically closes after use.					
The hotel does regular fixing of leaks in wash up to minimize water wastage through leaking					
Efficient water management has helped sustain the attractiveness of the hotels to visitors.					
The hotel restaurants periodically monitors the consumption of water in the various water points using metering units installed in each water point.					
There is efficient tap fittings to minimize water leakages					
Measuring and metering water use and controlling water consumption in kitchen					

6. In what other ways is the engaging in proper water management practices to enhance its competitive advantage? Probe

……..

……

Section D: Energy conservation practices and competitive advantage of hotels

7. The section presents are statements related to energy conservation practices and competitive advantage in hotels catering outlet.

Statement	Strongly disagree 1	Disagree 2	Don't know 3	Agree 4	Strongly agree 5
The use of solar power panels has helped efficiently save energy.					
The use of wind power is an alternative being undertaken by hotel to save on energy use.					
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment					
This hotel catering have been designed with natural light mechanism in place to save on energy					
The hotel catering outlet uses solar energy for its hot water use and has helped tremendously save on energy					
The construction design of the hotel allows the use of green energy like sunlight					

8. In what other ways is the engaging in energy conservation practices to enhance its competitive advantage? Probe

……..

……

Section E: Green marketing practices and competitive advantage of hotels

9. The section presents are statements related to green marketing practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	Strongly disagree 1	Disagree 2	Don't know 3	Agree 4	Strongly agree 5

The packaging used to pack hotel products are made of biodegradable friendly material.					
The hotel constantly creates environment protection awareness campaigns during marketing					
The hotel product distribution and supply channels are well informed about the desire by hotel to protect the environment					
Brand return on investment is employed by the hotel as key element for green marketing orientations towards environmental sustainability					
The hotel has embraced the green kitchen environment practice by using materials that are harmless to environment					
The hotel has embraced green cleaning by using cleaning methods and products with environmentally friendly ingredients and procedures safe to human health and environment					

10. In what other ways is the engaging in green marketing practices to enhance its competitive advantage? Probe

……..

……

Section F: Hotel green practices, regulatory framework and competitive advantage of hotels

11. The section presents are statements related to effect of regulatory framework on relationship between green marketing practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree**	**Disagree 2**	**Don't know**	**Agree 4**	**Strongly agree**

	1		3		5
County government sets regulations and laws on environment.					
Ministry of environment laws have been effectively implemented in this hotel					
The hotel policies of using materials that are harmless to the environment are strictly adhered to.					
The hotel has laid policies that guide reuse and recycling of items in the hotel					
The policies guiding the disposal of wastes are clearly outlined in the hotel strategic plans					
The control mechanism as well monitoring by liable bodies are done to check on hotel implementation on hotel sustainable practices					

12. What are the regulatory framework policies, laws the hotel is following to as avenue to being green compliant? Probe

……..

……

Section E: Competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit

13. This section measures level of competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit based on various indicators as shown. Indicate the value in the Table as per the indicators stated.

Indicator	**2017**	**2018**	**2019**	**2020**	**2021**
Revenue growth in KES					
Number of hotel Catering outlets					
Hotel restaurant daily seat turn over					

14. This part measures level of market shares in percentage. Indicate the percentage growth of market share rated as **1:** under 10%; **2**: 10-20%; **3**: 21-30%; **4**: 31-40%; **5**: Over 40%.

Market share	**under 10%**	**10-30%**	**31-50%**	**51-70%**	**Over 71%**
Market share as % yearly growth					

Appendix IV Questionnaire for hôtels chefs.

Please do not indicate your name on the questionnaire. This information will be treated with confidentiality. Fill the questionnaire by ticking (√) appropriately in the box

Section A: Background information

Please fill in the demographic data by ticking (√) as appropriate in the choices provided.

