

**ENVIRONMENTAL SUSTAINABILITY STRATEGIES ON THE MARKET
PERFORMANCE OF MANUFACTURING COMPANIES**

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**UGANDA CHRISTIAN
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DECLARATION

I **NYAKATO KIRABO DENISE**, hereby declare that this research report is my original work and has never been published or submitted in pursuance of any academic award to any other University or Institution of Higher Learning.

Signature.....

Date.....29th/09/2024

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APPROVAL

This is to certify that this research report was done under my supervision in accordance with the standards of academic requirements of Uganda Christian University and is now ready for submission with my approval.

..... Rachel

Date..... 29th / 08 / 2024

MS. RACHEL NASSUNA KWAGALA

SUPERVISOR

DEDICATION

I dedicate this piece of work to my beloved family members whose unwavering parental love, sincere and endless financial, spiritual and moral support have been the driving force behind my academic journey. I am forever grateful for their guidance and wisdom.

I am also indebted to all my friends and all those persons that have contributed distinguished support towards my academic career and forever will be thankful.

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May the almighty God continue to bless you all!

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ABSTRACT

This study examined the effect of environmental sustainability strategies on the market performance of manufacturing companies with a focus on Nice House of Plastics. The study aimed to explore the role of waste reduction management, green transportation, and energy efficiency in enhancing market performance. The study integrated qualitative and quantitative research approaches using a mixed methods approach to thoroughly investigate these tactics. Interviews were used to gather data from 40 employees in different departments, guaranteeing a varied representation of viewpoints.

The results showed that waste reduction management has a major positive impact on innovation and operational expenses, both of which improve market performance. Green transportation was found to be crucial for raising the company's status in the market by strengthening supply chain effectiveness, boosting brand recognition, and reducing the dangers connected with reliance on fossil fuels. Initiatives aimed at increasing energy efficiency have also been demonstrated to lower manufacturing costs, enhance operational stability, and foster innovation—all of which enhance market performance. The overwhelming agreement among those surveyed emphasizes the strategic significance of these sustainability efforts in preserving a competitive advantage in a market that is becoming more environmentally conscientious. Notwithstanding, the existence of certain discord and ambiguity highlights the want of sustained correspondence and involvement to guarantee that every staff member comprehends and values the advantages of these endeavours entirely.

The study underscored the importance of integrating environmental sustainability strategies into the core operations of manufacturing companies, not only as a means of regulatory compliance but also as a driver of long-term market success. The study concluded that these strategies are instrumental in achieving sustainable growth and maintaining a competitive edge in an increasingly eco-conscious marketplace. It is recommended that manufacturing companies should invest in sustainable technologies and practices to improve their market performance. Further research should explore the long-term financial impacts of sustainability strategies and the role of government policies in supporting sustainable manufacturing.

CHAPTER ONE

1.0 INTRODUCTION

This chapter contains the background, statement of the problem, general objective and specific objectives, research questions, and scope of the study, significance of the study, anticipated problems and solutions.

1.2 Background

According to UNESCO (2021), environmental sustainability is the responsible use of the environment to ensure that present needs are satisfied without jeopardizing the ability of future generations to satisfy their own needs. Environmental sustainability has gained more global attention since 2020 as worries about climate change and biodiversity loss grow. The United Nations' Decade on Ecosystem Restoration (2021–2030) is one global project that emphasizes how urgent it is to solve environmental degradation (UNEP, 2021). Moreover, the epidemic caused by COVID-19 has highlighted the connection between human health and the environment, highlighting the necessity of comprehensive approaches to sustainability.

International accords such as the 2015 Paris Agreement remain crucial structures for worldwide collaboration in the fight against climate change and environmental governance (United Nations, 2020). However, the success of these accords hinges on how well they are implemented locally in the form of sustainable environment policies and programs. Through grassroots initiatives and community-based programs, local communities are becoming more proactive in promoting sustainability. The significance of taking into account local settings and involving communities in decision-making processes is acknowledged by this bottom-up approach. Environmental sustainability can be successfully pursued by combining global goals with local action, resulting in a future that is more robust and equitable for all (Satterthwaite et al., 2021). Globally, communities are progressively adopting proactive approaches to tackle environmental issues by means of grassroots campaigns and inventive resolutions. According to Chandler et al. (2020), the emergence of citizen science initiatives, for example, enables people to support environmental monitoring and conservation initiatives. Furthermore, the idea of "sustainability at the doorstep" highlights the significance of customized strategies suited to the distinct biological and socioeconomic settings of local communities, claims Gottlieb (2020).

