



How Green Are Hotels in Ghana? Evidence From Star-Rated Hotels in Kumasi Metropolitan Area

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Abstract.

The study was conducted to assess green business practices among star-rated hotels in the Kumasi Metropolitan Area. This employed a survey and used a questionnaire to collect data from 60 managers from 84 licensed star-rating hotels. Data was analysed using both descriptive and inferential tests. The study results showed that star-rated hotels have implemented environmentally friendly practices, taking steps to reduce their water usage, adopting sustainable business practices for the long-term benefit of the environment, regular maintenance of sanitary facilities and pipes to prevent losses, and switching off the lights in unoccupied rooms. The study revealed that energy conservation, water conservation, eco-friendly cleaning, and water and energy monitoring were key green business policies adopted by star-rated hotels in the Kumasi Metropolitan Area. The study also showed that cost savings, customer demand, industry regulations and standards, environmental awareness, competitive advantage, and availability of resources were major factors that influenced the adoption of green practices by star-rated hotels in the Kumasi Metropolitan Area. The study suggests that the government should be involved in all issues on the enforcement of green practices, as well as that employees' knowledge be raised consistently and their training be enhanced about the use of green practices.

Kata Kunci:

Hijau,
Peringkat bintang,
Hotel,
Wilayah
Metropolitan Kumasi,
Praktik.

Abstrak.

Studi ini dilakukan untuk menilai praktik bisnis hijau diantara hotel-hotel berbintang di wilayah Metropolitan Kumasi. Ini menggunakan survei dan menggunakan kuesioner untuk mengumpulkan data dari 60 manajer dari 80 hotel berbintang berlisensi. Data dianalisis menggunakan uji deskriptif dan inferensial. Hasil studi menunjukkan bahwa hotel berbintang telah menerapkan praktik ramah lingkungan, mengambil-mengambil langkah-langkah untuk mengurangi penggunaan air mereka, mengadopsi praktik bisnis berkelanjutan untuk manfaat jangka panjang lingkungan, pemeliharaan rutin fasilitas sanitasi dan pipa untuk mencegah kerugian, dan mematikan lampu di kamar yang tidak berpenghuni. Studi ini mengungkapkan bahwa konservasi energi, konservasi air, pembersihan ramah lingkungan dan pemantauan air dan energi adalah kebijakan bisnis hijau utama yang di adopsi oleh hotel-hotel berbintang di Wilayah Metropolitan Kumasi. Studi ini menunjukkan bahwa penghematan biaya, permintaan pelanggan, peraturan dan standar adalah faktor utama yang mempengaruhi adopsi praktik hijau oleh hotel-hotel berbintang di wilayah Metropolitan Kumasi. Penelitian ini menyarankan agar pemerintah terlibat dalam semua isu mengenai penegakan praktik ramah lingkungan dan agar pengetahuan, pegawai di tingkatkan secara konsisten dan pelatihan mereka tentang penggunaan praktik ramah lingkungan ditingkatkan.

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1. Introduction

According to Abdullah and Al-Ghwayeen (2020), a green business practice is an aspect of the environment that implements and complies with ecologically sound programs, such as reducing energy and water consumption, solid waste creation, and energy utilization. Green practices are defined by Chandran and Bhattacharya (2021) as the existence of policies and initiatives aimed at promoting both business sustainability and environmental excellence.

The need for business organizations to implement green practices has grown over the past several years as a result of dreadful environmental conditions, such as climate change. In addition to the rise in global surface temperatures, the effects of climate change also include extreme weather conditions, habitat loss, and an increase in sea level (National Geographic, 2020). The hotel sector consumes a lot of resources, non-durable goods, water, and power; thus, hotel management needs to be proactive about adopting green practices (Dimara et al., 2017). The hotel sector produced around 20% of all emissions related to tourism, according to Merli et al. (2019).

The hotel business must attain carbon emission abatement levels of 66% and 90% by 2030 and 2050, respectively, to comply with the Paris Climate Change Agreement and the United Nations Global Goals (United Nations, 2018). Additionally, according to a recent survey, 87% of millennials are more devoted to hotel chains that use eco-friendly techniques (Shedd, 2020). Yi et al. (2018) state that there is an increasing demand for hotels that are actively pursuing green initiatives due to consumers' increased worries about the environment.

Green business practices often include a variety of initiatives aimed at lessening negative environmental effects (Kim et al., 2017). Kim et al. (2017) go on to define green practices in the hotel industry as a value-added business strategy that helps operators by protecting the environment. Hotels that support green practices frequently participate in resource conservation initiatives (such as waste management, and reducing water and energy usage), buy eco-friendly goods, and create environmental policies and training programmes (Song et al., 2020; Choi et al., 2019; Kim et al., 2018). Larger hotels often have greater resources for adopting green practices, but recent research showed that smaller hotels are also jumping on the green train (Fernández-Robin et al., 2019). Small-scale hotels benefit from green initiatives as well since they may be more individualized and adaptable than bigger or chain hotels (Musavengane, 2019).

Prior studies have shown that adopting green practices may benefit hoteliers in several ways, including improved brand recognition, operational effectiveness, financial success, customer happiness, and repeat business (Yin et al., 2019; Han et al., 2018; Alonso-Almeida et al., 2017; Teng et al., 2018; Wan et al., 2017). As a result, hotels are emphasizing the significance of implementing green measures to win over customers (Moise et al., 2021).

In furtherance, there has been a notable rise in the past several decades in awareness of global environmental challenges such as resource shortages, carbon emissions, global warming, and the use of harmful substances. Consequently, many organizations worldwide have adopted green ideas in response to this, and activists and lawmakers are working to create a more environmentally friendly future (Bentahar et al., 2023).