1. Number of years the hotel has been operating

   1 years and below [ ] 2 – 4 years [ ]

5 – 7 years [ ] 8 - 10 years [ ]

Over 11 years [ ]

2. What is number of your workforce in this hotel?

Less 20 employees [ ]

21 -30 employees [ ]

31-40 employees [ ]

Over 40 employees [ ]

3. Hotel kitchen food checks on daily basis?

Less 75 customers [ ]

76-100 customer [ ]

101-125 customers [ ]

126-150 customers [ ]

Over 150 customers [ ]

Section B: Hotel waste management and competitive advantage

The section presents is questions regarding the influence of hotel waste management practices and competitive advantage of hotels. Please tick (√) on the box that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
Hotel kitchen waste residue are properly separated based on whether they are biodegradable or non-degradable					
The kitchen has clearly labeled waste bins installed at strategic locations					

The hotel has designated waste dumpsite.					
The hotel kitchen uses environment-friendly disposal mechanism of solid waste.					
The hotel kitchen has fully embraced the use of recycle hotel items instead of disposable ones					
Collected wastes in the hotel kitchen are timely collected for disposal by trusted waste collection entities that carries, convey, bear or transport solid and liquid waste.					

4. In what other ways is the engaging in proper waste management practices to enhance its competitive advantage? Probe

……..

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……..……

Section C: Water management practices and competitive advantage of hotels

5. The section presents are statements related to water management practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
The hotel kitchen has adequately invested in water efficient appliances like dishwashing machines to minimize water wastage					
The hotel kitchen has automated water taps that automatically closes after use.					
The hotel does regular fixing of leaks in kitchen taps to minimize water wastage through leaking					
Efficient water management has helped sustain the attractiveness					

of the hotels to visitors.					
The hotel kitchen periodically monitors the consumption of water in the various water points using metering units installed in each water point.					
There is efficient tap fittings to minimize water leakages					
Measuring and metering water use and controlling water consumption in kitchen					

6. In what other ways is the engaging in proper water management practices to enhance its competitive advantage? Probe

……..

……

Section D: Energy conservation practices and competitive advantage of hotels

7. The section presents are statements related to energy conservation practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
The use of wind power is an alternative being undertaken by hotel to save on energy use.					
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment					
This hotel has embraced and implemented natural light mechanism to save on energy					
The hotel kitchen uses solar energy for its hot water use and has helped tremendously save on energy					
The construction design of the hotel kitchen allows the use of green energy like sunlight					

8. In what other ways is the engaging in energy conservation practices to enhance its competitive advantage? Probe

……..

……

Section E: Green marketing practices and competitive advantage of hotels

9. The section presents are statements related to green marketing practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
The packaging used to pack hotel products are made of biodegradable friendly material.					
The hotel constantly creates environment protection awareness campaigns during marketing					
The hotel kitchen product distribution and supply channels are well informed about the desire by hotel to protect the environment					
Brand return on investment is employed by the hotel kitchen as key element for green marketing orientations towards environmental sustainability					
The hotel has embraced the green kitchen environment practice by using materials that are harmless to environment					
The hotel has embraced green cleaning by using cleaning methods and products with environmentally friendly ingredients and procedures safe to human health and environment					

10. In what other ways is the engaging in green marketing practices to enhance its competitive advantage? Probe

……..

……

Section F: Hotel green practices, regulatory framework and competitive advantage of hotels

11. The section presents are statements related to effect of regulatory framework on relationship between green marketing practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
County government sets regulations and laws on environment.					
Ministry of environment laws have been effectively implemented in this hotel					
The hotel kitchen policies of using materials that are harmless to the environment are strictly followed					
The hotel kitchen has laid policies that guide reuse and recycle of items in the hotel					
The policies guiding the disposal of wastes are clearly outlined in the hotel strategic plans					
Statutory agencies regularly monitors compliance with related environmental laws					

12. What are the regulatory framework policies, laws the hotel is following to as avenue to being green compliant? Probe

……..

……

Section E: Competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit

13. This section measures level of competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit based on various indicators as shown. Indicate the value in the Table as per the indicators stated.