According to Nuwamanya et al. (2020), environmental sustainability methods have become

increasingly popular, changing the way manufacturing organizations operate in the market. Environmental sustainability is being discussed in terms of strategic efforts that attempt to improve market competitiveness rather than just following legislation. In addition, studies conducted during this period have emphasized how crucial it is for businesses to integrate environmental sustainability into their operations in order to reduce risks and seize new opportunities.

Sustainable manufacturing techniques have been recognized as having the potential to promote long-term economic resilience and contribute to sustainable development goals in East Africa, a region experiencing fast industrialization (Kabanda et al., 2021). Similarly, attempts to incorporate sustainability into manufacturing operations have been sparked in Uganda by the government's commitment to climate resilience and environmental conservation (NEMA Uganda, 2020). In the meantime, adopting environmental sustainability is in line with local values and goals, such as protecting natural resources and advancing social justice, in addition to being in line with global trends (Ssekisambu et al., 2022). In these situations, companies that implement proactive environmental sustainability plans might gain better market positioning, stronger brand recognition, and more investor trust. However, cooperation with stakeholders, financial support for environmentally friendly technologies, and a dedication to openness and responsibility are necessary for successful implementation. Manufacturing firms in Africa can attain environmental stewardship and commercial success by implementing environmental sustainability methods, even in the face of obstacles like limited resources and infrastructure constraints.

For African manufacturing enterprises, the relationship between environmental sustainability and market performance has grown more significant. Adopting sustainable practices can benefit a company's financial success in addition to being in line with international environmental goals. According to research done between 2020 and 2022, resource efficiency, waste reduction, and energy conservation can result in cost savings when environmental sustainability is integrated into manufacturing processes (Gibson et al., 2021). Furthermore, the market dynamics are being influenced by the increasing focus that investors, consumers, and regulatory agencies are placing on environmental responsibility. Organizations that place a high priority on environmental sustainability might potentially acquire a competitive advantage through the attraction of eco-aware investors and consumers, improvement of their brand's image, and reduction of the risks linked to non-compliance with regulations (Cohen et al., 2020). On the other hand, the shift to environmental sustainability necessitates strategic

planning, financial investment in eco-friendly technologies, and cooperation with stakeholders throughout the entire value chain. For African manufacturing enterprises, the long-term advantages of environmental sustainability on market performance are becoming more apparent, despite potential obstacles such as initial expenses and resistance to change (Clemons et al., 2022).

According to research by Jones and Smith (2019), environmental sustainability methods are becoming more and more important in a variety of businesses around the world, including the plastics industry. Growing customer demands for eco-friendly products, governmental challenges, and environmental concerns have all contributed to the adoption of such tactics. It is now essential for Nice House of Plastics Uganda to incorporate environmental sustainability into their operations in order to remain relevant and perform well in the market.

Additionally, Jones and Smith (2019) point out that companies that adopt sustainable practices typically show greater customer loyalty and brand recognition, which translates into a competitive advantage and higher financial performance. Furthermore, Johnson et al. (2021) point out that environmentally friendly activities help businesses save money by reducing waste and using resources more efficiently, which increases their financial stability. Nice House of Plastics Uganda's market success may have been influenced by its recent attempts to integrate energy-efficient technology and employ recycled materials in its manufacturing processes, among other sustainable manufacturing practices. The company's dedication to sustainability not only fits in with international environmental goals but also puts it in a good position given changing consumer tastes for environmentally friendly goods (Adams, 2023). In light of this, Nice House of Plastics Uganda's capacity to continue and improve its market performance in an increasingly environmentally concerned market environment depends on its ability to integrate environmental sustainability measures.