In Ghana, the government established regulatory bodies like the Ghana Tourism Authority (GTA) and the Environmental Protection Agency (EPA) to oversee and protect the operations of hotels in the nation to halt the possible environmental impacts of hotel operations. For instance, hotels must undertake and submit for evaluation an Environmental Impact Assessment (EIA) of their planned project by the statutory instrument (Environmental Assessment Regulations LI 1652). Following that,

hotels must file an Environmental Management Plan (EMP) with the Environmental Protection Agency within 18 months of opening for business. How hotel operations' environmental effects will be controlled is described in the Environmental Management Plan. However, a study conducted by Lamm (2021) found that many hotels, do not adhere to the regulations even after being awarded licenses and permits to operate. Studies on green business practices in Africa, particularly Ghana, are still in their infancy, even though there have been many works in the field in the past, most of which have been centered on Western nations.

Furthermore, a prior study has confirmed that hotels in Sub-Saharan Africa, particularly Ghana, are implementing comparatively few green initiatives (Lamm, 2021). In Ghana, Deri et al. (2022) studied to explore the extent to which hotels in the Sunyani Municipality in the Bono Region had adopted green business practices, Kenney (2018) focused on green practices among star-rated hotels in the La-dadekotopon Municipality in the Greater Accra Region, Mensah (2014, 2020) concentrated on a few hotels in the Greater Accra Region whiles Kuuder et al. (2013) looked at the Northern region and Boateng (2019) focused on Eastern region. Given the distinctive features of the Kumasi Metropolitan Area, it is not possible to generalize the findings of this research to understand the different kinds of green practices, policies, and variables influencing the adoption of green practices in this area.

Furthermore, the Kumasi Metropolitan Area's star-rated hotels have not been the subject of much, if any, research on green business practices. This has left a gap that this study aims to fill. Consequently, the purpose of this study is to respond to the following research questions (1) Are there any green business practices among star-rated hotels in the Kumasi Metropolitan Area?, (2) What are the green policies adopted by star-graded hotels in the Kumasi Metropolitan Area? and (3) What factors are influencing the adoption of green practices in the Kumasi Metropolitan Area?

2. Literatur Review

2.1. *Definitions of Green Business Practices*

Green practices are steps hotels take to lessen their adverse environmental consequences, such as cutting back on energy and water use, utilizing renewable energy sources, recycling garbage, and procuring locally, according to Santos et al. (2020). Leyva et al. (2021) contended that a green hotel is a lodging facility that minimizes solid waste, conserves electricity and water, and reduces both. Green hotel practices, on the other hand, are defined by Abdou et al. (2020); Ioannidis et al. (2021); and Salama and Abdelsalam (2021) as a group of environmentally conscious activities that aim to reduce their adverse effects on the environment by conserving energy through measures like installing energy-efficient appliances and putting renewable energy programs into place. Green practices are also defined by Chandran and Bhattacharya (2021) as the existence of policies and initiatives aimed at promoting both business sustainability and environmental excellence. According to this study, a "green business practice" is any organization (in this case, a hotel) that makes the required efforts to reduce its adverse effects on both its internal and external ecosystems.

2.2. *Empirical Studies of Hotel Green Business Practices*

Deri et al. (2022) studied to explore the extent to which hotels in the Sunyani Municipality had adopted sustainable initiatives. Simple random sampling and stratified procedure were employed to gather data from forty (40) hotel managers in the Sunyani Municipality. The study revealed that there are no policies in place for greening practices and few managers were aware of and involved in green measures to some extent in hotels in the Sunyani Municipality. The study further found that solid waste management, liquid waste management, green energy consumption, and efficiency, were the

three green practices most frequently used by hotels in the Sunyani Municipality. The study established that customer demand is the pressing factor that influenced hotels in the municipality to go green.

Behera and Jatav (2022) investigated how small hotels in Uttarakhand, India handle their waste. A cross-sectional survey and a structured questionnaire were used to elicit information from hotel managers. The study found that every waste management strategy except for training staff on waste avoidance strategies, utilizing returnable containers to cut waste, and separating trash into recyclable materials like paper and glass was statistically insignificant. The study also showed that there were no statistically significant variations in the waste management techniques used by different types of small hotels.

Yusnita et al. (2021) looked at how homestay operators in Selangor, Malaysia, used green practices concerning their environmental awareness. A basic random selection method was employed to choose 147 homestay hosts. The data that was gathered was examined using both descriptive and inferential tests. The findings indicated that the age, gender, and educational attainment of the host family operators did not significantly differ from one another. The study also discovered a favorable and substantial relationship between green practices and the environmental understanding of host family operators.

Mensah (2020) investigates Accra's small hotels' trash management procedures. Using a simple random technique, a cross-sectional study was conducted to elicit information from 260 managers of small hotels located across Accra. The primary tool was a questionnaire, and data analysis was conducted using SPSS version 20 software. The study's findings suggest that the hotels' waste management procedures do not always adhere to the waste management hierarchy model. Reclaim, recycling, and recovery techniques were less accepted than waste disposal, preventive, and reduction techniques. According to the survey, hotels should implement the sufficiency strategy by encouraging employees and visitors to have a good attitude toward waste reduction and avoidance.

For improved future hotel business in Bali, Ketut et al. (2020) looked into the integration of green hotels and green supply chain methods. To gather information from 63 hotel staff members working in the food and beverage, purchasing, receiving, and inventory departments, questionnaires, interviews, and observation were the methods utilized. According to the findings, respondents felt favorably about eco-friendly lodging options and hotels. The findings also demonstrated that ecologically friendly items are generally more popular among Bali's customer base.

Boateng (2019) looked at how to create green hotels in Ghana to create resilient towns. A purposive sample method was employed to choose star-rated hotels in Koforidua, Ghana. Fifteen managers were interviewed and observations were used to get information. The study found that hotels in Koforidua are environmentally cautious in terms of promoting resilient and vital cities. The study recommends policymakers and hoteliers develop an approach to promote hotel operations that combines environmental protection and awareness with business.