Indicator	**2017**	**2018**	**2019**	**2020**	**2021**
Revenue growth in KES					
Kitchen capacity					
Catering daily food checks					
Number of hotel catering outlets					

14. This part measures level of market shares in percentage. Indicate the percentage growth of market share rated as **1:** under 10%; **2**: 10-20%; **3**: 21-30%; **4**: 31-40%; **5**: Over 40%.

Market share	**under 10%**	**10-30%**	**31-50%**	**51-70%**	**Over 71%**
Market share as % of growth of restaurant food items					
Hotel catering contribution % of total profitability of hotel					

Appendix V: Questionnaire for hotel housekeeping managers

Please do not indicate your name on the questionnaire. This information will be treated with confidentiality. Fill the questionnaire by ticking (√) appropriately in the box

Section A:

Background information

Please fill in the demographic data by ticking (√) as appropriate in the choices provided.

1. Number of years the hotel has been operating

   1 years and below [ ] 2 – 4 years [ ]

   5 – 7 years [ ] 8 - 10 years [ ]

   Over 11 years [ ]

2. What is the size of your workforce?

   Less 20 employees [ ]

   21 -30 employees [ ]

   31-40 employees [ ]

   Over 40 employees [ ]

3. Hotel occupancy on daily basis?

   Less 75 customers [ ]

   76-100 customer [ ]

   101-125 customers [ ]

   126-150 customers [ ]

   Over 150 customers [ ]

Section B: Hotel solid /liquid waste management practices and competitive advantage of hotels

4. The section presents is questions regarding the influence of hotel waste management practices and competitive advantage of hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
Hotel housekeeping waste residue are properly separated based on whether they are biodegradable or non-degradable					
The hotel housekeeping bags and bins are clearly labeled and installed at strategic locations					
The hotel has designated waste dump site.					
The hotel always uses refillable dispensers for soaps, shampoos, and conditioners					
The hotel uses environment-friendly disposal mechanism of solid waste.					
The hotel housekeeping has fully embraced the use of recycle hotel items instead of disposable ones					
Collected wastes in the hotel are timely collected for disposal by trusted waste collection entities that carries, convey, bear or transport solid and liquid waste.					

5. In what other ways is the engaging in proper waste management practices to enhance its competitive advantage? Probe

……..

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……..……

Section C: Water management practices and competitive advantage of hotels

6. The section presents are statements related to water management practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	Strongly disagree 1	Disagree 2	Don't know 3	Agree 4	Strongly agree 5
The hotel has adequately invested in water efficient appliances like clothes washing machines to minimize water wastage					
The hotel rooms has automated water taps that automatically closes after use.					
The hotel does regular fixing of leaks in toilet and bathrooms to minimize water wastage through leaking					
Efficient water management has helped sustain the attractiveness of the hotels to visitors.					
The hotel periodically monitors the consumption of water in the various water points using metering units installed in each water point.					
There is efficient tap fittings to minimize water leakages					
Enhanced housekeeping in hotel by using water-efficient equipment to clean the hotel.					
Measuring and metering water use and controlling water consumption in kitchen					

7. In what other ways is the engaging in proper water management practices to enhance its competitive advantage? Probe

……..

……

Section D: Energy conservation practices and competitive advantage of hotels

8. The section presents are statements related to energy conservation practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	Strongly disagree 1	Disagree 2	Don't know 3	Agree 4	Strongly agree 5
The use of solar power panels has helped efficiently save energy.					
The use of wind power is an alternative being undertaken by hotel to save on energy use.					
The hotel has invested in energy saving devices like low power rated bulbs, electronic devices, cooking and kitchen equipment					
This hotel rooms has been designed with natural light in mind					
The hotel uses solar energy for its hot water use and has helped tremendously save on energy					
The construction design of the hotel allows the use of green energy like sunlight					

9. In what other ways is the engaging in energy conservation practices to enhance its competitive advantage? Probe

……..