1.3 Statement of the problem

The global community has increasingly recognized the urgent need for sustainable practices across industries to mitigate environmental degradation and address the looming threat of climate change (IPCC, 2021). Within Uganda, Nice House of Plastics, a prominent player in the plastic manufacturing sector, stands at a critical juncture where its operations directly impact environmental sustainability. The lack of comprehensive understanding regarding the environmental footprint of Nice House of Plastics Uganda. While the company played a

significant role in providing essential products for various sectors, its reliance on plastic materials raises concerns about its contribution to environmental pollution, resource depletion, and ecosystem degradation. The absence of clear data and assessment mechanisms regarding its environmental impact hinders informed decision-making and sustainable development strategies (UNEP, 2020). The organization experienced a negative change in its carbon footprint due to the covid-19 pandemic, the company has faced significant challenges, including a 25% increase in greenhouse gas emissions although there has been a 30% increase in energy consumption. (According to a 2022 report by the company, Nice House of Plastics Uganda, 2022)

1.4.1 The purpose of the study

The purpose of the study was to examine the role of environmental sustainability strategies on the performance of the organization.

1.4.2 Specific Objectives

The objectives of the study were to;

- (i) The role of waste reduction management on the market performance of manufacturing companies.
- (ii) The role of green transportation on the market performance of manufacturing companies.
- (iii) The role of energy efficiency on the market performance of manufacturing companies.

1.5 Research questions

- (i) What was the role of waste reduction and management on the market performance of manufacturing companies?
- (ii) What was the role of green transportation on the market performance manufacturing companies?
- (iii) What the role of energy efficiency on the market performance of manufacturing companies?

1.6 Scope of the study

1.6.1. Content scope

The study concentrated on examining the role of environmental sustainability strategies on the performance of the organization. Waste reduction and management, green transportation, energy efficiency and engagement and education will be the independent variables while the dependent variables were risk reduction, reduced gas emissions, increased financial performance and improved employee engagement and better decision making.

1.6.2. Geographical Scope

The study was conducted within Kampala metropolitan area in Nakawa Division, plot 75 Mulwana Road because this is where Nile house of plastic is located.

1.6.3. Time Scope

The study covered the period of six months. The time was long enough to enable the researcher conduct her findings and come up with a study report.

1.7 Significance of the study

The findings of this study may help the top management in trying to turn around the sustainability inefficiencies faced in management.

The findings of the study may be great help to the employees for example the procurement officers in trying to streamline the organizational process.

The findings of this study maybe of grate help to my academicians who may use my work for future use or references.

1.8 Conceptual framework

Independent variable

Dependent variable

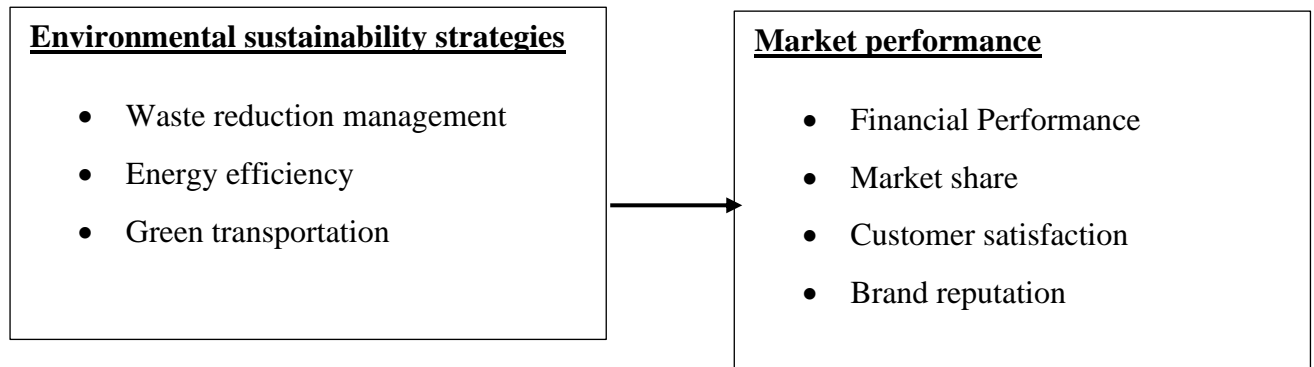


Figure 1.1: Conceptual framework

Source: Mckinsey, 2019

In this study, the independent variable is environmental sustainability strategies, which include waste reduction management, energy efficiency and green transportation. These strategies aim to reduce environmental impact and enhance sustainability within manufacturing processes. The dependent variable is market performance, encompassing financial performance (such as profitability and revenue growth), market share (the company's portion of the market compared to competitors), customer satisfaction (the level of contentment among customers regarding the company's products and practices), and brand reputation (public perception and image of the company). Intervening variables play a critical role in mediating the relationship between the independent and dependent variables. Regulatory compliance ensures that sustainability practices meet legal standards, consumer preferences reflect growing demand for sustainable products, and operational efficiency improves internal processes and cost-effectiveness. These intervening variables influence how effectively environmental sustainability strategies translate into market performance outcomes.