Kenney (2018) looked at the eco-friendly business methods used by star hotels in the Laddekotopon neighborhood in Greater Accra. GTA, hotel management, and the EPA were interviewed in-depth. According to the study, higher-rated hotels had a stronger commitment to environmental sustainability due to their stated environmental management policies, whereas lower-rated hotels only had a few "reactive" environmental activities. The primary green measures used by hotels in this study were garbage creation and management, water management and rationing, and energy efficiency and conservation. However, it was once again demonstrated that upscale hotels had more comprehensive green measures than budget hotels, including sizable liquid waste treatment facilities and energy management systems installed in each room. The study's findings once again

showed how important cost reductions and legal compliance are in motivating hotels to implement green business practices.

Research was carried out by Mbasera et al. (2016) to ascertain the environmentally friendly methods employed by hotels in South Africa and Zimbabwe. The study gathered information from eight hotels using several case studies. To gather information, semi-structured interviews were also done with the management of star-rated hotels in South Africa and Zimbabwe. According to the survey, all hotels involved in the study have adopted certain eco-friendly practices but lack green management strategies overall. Examples of these include employing solar energy, recycling soap bottles, cutting down on water consumption by using towels many times before washing them and managing garbage. The study's findings also demonstrate that some hotels have used green management for marketing purposes to attract and keep consumers while gaining a competitive edge. The study suggests that to facilitate the adoption of eco-friendly activities, hotels should create green management rules.

Fadhil (2015) conducted related research to ascertain the extent to which the hospitality industry in Lamu County, Kenya, has adopted green practices. Primary data was gathered via a cross-sectional survey using questionnaires from twenty-four hotels. The data was analysed using SPSS. The study's findings showed that European travelers frequently stayed at hotels in Lamu County. According to the report, hotels in Lamu have begun to recognize the value of using eco-friendly methods in their day-to-day operations. The report suggested that given there were possible advantages for the county, players in the hotel sector should adopt green practices.

Petrevska and Cingoski (2015) looked at the level of environmental preservation activities in Macedonian hotels. Managers of five-star hotels were informed to complete an online survey to provide statistics. The study found that a sizable fraction of hotels lacked environmental and energy-efficient policies and practices. The poll also revealed that Macedonian hotels recognize the importance of a proactive environmental policy to the development and prosperity of the travel and tourism sector. However, hotel management dismissed the notion as insignificant and attributed its success to greater costs. According to the study, managers should concentrate on altering their professional ethics and creating and implementing a variety of environmental protection initiatives. A study by Čekanavičius et al. (2014) aimed to define "green businesses" more precisely and investigate the hypothesis that national characteristics on public awareness and economic development are critical in determining how differently "green" ideas are adopted by businesses across different nations. An email survey was used for the study to gather data from respondents in Lithuania and Ireland. Descriptive and inferential statistics were employed in the analysis of the data. According to the survey, Lithuanian and Irish businesses have quite different "green" beliefs and practices. While the latter is aware that turning green creates new potential to boost sales, the former is more focused on the expenses of becoming green than the advantages.

Jamaludinand Yusof (2013) researched Green Island Resorts' best practices. The study's objective was to identify resort operators' best practices and the variables influencing such practices. The study found that green practices helped to reduce operating costs and that each resort used different best practices that suited their operations and environment.

3. Methodology

3.1 Study Setting/Area

The study was carried out in the Kumasi Metropolitan Area, which is the home of the Ashanti Kingdom and serves as the regional capital of the Ashanti Region. The city has a population of about 2.5 million people and a radius of 32 kilometers (Ghana Statistical Service, 2021). The Kumasi

Metropolitan Area has major landmarks such as the Manhyia Palace, Kumasi Zoological, Kumasi Cultural Centre, Armed Forces Museum, Komfo Anokye Sword Site, Kumasi Airport, Pankrono Artefacts and the Kwame Nkrumah University of Science and Technology. The beautiful green appearance of the city has also earned it the title 'Garden City of West Africa.'

3.2 *Population and Sample*

All of the managers of star-rated hotels in the Kumasi Metropolitan Area made up the research population. In this study, 20 hotels were selected using a simple random sampling method. This was possible because the researcher had a complete list of 84 registered hotels with stars in the Kumasi Metropolitan Area (Ashanti Region, GTA, 2019). The hotel managers were chosen using stratified random selection. This sampling technique was used because the population and sampling frame of the study were known from the data (Ashanti Region, GTA, 2019). The researcher identifies the population and strata, lists the elements of each stratum, and selects a sample from each stratum using a simple random sampling technique. The researcher also employed this strategy to guarantee that the study's subgroups were fairly represented. Consequently, the GTA's hotel classification system served as the stratification criteria. The strata were 1-5 star hotels (Ashanti Region, GTA, 2019).

1.3. *Instrumen*

The researcher used a closed-ended questionnaire to ask the hotel management for information. The reason was that a closed-ended questionnaire made it easy for respondents to tick the appropriate response box for the answers that were provided and simpler to code and statistically evaluate answers. The questionnaire included biographical questions about the managers as well as questions regarding the various kinds of green practices, policies, and factors that impact the adoption of green practices. A four-point Likert scale ranging from strongly agree to strongly disagree was used to respond to the questions. Colleagues refined and verified the questionnaire before distributing it to the respondents at their workplaces. It took two weeks, from June 1 to June 14, 2023, to complete the questionnaire. To create statistics and information about the data gathered, Statistical Package for Service Solution (SPSS v. 25) was utilized. To describe the data on the variables under examination, descriptive statistical techniques of analysis were employed, such as frequencies, means, standard deviations, and basic regression analyses.