……

Section E: Green marketing practices and competitive advantage of hotels

10. The section presents are statements related to green marketing practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
The packaging used to pack hotel products are made of biodegradable friendly material.					
The hotel housekeeping constantly creates environment protection awareness campaigns during marketing					
The hotel product distribution and supply channels are well informed about the desire by hotel to protect the environment					
Brand return on investment is employed by the hotel as key element for green marketing orientations towards environmental sustainability					
The hotel housekeeping has embraced the green environment practice by using materials that are harmless to environment					
The hotel has embraced green cleaning by using cleaning methods and products with environmentally friendly ingredients and procedures safe to human health and environment					

11. In what other ways is the engaging in green marketing practices to enhance its competitive advantage? Probe

……..

……

Section F: Hotel green practices, regulatory framework and competitive advantage of hotels

12. The section presents are statements related to effect of regulatory framework on relationship between green marketing practices and competitive advantage in hotels. Please tick (√) on the cell that best describes your choice.

Statement	**Strongly disagree 1**	**Disagree 2**	**Don't know 3**	**Agree 4**	**Strongly agree 5**
County government has set regulations and laws on environment.					
Ministry of environment laws have been effectively implemented in this hotel					
The hotel policies of using materials that are harmless to the environment are followed to the latter					
The hotel has laid policies that guide reuse and recycle of items in the hotel					
The policies guiding the disposal of wastes are clearly outlined in the hotel strategic plans					
There are efficient monitoring mechanisms by appointed government agencies to ensure compliance with existing policies, laws and regulations on environmental management					

13. What are the regulatory framework policies, laws the hotel is following to as avenue to being green compliant? Probe

……..

Section E: Competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit

14. This section measures level of competitive advantage of hotels of hotels in Mt Kenya Tourism Circuit based on various indicators as shown. Indicate the value in the Table as per the indicators stated.

Indicator	**2017**	**2018**	**2019**	**2020**	**2021**
Revenue growth in KES					
Bed capacity					
Hotel daily occupancy					
Number of hotel outlets					

15. This part measures level of market shares in percentage. Indicate the percentage growth of market share rated as **1:** under 10%; **2**: 10-20%; **3**: 21-30%; **4**: 31-40%; **5**: Over 40%.

Market share	**under 10%**	**10-30%**	**31-50%**	**51-70%**	**Over 71%**
Market share growth as % of hotels in the region					
Hotel occupancy as % of total occupancy in the region					

Appendix VI: Interview Schedule for officers from officers from County Ministry of tourism, National management Environment Authority, Tourism regulatory Authority and Kenya Ministry of Environment and Forestry in their respective offices

The interview aims to gather information about hotel green practices in tourism hotels in Mt Kenya Tourism Circuit. The responses will only be used for purposes of academic research. Feel free in the entire session.

Interviewee no_____ Date _____

1. What are the available laws policing and regulations guiding proper waste management practices in hotels?

……

2. What are the roles of this office in water management practices? Probe

……

3. Are there provisions by the hotel that guide energy conservation practices in hotels? Probe use of solar power, wind power and energy saving devices

……

4. What are the regulatory framework policies, laws the hotel is following to as avenue to being green compliant? Probe

……..

5. During marketing practices, how are marketing programmes structured to convey environmental conservation messages? How is packaging of items done to minimize impact to the environment?

……..

THANK YOU FOR YOUR PARTICIPATION

Appendix VII: List of Hotels in Nyeri County in Mt Kenya Tourism Circuit

Name of Hotel	Actual location	Contact
Treetops lodge (aberdare safari lodge)	Nyeri	24-10100
Mtoni resort		8612-00200 Nairobi
Red court hotel (boma inn)	Nyeri	1583-10100
Central hotel	Nyeri	620-00606 Nairobi
Naro moru river lodge	Naromoru	18-10105
Ibis hotel	Nyeri	1884
The ark lodge		
Mt Kenya leisure lodge	Naromoru	382-10105
Nyokabi gardens	Nyeri	1829-10100
Banana leaf hotel	Nyeri	2081-10100
Ibis 2000	Karatina	240-10100
Rhino watch safaris		1346-00618 Nairobi
Family guest house	Nyeri	1390
Bantu mountain lodge	Nyeri	333-10100
Lavender villa		2132 Karen-Nairobi
Paresia hotel		
Ibis one	Karatina	240-10100
Solio lodge		15565-00503 Nairobi
Da venue resort		13479-00400 Nairobi