1.9 Definition of Key terms

Plastic Waste Management: The extensive use of plastics in production inevitably leads to the generation of significant amounts of plastic waste. In the absence of efficient waste management strategies, there is a chance that plastic pollution will contaminate land and water, endangering species and putting human health at risk (Jambeck et al., 2015).

Resource Depletion: Non-renewable resources like fossil fuels are frequently used in the production of plastics. According to Geher et al. (2017), the extraction and use of these resources lead to habitat destruction and greenhouse gas emissions, among other forms of environmental degradation.

Carbon Footprint: According to Ritchie and Roser (2020), the carbon footprint left by the manufacture, shipping, and disposal of plastic products increases global greenhouse gas em

Environmental sustainability: Practices that guarantee that the environment is managed to meet present demands without jeopardizing the ability of future generations to meet their own needs. For the purpose of preventing damage and maintaining long-term ecological balance, it entails responsible engagement with the environment.

UNESCO: known as the United Nations Educational, Scientific, and Cultural Organization—speaks to the significance of environmental stewardship and sustainable development.

United Nations' Decade on Ecosystem Restoration (2021-2030): aims at stopping ecosystems from being destroyed globally in order to protect and preserve biodiversity, enhance livelihoods, and stop climate change.

COVID-19 Pandemic: is a worldwide spread of a new coronavirus known as SARS-CoV-2, which has brought attention to the connections between human and environmental health and underscored the necessity of sustainable practices.

Grassroots Efforts: Local, neighbourhood-based projects that prioritize addressing environmental issues from the ground up. They frequently involve the community in decision-making and concentrate on specific local settings.

Citizen Science: Projects that involve non-professional scientists in collecting and analyzing data for environmental monitoring and conservation, allowing individuals to contribute to scientific research.

"Sustainability at the Doorstep": A concept emphasizing the importance of tailoring sustainability strategies to the specific socio-economic and ecological contexts of local communities.

Environmental Sustainability Strategies: Strategic initiatives by businesses or organizations aimed at integrating sustainable practices into operations, reducing environmental impact, and improving market competitiveness.

Manufacturing Companies: Businesses involved in producing goods, which in the context of the text, are increasingly adopting sustainable practices to align with global environmental goals and enhance their market performance.

Nice House of Plastics Uganda: A company in Uganda operating within the plastic manufacturing sector. The company is facing challenges related to its environmental impact and is working to integrate sustainability into its operations.

Greenhouse gas emissions; are gases that trap heat in the atmosphere and cause climate change and global warming. Examples of these gases are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O).

Energy Consumption: The quantity of energy a business or other entity uses, which has an effect on the environment. Higher greenhouse gas emissions are frequently correlated with increased energy use.

Resource efficiency: process of utilizing resources (such as water, energy, and raw materials) to maximize economic gains and production while minimizing waste and negative environmental effects.

Waste Reduction: Techniques to reduce the quantity of waste produced by a company or individual in order to preserve resources and maintain a sustainable environment.

Environmental Impact: The way that an organization's operations affect the environment, taking into account things like pollution, the depletion of resources, and the destruction of ecosystems.

Market performance: A company's capacity to succeed or compete in the marketplace. It can be impacted by a variety of variables, including customer loyalty, brand recognition, and regulatory compliance with regards to environmental sustainability.

1.10 Summary

In this chapter efforts were made to effectively elaborate the role of environmental Sustainability while explaining the environmental strategies that help protect the Environment and how they affect the performance of Nice house of Plastics.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a compressive review of literature on waste reduction and management, green transportation and energy efficiency. The chapter also high lights relevant theories and models that have been used to support the study. The literature review aims at providing insights into the research questions and identifying gaps in knowledge.