4. **Findings and Discussion**

Table 1 presents the background information on the respondents. More than half (62%) of the management staff were females and 38% were males. The higher representation of females in management positions suggests a positive trend toward gender diversity and inclusivity within the hospitality industry. For the age group, 37% of the respondents were aged between 30-39 years, 30% were aged between 20-29 years, 25% were aged between 40-49 years and 8% were aged 50 years and above. The distribution of respondents across different age groups signifies a diverse workforce with representation from multiple generations. The higher percentage of respondents aged between 20-29 years indicates a relatively youthful workforce, which might bring new perspectives and technological fluency to the workplace.

Table 1. Background Information on Respondents (n=60)

Variables	Frequency	Percentage
Gender		
Male	23	38
Female	37	62
Age group (Years)		
20-29s	18	30
30-39	22	37
40-49	15	25
Above 50 years	5	8
Educational level		
SHS	12	20
Diploma/HND	27	45
Degree	21	35
Marital status		
Single	12	20
Married	41	68
Divorced	7	12
Years of working in the hotel		
Less than 1 year	28	47
1-2 years	8	13
3-5 years	9	15
More than 5 years	15	25

Source: Field Survey (2023).

About the respondents' educational level, HND/Diploma holders made up 45%, degree holders made up 35%, and senior high school graduates made up 20%. The implication is that employees with HND/Diploma education, degree holders, and those with senior high school education bring different skill sets and qualifications to the hotel industry. Moreover, 68% of the respondents were married, 20% were single and 12% were divorced. Additionally, 47% of respondents have been working with this hotel for less than 1 year, 25% of respondents have been working with this for more than 5 years, 15% have been working with this hotel and 13% have been working with this hotel for 1-2 years. A significant number of employees with less than a year of experience could indicate a relatively high turnover rate within selected hotels.

The average mean (3.16) on Table 2, indicates that the star-rated hotels in the Kumasi Metropolitan Area have been adopting green business practices. The respondents agreed (mean=3.80) that star-rated hotels have implemented environmentally friendly practices. This implies that these hotels are effectively communicating their efforts to be more sustainable and are likely to be well-received by consumers who care about the environment. This finding is in line with that of Hsiao et al. (2018), who found that star-rated hotels in Taiwan have adopted eco-friendly measures such as conserving electricity, managing water, and using fewer chemicals. The findings of this investigation corroborate those of Khatter et al. (2019), who found that the hotels included in the sample showed a strong commitment to ecologically friendly business practices.

The majority of the respondents agreed (mean=3.17) that star-rated hotels in Kumasi Metropolis are taking steps to reduce their water usage. The implication is that by actively reducing water usage, hotels contribute to the responsible management of water, especially in regions where water scarcity or stress is a concern. This data confirms the reports of Mendoza et al. (2023) that water management techniques are used by hotels and resorts in the Euro-Mediterranean. Again, the majority of the respondents agreed (mean=3.25) that star-rated hotels are making efforts to reduce waste and recycle materials. The implication is that star-rated hotels are at the point of reducing negative environmental impact. According to Langgat et al. (2023), waste reduction and recycling initiatives help decrease the quantity of waste sent to landfills, conserve natural resources, and mitigate pollution.

Table 2. Green Business Practices in Star-rated Hotels

Green business practices	Mean	Std. Dev.
Star-rated hotels have implemented environmentally friendly practices	3.80	0.48
Star-rated hotels are actively reducing their energy consumption.	2.98	0.43
Star-rated hotels are taking steps to reduce their water usage	3.17	0.72
Star-rated hotels are making efforts to reduce waste and recycle materials	3.25	0.51
Star-rated hotels use eco-friendly products and supplies.	3.13	0.75
Star-rated hotels are promoting green practices to their guests.	3.00	0.71
Star-rated hotels are participating in local environmental initiatives	3.15	0.73
Star-rated hotels are committed to reducing their carbon footprint	3.15	0.69
Star-rated hotels are investing in renewable energy sources.	3.00	0.88
Star-rated hotels are adopting sustainable business practices for the long-term benefit of the environment	3.28	0.78
Maintain plumbing pipelines and fixtures regularly to prevent losses.	3.27	0.63
Star-rated hotels cover pool outside of the opening hours so that the water does not evaporate or get dirty	3.02	0.81
The hotels make sure that outside illumination is only turned on at night and minimize ambient lighting during the day.	2.98	0.75
Installing light bulbs that are 12 times more energy-efficient than standard incandescent lights	2.97	0.82
Verify that all lights are off in vacant rooms (magnet cards automatically off the electricity to the room when a visitor departs).	3.22	0.76
Average mean	3.16	

Source: Field Survey (2023). Scale: 1.0-2.4=Disagree, 2.5-3.9=Agree

In addition, most of the respondents agreed (mean=3.38) that star-rated hotels are adopting sustainable business practices for environmental benefits. The implication is that the adoption of sustainable business practices by star-rated hotels for the long-term benefit of the environment yields numerous positive implications, from environmental conservation to economic savings, positive branding, and societal impact. Chan et al. (2021) also reported that long-term green business practices help reduce the ecological footprint of hotels, leading to the conservation of resources, reduction in pollution, and overall environmental preservation. The majority of the respondents agreed (mean=3.27) that star-rated hotels should repair their plumbing fixtures and pipelines regularly. Regular maintenance of plumbing fixtures and piping in hotels has far-reaching implications that touch on cost savings, guest satisfaction, resource conservation, environmental responsibility, and overall operational efficiency. According to Gurmu and Mudiyanse (2023), regular maintenance helps identify and repair leaks, drips, and other plumbing issues that can lead to water wastage. This not only conserves water resources but also reduces water bills for the hotel.