Kings meatworld hotel	Karatina	240-10101
Maru b court	Nyeri	423-10100
Peak leaders hotel	Mweiga	149-10104
Komatipoort inn	Karatina	427-10101
Leisure resort	Mukurweini	271
To go is to see	Nyeri	2107-10100
Green oak hotel	Nyeri	2212-10100
White house hotel	Othaya	440
Honi plateau resort		64584-00620 Nairobi
Silent lodge	Nyeri	351
Sangare conservancy mgt ltd	Mweiga	24-10104
New seven star hotel	Nyeri	316
Giraffe ark game lodge		
White rhino hotel (legend hotels ltd)	Nyeri	3011-10140
Club ibiza (bells pub)		
Beakin chaka resort	Karatina	1299-10101
Starbucks hotel	Karatina	
Jacaranda hotel	Nyeri	12372-10100
Grand webs	Nyeri	
Blue star hotel	Karatina	52-10101
Sharbeen hotel	Nyeri	953-10100
Gordon barnard Antony church	Naromoru	266-10105
Le Prestine	Nyeri	1243-00100
Chaka ranch limited	Nairobi	21212-00505

Green hut guest and restaurant	Othaya	280
Silver wing resort	Nyeri	5-10101
Oldoiyo Lengai resort		56-10101
Davis court	Nyeri	121-10100
Golden gates hotel	Nyeri	1621-10100
Mountain palace hotel		12400-10100
Queens park guest house		978-10100
Sun guest house		3208-101100
Traquil homestay	Naromoru	396-10105
Mt Kenya safari halt		2886-10100 nyeri
Farmers pride	Nyeri	643-10100
Central hotel	Nyeri	
Tree top lodge	Nyeri	
Banana leaf hotel	Nyeri	
Aberdare country club	Nyeri	
Rhino watch safaris	Mweiga	
Sangare tented camp	Nyeri	
Eland safari hotel	Nyeri	
Westwood hotel	Nyeri	
Mpeta guest house	Nyeri	
Legacy gardens	Nyeri	
Giraffe ark game lodge	Nyeri	
Narumoro river lodge	Naromoru	
Mountain lodge (Bantu lodge)	Naromoru	
Mt Kenya lodge	Naromoru	
Mt Kenya leisure lodge	Naromoru	

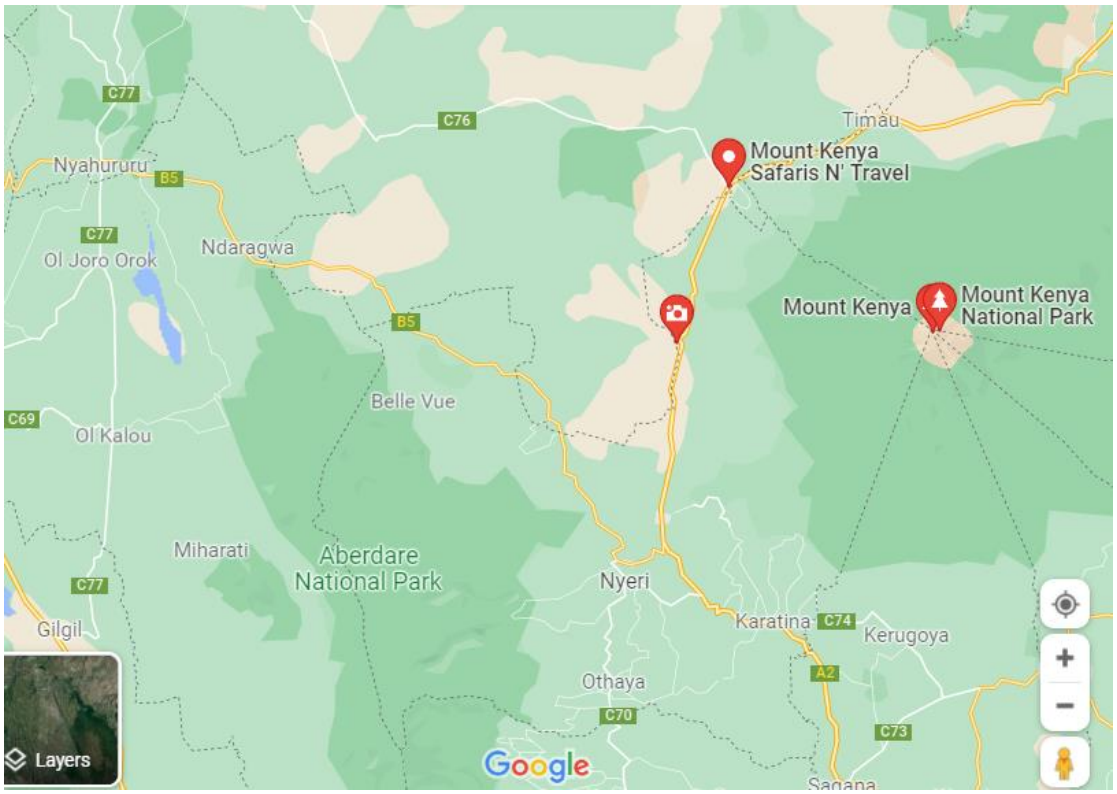
Giraffe ark game lodge	Nyeri	
Rhino watch lodge and tented camp	Nyeri	
Afrique paradis hotel	Nyeri	
Aberdare country club	Nyeri	

Source (Tourism regulatory authority, 2022)