Finally, the majority of the respondents agreed (mean=3.22) that the hotels must make sure the lights are switched off in unoccupied rooms. This implies that turning off lights in unoccupied rooms reduces electricity consumption, contributing to lower energy bills and a smaller carbon footprint. Kostić et al. (2019) view that energy-efficient practices lead to cost savings on utility bills. Over time, these savings can be substantial for hotels, especially those with a large number of rooms.

Table 3. Type of Green Business Policies Adopted by Star-rated Hotels

Type of green business policies	Mean	Std. Dev.
Energy conservation	3.75	0.51
Water conservation	3.80	0.36
Waste management	2.83	0.79
Sustainable food practices	3.05	0.62
Eco-friendly cleaning	3.65	0.87
Renewable energy	2.95	0.59
Green certifications	2.85	0.88
Environmental education	2.92	0.69
Local community engagement	2.85	0.936
Water and energy monitoring	3.73	0.88
Average mean	3.24	

Source: Field Survey (2023). Scale: 1.0-2.4=Disagree, 2.5-3.9=Agree

The average mean score of 3.24 for the study indicates that the star-rated hotels in the Kumasi Metropolis have adopted green business policies. The respondents agreed (mean=3.75) that energy conservation is a green business policy adopted by star-rated hotels in the Kumasi Metropolitan Area. The implication is that energy conservation efforts make hotels more resilient to energy price fluctuations and potential shortages, ensuring consistent service for guests. Star-rated hotels are taking a proactive and effective stance by adopting energy saving as a green business policy (Asfaw, 2022). This strategy entails putting into effect a variety of procedures and efforts targeted at lowering energy usage, lowering carbon emissions, and improving the sustainability of the environment as a whole (Kassim, 2023). According to the survey, most respondents (mean=3.80) believed that star-rated hotels in the Kumasi Metropolitan Area practice water conservation. According to Salama and Abdelsalam's (2021) research, star hotels are generally expected to consume more water and have more complicated consumption structures with a variety of water-consuming services offered to both tourists and guests. Many writers, like Abdou et al. (2020) and Langgat (2019), have pointed out that conserving water and energy is one of the green practices that many businesses have used to help the environment. Abrudu et al. (2020) assert that hotels have a competitive edge due to their adoption of water and energy-saving strategies, based on studies conducted in Romania.

Furthermore, most of the respondents agreed (mean=3.65) that their hotels adopt eco-friendly cleaning. The use of solutions that are decomposable and avoid the use of hard chemicals like chlorine, phosphates, and artificial perfumes is part of eco-friendly cleaning (Lee & Cheng, 2018). These products have a reduced impact on indoor air quality and are less harmful to aquatic ecosystems when they enter water systems (Lee & Cheng, 2018). According to Tiwari et al. (2020), eco-friendly cleaning in hotels refers to the practice of using environmentally responsible cleaning products, methods, and practices that minimize negative impacts on both human health and the environment. The goal is to maintain a clean and hygienic environment while reducing the use of harmful chemicals, conserving resources, and promoting sustainability. According to Yusof et al. (2017), guest satisfaction and intention to return are directly correlated with eco-friendly hotel sector policies. As a result, to compete, hoteliers whether or not they are considered green, must employ ecologically friendly methods that contribute to environmental preservation.

Additionally, the majority of the respondents agreed (mean=3.73) that star-rated hotels in the Kumasi Metropolitan Area adopt a green business policy of water and energy monitoring. The implication is that incorporating water and energy monitoring into hotel operations allows for evidence-based decision-making that benefits the environment, reduces operational costs, enhances guest satisfaction, and aligns with sustainable business practices. According to Gülaçtı (2022), water and energy monitoring in hotels refers to the systematic tracking, measurement, and analysis of water and energy consumption within the hotel's facilities. Data on the quantity of energy and water used in the

hotel's different areas, including the kitchens, laundry facilities, public areas, and guest rooms, is what the monitoring aims to collect (Wang et al., 2022).

4.1 Regression Analysis

This assessed the variables influencing the adoption of green practices by hotels in the Kumasi Metropolitan Area.

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.963	0.837	0.815	0.274

According to Table 4, the R-squared value is 87.3%, or 0.837. The study's independent variables—cost savings, customer demand, industry regulations and standards, environmental awareness, corporate social responsibility, competitive advantage, resource availability, and technological advancement—account for 87.3% of the explanations of green practices. Other factors, not included in the study, account for the remaining 12.7%.

Table 5. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	82.763	15	5.518	85.210	0.000 ^a
Residual	2.849	44	0.065		
Total	85.612	59			

The results of the analysis of variance (ANOVA) indicated that the model was statistically significant. Additionally, the outcomes show that the independent variables are trustworthy markers of green practices. This is confirmed by an F-statistic of 85.210 and a reported p-value of 0.000, which was less than the typical probability of 0.05 for a significant level.

Table 6. Results of Multiple Linear Regression Analysis

Model	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
Constant	3.844	0.161		23.903	0.000
Cost savings	0.787	0.075	1.312	10.551	0.000
Customer demand	0.841	0.064	1.409	13.063	0.000
Industry regulations and standards	0.804	0.072	1.340	11.091	0.000
Environmental awareness	0.794	0.079	1.331	12.048	0.000
Corporate social responsibility	0.193	0.062	0.104	3.485	0.085
Competitive advantage	0.674	0.056	1.258	9.678	0.007
Availability of resources (funds, trained staff)	0.872	0.058	1.461	15.028	0.000
Technology advancements	0.444	0.056	0.048	0.783	0.438

Dependent variable: Green practices

The influence of the independent variables (cost savings, customer demand, industry regulations and standards, environmental awareness, competitive advantage, and availability of resources) on the adoption of green practices is shown in Table 6 through the use of regression analysis. The results show that cost savings ($r=0.787$, p value=0.000), customer demand ($r=0.841$, $p=0.000$), industry regulations and standards ($r=0.804$, $p=0.000$), environmental awareness ($r=0.794$, $p=0.000$), competitive advantage ($r=0.674$, $p=0.007$), and resource availability ($r=0.872$, $p=0.000$), were

statistically significant in explaining the adoption of green practices among star-rated hotels in Kumasi Metropolitan Area. The study revealed that cost savings significantly impact the adoption of green practices among hotels, as sustainable initiatives can lead to long-term financial benefits and improved operational efficiency. This result corroborates that of Fauziah et al. (2017), who found that a variety of factors impact the adoption of green practices in the hotel business, including cost, perceived advantages, staff and customer assistance, and consumer support.

The study also showed that customer demand influences the adoption of green practices among star-rated hotels in the Kumasi Metropolitan area. The implication is that hotels respond to customer demand for green practices and position themselves as relevant and attractive choices for environmentally conscious travelers. This result is in line with that of Jiang and Gao (2019), who discovered that consumer demand affects hotels in China's adoption of green practices. According to Butler (2008), cited in Deraman et al. (2017), many hotel operators hold off on implementing green practices until consumer demand rises and operating expenses fall.

Industry regulations and standards were found to influence the adoption of green practices among star-rated hotels in the Kumasi Metropolitan Area. These regulations and standards provide a framework for hotels to follow, encouraging and sometimes mandating the implementation of green practices. Srivastava et al. (2023) are of the view that regulations and standards create a level playing field by establishing a baseline of environmental responsibility.

The study found that environmental awareness also influences the adoption of green practices by star-rated hotels in the Kumasi Metropolitan Area. The finding is in line with the observation made by Kuar et al. (2022) that environmental awareness affects Malaysian hotels' adoption of green practices. The study showed that the availability of resources such as funds, trained staff, etc., influences the adoption of green practices among star-rated hotels. The implication is that the availability of funds and trained staff can catalyze star-rated hotels to adopt and prioritize green business practices. This finding collaborates with the findings of Li et al. (2020) that available funds in star-rated hotels in eastern China impact the implementation of green practices.

5. Conclusion and Implications

This study aimed to assess green business practices among star-rated hotels in the Kumasi Metropolitan Area. The study showed that star-rated hotels have implemented environmentally friendly practices, taking steps to reduce their water usage, and adopting sustainable business practices for the long-term benefit of the environment. In preventing losses, making sure that the lights are turned off in vacant rooms and doing routine maintenance on water fittings and pipelines. The study also, established that energy conservation, water conservation, eco-friendly cleaning, and energy monitoring were key green business policies adopted by star-rated hotels in the Kumasi Metropolitan Area. The study further, revealed that cost savings, customer demand, industry regulations and standards, environmental awareness, competitive advantage, and available resources were major factors that influence the adoption of green practices by star-rated hotels in the Kumasi Metropolitan Area.

The results of implementing green practices in star-rated hotels can contribute to the development and refinement of sustainability theories and concepts related to corporate environmental responsibility and provide insights into the practical implementation of sustainable strategies in the hospitality industry. This study findings add to hospitality literature on hotel green business practices in Ghana. The findings from the study emphasized the observable financial benefits and operational improvements brought about by the implementation of green practices, which may persuade more hotels to make sustainable initiatives and investments to boost their bottom line.

Based on the findings, the following suggestions are made: First, the study suggests that the government be involved in all issues about the enforcement of green practices, as well as that employees' knowledge be raised consistently and their training be enhanced about the use of green practices. Second, since guests are seen as essential components in building green capacity, they are likely to increase productivity and promotion in addition to educating, training, and raising staff members' awareness of the value of green practices in hotel enterprises. The reason for this is that a small number of dedicated hotel employees and eco-aware guests may help maintain green standards. Third, the managers of hotels should install water-saving fixtures, promote guest awareness about water conservation, and monitor water usage to identify opportunities for reduction. Finally, regulators such as the Environmental Protection Agency (EPA) and Ghana Tourism Authority (GTA) need a more comprehensive inspection plan than the ceremonial periodic visits that do not review the core environmental business practices of hotels. The study is limited to only star-rating green business hotel practices at Kumasi Metropolitan Area in Ghana. Future research should look at small business hotel practices in other jurisdictions to ascertain what pertains there.

References

- Abdallah, A. B., & Al-Ghwayeen, W. S. (2020). Green supply chain management and business performance: The mediating roles of environmental and operational performances. *Business Process Management Journal*, 26(2), 489-512.
- Abdou, H. A., Hassan, T. H., & El Dief, M. M. (2020). A description of green hotel practices and their role in achieving sustainable development. *Sustainability*, 12, 9624.
- Abrudu, I. N., Pop, C. M., & Lazar, P. S. (2020). Using a general ordered logit model to explain the influence of hotel facilities, general and sustainability-related, on customer ratings. *Sustainability*, 12, 9301.
- Alonso-Almeida, M. del M., Fernández Robin, C., Celemín Pedroche, M. S., & Astorga, P. S. (2017). Revisiting green practices in the hotel industry: A comparison between mature and emerging destinations. *Journal of Cleaner Production*, 140, 1415-1428.
- Asfaw, Y. (2022). Green hotel practice and its effect on environmental sustainability in Ethiopia: A case study on four and five-star hotels of Addis Ababa City (Doctoral dissertation, HU).
- Behera, A., & Jatav, S. S. (2022). Waste Management Practices of Small Hotels in Dehradun. *Journal of Tourism Insights*, 12(1), 3.
- Bentahar, O., Benzidia, S., & Bourlakis, M. (2023). A green supply chain taxonomy in healthcare: critical factors for a proactive approach. *The International Journal of Logistics Management*, 34(1), 60-83.
- Boateng, A., K. (2019). Green hotel development: Towards the building of resilient cities in Ghana. *Smart Cities and Regional Development Journal*, 3(1).
- Čekanavičius, L., Bazytė, R., & Dičmonaitė, A. (2014). *Green business: challenges and practices*. *Ekonomika*, 93(1), 74-88.
- Chan, J. K. L., Stephen, S. G. A., & Andi Kele, A. T. (2021). Exploring sustainable human resource practices and framework in star-rated hotels. *Sustainability*, 13(16), 9024.