Appendix VIII: Work Plan

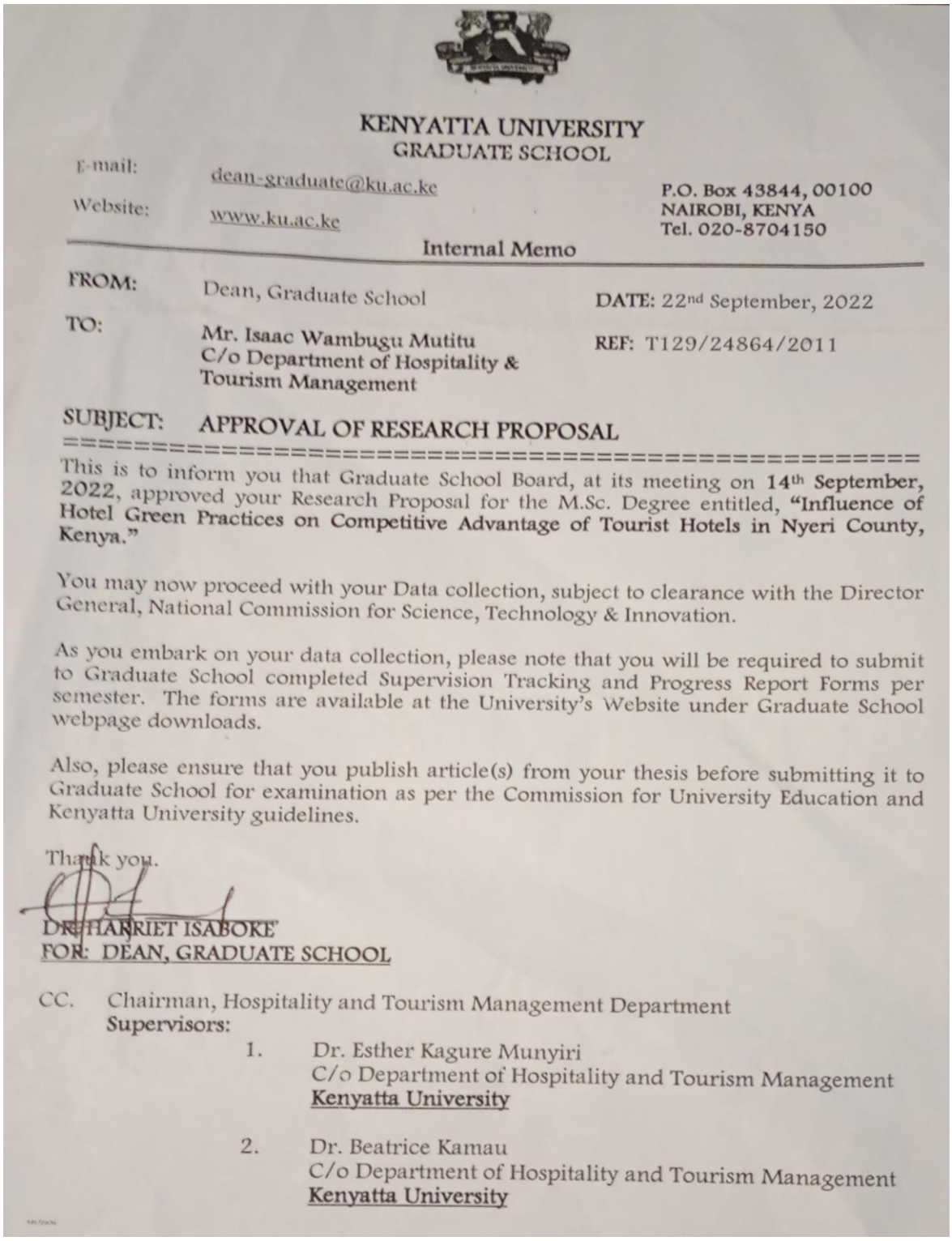
Activity	**Oct 2021**	**Nov 2021**	**Jan 2022**	**Feb 2022**	**March 2022**	**April 2022**	**May 2022**	**June 2022**	**March 2023**	**April 2023**
Proposal Development										
Presentation										
Pre-testing										
Data Collection										
Data Analysis& Report Writing										
Publication										
Submission										

Appendix IX: Map of Mt Kenya Tourism Circuit



Source: Google Maps

Appendix X: Approval for research project



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NAIROBI, KENYA
Tel. 020-8704150

Internal Memo

FROM: Dean, Graduate School

DATE: 22nd September, 2022

TO: Mr. Isaac Wambugu Mutitu
C/o Department of Hospitality & Tourism Management

REF: T129/24864/2011

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting on 14th September, 2022, approved your Research Proposal for the M.Sc. Degree entitled, **"Influence of Hotel Green Practices on Competitive Advantage of Tourist Hotels in Nyeri County, Kenya."**

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and Progress Report Forms per semester. The forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your thesis before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

DR. HARRIET ISABOKE
FOR: DEAN, GRADUATE SCHOOL

CC. Chairman, Hospitality and Tourism Management Department
Supervisors:

1. Dr. Esther Kagure Munyiri
   C/o Department of Hospitality and Tourism Management
   Kenyatta University

2. Dr. Beatrice Kamau
   C/o Department of Hospitality and Tourism Management
   Kenyatta University

Appendix XI: Approval for research project

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NAIROBI, KENYA
Tel. 020-8704150

Our Ref: T129/24864/2011 **DATE: 22nd September, 2022**

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MR. ISAAC WAMBUGU MUTITU – REG. NO. T129/24864/2011

I write to introduce Mr. Isaac Wambugu Mutitu who is a Postgraduate Student of this University. He is registered for Ph.D. degree programme in the **Department of Hospitality and Tourism Management.**

Mr. Mutitu intends to conduct research for a M.Sc. thesis Proposal entitled, **"Influence of Hotel Green Practices on Competitive Advantage of Tourist Hotels in Nyeri County, Kenya."**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

HI/ww