- Chandran, C., & Bhattacharya, P. (2021). Hotel's best practices as strategic drivers for environmental sustainability and green marketing. In *Consumer Behaviour in Hospitality and Tourism* (pp. 66-81). Routledge.
- Choi, H.-M., Kim, W.G., Kim, Y. J., & Agmapisarn, C. (2019). Hotel environmental management initiative (HEMI) scale development. *International Journal of Hospitality Management*, 77, 562-572.
- Deraman, F., Ismail, N., Mod Arifin, A. I., & Mostafa, M. I. A. (2017). Green practices in the hotel industry: Factors influencing the implementation. *Journal of Tourism, Hospitality & Culinary Arts (JTHCA)*, 9(2), 1-12.
- Deri, M., N, Neethiahnathan, A., Perpetual, Z., Augustine, N., and David, A. (2022), Green practices among hotels in the Sunyani Municipality of Ghana. *Journal of Business and Environmental Management (JBEM)*, 1(1), 1 – 22.
- Dimara, E., Manganari, E., & Skuras, D. (2017). Don't change my towels please: Factors influencing participation in towel reuse programs. *Tourism Management*, 59, 425-437.
- dos Santos, R. A., Méxas, M. P., Meirino, M. J., Sampaio, M. C., & Costa, H. G. (2020). Criteria for assessing a sustainable hotel business. *Journal of Cleaner Production*, 262, 121347.
- Fadhil, A. (2015). Adoption of green practices in the hospitality and tourism industry in Lamu County, Kenya (Doctoral dissertation, University of Nairobi).
- Fauziah, D., Noralisa, I., Ahmad, I., & Mohamad, I. (2017). Green practices in the hotel industry: factors influencing the implementation. *Journal of Tourism, Hospitality and Culinary Arts*, 9(2), 305-316.
- Fernández-Robin, C., Celemín-Pedroche, M. S., Santander-Astorga, P., & Alonso-Almeida, M. del M. (2019). Green practices in hospitality: A Contingency approach. *Sustainability*, 11(13), 1–24.
- Ghana Statistical Service (2021). Housing and Population Census, Report Accra, Ghana.
- Ghana Tourism Authority (2019). Ghana's tourism potential. Kumasi Metropolitan, Ashanti Region
- Gülaçtı, Ş. E. N. (2022). Can A Green Business Strategy Be An Alternative to the Success of the Airport Environmental Management System?. *Journal of Aviation*, 6(2), 241-250.
- Gurmu, A., & Mudiyansele, P. W. (2023). Plumbing defects in residential buildings: analysis of anomalies and their causes. Facilities.
- Han, H., Lee, J.-S., Trang, H. L. T., Kim, W. (2018). Water conservation and waste reduction management for increasing guest loyalty and green hotel practices. *International Journal of Hospitality Management*, 75, 58-66.
- Ioannidis, A., Chalvatzis, K. J., Leonidou, L. C., & Feng, Z. (2021). Applying the reduce, reuse, and recycle principle in the hospitality sector: Its antecedents and performance implications. *Business Strategy and the Environment*, 30(7), 3394-3410.
- Jamaludin, M., & Yusof, Z. B. (2013). Best practice of Green Island resorts. *Procedia-Social and Behavioral Sciences*, 105, 20-29.
- Jiang, Y., & Gao, Y. (2019). Factors that influence potential green hotel customers' decision-making process—evidence from China. *Journal of China Tourism Research*, 15(4), 455-477.
- Kassim, M. A. (2023). Environmental Sustainability Practices in Hotels: From Attitudes to Implementation Case of Resort Hotels in Bishoftu, Ethiopia.
- Kenney, P., L. (2018). Green business practices among star-graded hotels in Ghana: The case study of La-dadekotopon municipality. A thesis submitted to the Graduate School, University of

Ghana in partial fulfillment of a requirement towards the award of a Master of Arts degree in Development Studies.

- Ketut, A., Ketut, B., Cokorda, I. S. W., Gede, M. (2020) Green Supply Chain for Better Future Hotel Business. *Advances in Social Science, Education, and Humanities Research*, volume 544.
- Khatter, A., McGrath, M., Pyke, J., White, L., & Lockstone-Binney, L. (2019). Analysis of hotels' environmentally sustainable policies and practices: Sustainability and corporate social responsibility in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 31(6), 2394-2410.
- Kim, M.S., Kim, J., & Thapa, B. (2018). Influence of environmental Knowledge on effect, nature affiliation and pro-environmental behaviors among tourists. *Sustainability*, 10, 1-16.
- Kim, S. H., Lee, K., & Fairhurst, A. (2017). The review of "green" research in hospitality, 2000-2014: Current trends and future research directions. *International Journal of Contemporary Hospitality Management*, 29(1), 226-247.
- Kostić, M., Ratković, M., & Forlani, F. (2019). Eco-hotels as an example of environmental responsibility and innovation in savings in the hotel industry. *Journal of Comparative International Management*, 7(2), 47-56.
- Kuar, L. S., Ng, L. P., Choong, Y. O., Chen, I. C., Teoh, S. Y., & Tee, C. W. (2022). Hotels' green practices adoption: Determinants and top managers' environmental commitment. *Advances in Hospitality and Tourism Research (AHTR)*, 10(2), 157-187.
- Kuuder, C. J. W., Bagson, E., Prempeh, V. M., Mumuni, A., Adongo, R., & Amoako, E. E. (2013). Energy, water, and waste management in the accommodation sector of Tamale Metropolis, Ghana. *International Journal of Tourism Research*, 16(5), 450-461.
- Lamm, D. K. (2021). An Exploration of Environmental Practices in the Hospitality Industry. Evidence from Hotels in Addis Ababa, Ethiopia. *Journal of Environmental Management and Tourism (JEMT)*, 12(02 (50)), 357-370.
- Langgat, J., Ramdani, B., Pavic, S., & Tok, E. (2023). Environmentally Sustainable Practices and Hotel Performance: Evidence from Malaysia. *Sustainability*, 15(6), 5289.
- Langgat, J.A. (2019). Sustainability adoption in hotel restaurants: Evidence from Malaysia. Business. Corpus ID: 191946020.
- Lee, W. H., & Cheng, C. C. (2018). Less is more: A new insight for measuring service quality of green hotels. *International Journal of Hospitality Management*, 68, 32-40.
- Leyva, E. S., & Parra, D. P. (2021). Environmental approach in the hotel industry: Riding the wave of change. *Sustainable Futures*, 3, 100050.
- Li, J., Mao, P., Liu, H., Wei, J., Li, H., & Yuan, J. (2020). Key factors influencing low-carbon behaviors of staff in star-rated hotels—an empirical study of eastern China. *International Journal of Environmental Research and Public Health*, 17(21), 8222.
- Mbasera, M., Du Plessis, E., Saayman, M., & Kruger, M. (2016). *Environmentally-friendly practices in hotels. Acta Commercii*, 16(1), 1-8.
- Mendoza, E., Ferrero, G., Slokar, Y. M., Amores, X., Azzellino, A., & Buttiglieri, G. (2023). Water management practices in Euro-Mediterranean hotels and resorts. *International Journal of Water Resources Development*, 39(3), 485-506.

- Mensah, I. (2014). Different shades of green: Environmental management in hotels in Accra. An application of the waste management hierarchy model. *Journal of Global Business Insights*, 5(1), 33-46.
- 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.
- Merli, R., Preziosi, M., Acampora, A., & Ali, F. (2019). Why should hotels go green? Insights from guests' experience in green hotels. *International Journal of Hospitality Management*, 81, 169-179.
- Moise, M. S., Gil-Saura, I., & Ruiz Molina, M.E.R. (2021). The importance of green practices for hotel guests: Does gender matter?. *Economic Research*, 1-22.
- Musavengane, R. (2019). Small hotels and responsible tourism practice: Hoteliers' perspective. *Journal of Cleaner Production*, 220, 786-799.
- National Geographic (2020). Causes and effects of climate change. Retrieved February 10, 2021, from <https://www.nationalgeographic.com/environment/global-warming/global-warming-effects/>
- Petrevska, B., & Cingoski, V. (2015). Environmental protection and energy efficiency concept in five-star hotels in Macedonia.
- Salama, W., & Abdelsalam, E. (2021). Impact of hotel guests' trends to recycle food waste to obtain bioenergy. *Sustainability*, 13(6), 3094.
- Shedd, B. (2020). Why hotels need to focus on sustainable technology. Retrieved October 12, 2023, from <https://www.hotelmanagement.net/tech/why-hotels-need-to-focus-sustainable-technology>
- Song, J., Jai, T. M., & Li, X. (2020). Examining green reviews on TripAdvisor: Comparison between resort/luxury hotels and business/economy hotels. *International Journal of Hospitality & Tourism Administration*, 21(2), 165-187.
- Srivastava, S., Dey, S. K., Sharma, S., & Ratilla, M. (2023). Adoption of sustainable practices by Asian hotels: gaps in academia. *Worldwide Hospitality and Tourism Themes*, 15(3), 220 - 230.
- Teng, C. C., Lu, A. C. C. and Huang, T.-T. (2018). Drivers of consumers' behavioral intention toward green hotels. *International Journal of Contemporary Hospitality Management*, 30(2), 1134-1151.
- Tiwari, S., Dambhare, A., & Tripathi, R. (2020). Eco-friendly practices in star category hotelsof Lucknow: An exploratory study. *AVAHAN: A Journal on Hospitality and Tourism*, 8(1), 9-16.
- United Nations (2018). UN works with the global hotel industry to reduce emissions. Retrieved September 12, 2023, from <https://unfccc.int/news/un-works-with-global-hotel-industry-to-reduce-emissions>
- Wan, Y. K. P., Chan, S. H. J., & Huang, C. L. W. (2017). Environmental awareness, initiatives, and performance in the hotel industry of Macau. *Tourism Review*, 72(1), 87-103.
- Wang, Y., Dong, L., & Li, H. (2022). Economic Evaluation of Energy-Saving Retrofit of Existing Hotels. *Energies*, 15(3), 757.
- Yi, S., Li, X., & Jai, T. M. (2018). Hotel guests' perception of best green practices: A content analysis of online reviews. *Tourism and Hospitality Research*, 18(2), 191–202.
- Yin, C.Y., Du, F., & Chen, Y. (2019). Types of green practices, hotel price image and consumers attitudes in China: the mediating role of consumer skepticism. *Journal of Hospitality Marketing & Management*, 29(3), 329-357.

- Yusof, Y., Awang, Z., Jusoff, K., & Ibrahim, Y. (2017). The influence of green practices by non-green hotels on customer satisfaction and loyalty in the hotel and tourism industry. *International Journal of Green Economics*, 11(1), 1-14.
- Yusof, Y., Mansor, M. A., & Ab Ghani, H. H. (2021). Green Practices among Homestay Operators in Selangor, Malaysia. *BIMP-EAGA Journal for Sustainable Tourism Development*, 10(1), 44-58.