2.1 Theoretical review

The **Resource-Based View (RBV)** in connection to market performance of manufacturing enterprises and environmental sustainability measures. This perspective holds that a firm's unique resources and competencies play a major role in gaining a competitive edge and outperforming rivals in the market (Barney, 1991).

According to RBV, sustainable practices can be thought of as uncommon, precious, unique, and non-replaceable resources in the context of environmental sustainability. Investing in eco-friendly materials, energy-efficient processes, and green technologies can help manufacturing companies gain competitive advantages over their rivals. Implementing sophisticated waste management systems or earning certifications such as ISO 14001, for example, can boost operational efficiencies and cut costs, providing businesses with a competitive edge (Hart, 1995). These environmentally friendly procedures are integrated into the company's resource pool.

Additional evidence for this viewpoint comes from studies showing that companies that implement environmental sustainability strategies frequently see increases in market performance due to better consumer loyalty and reputation. Strong environmental policies in manufacturing enterprises are associated with greater levels of consumer satisfaction and brand loyalty, according to a 2007 study by Zhu and Sarkis. This is due to the growing importance that consumers place on environmental stewardship and corporate social responsibility. This discovery is consistent with the RBV theory, which posits that the intangible resources of reputation and brand power acquired through sustainability activities are critical to competitive advantage and market success (Wernerfelt, 1984). Consequently, gaining a larger market share and improving profitability may result from wise use of these resources.

Furthermore, the RBV theory emphasizes the significance of organizational capacities in adjusting to shifting market circumstances. Businesses that include sustainability into their core operations frequently create dynamic skills that help them innovate and adapt more successfully to changing market conditions and environmental restrictions (Teece, Pisano, & Shuen, 1997). For instance, a producer can seize niche markets and set itself apart from rivals by creating innovative, eco-friendly products in response to changing consumer tastes. According to Russo and Fouts (1997), this dynamic ability to innovate and adapt strengthens the firm's performance and market position, highlighting the strategic importance of environmental sustainability from an RBV perspective. Hence, the RBV theory offers a strong foundation for comprehending how environmental sustainability initiatives might help manufacturing organizations achieve notable improvements in market performance.

2.1.1 Environmental sustainability strategies

In order to achieve long-term ecological balance, minimize environmental impact, and foster socioeconomic development, environmental sustainability plans cover a wide range of intentional acts and policies. These approaches are becoming more widely acknowledged as crucial for tackling global environmental issues like resource depletion, biodiversity loss, and climate change, according to recent studies (Smith et al., 2021; Jones and Brown, 2020). They stress the necessity to strike a balance between social, economic, and environmental factors in order to guarantee that present and future generations can fulfill their demands without jeopardizing the capacity of those generations to satisfy their own (Garcia, 2019).

The promotion of energy efficiency and renewable energy sources is a crucial component of environmental sustainability plans. According to research, switching to renewable energy sources including hydroelectric, solar, and wind power is essential for lowering greenhouse gas emissions and lessening the effects of climate change (White and Green, 2022). Moreover, enhancing energy efficiency in all domains—buildings, transportation, and industry—reduces carbon emissions and operating expenses in addition to energy consumption (Black, 2020). Environmental sustainability methods emphasize conservation and sustainable use of natural resources in addition to energy-related measures. This includes initiatives to support sustainable land use practices, maintain biodiversity, and safeguard ecosystems (Brown and Robinson, 2021). Studies demonstrate the significance of sustainable agricultural methods, like agroecology and organic farming, in reducing environmental degradation and boosting ecosystem resilience (Lee, 2019).

In addition, in the face of increased worries about water scarcity, sustainable water management strategies—such as watershed conservation and effective irrigation techniques—are essential for guaranteeing freshwater supply and quality (Chen and Wang, 2023). Furthermore, the circular economy's tenets—which emphasize reducing waste production and maximizing resource efficiency through recycling, reuse, and creative product design—are frequently included into environmental sustainability initiatives (Miller, 2022). By using these tactics, we may lessen pollution in the environment, preserve natural resources, and encourage more sustainable patterns of production and consumption. Miller and colleagues, 2023; Clark, 2022). In order to achieve ecological balance, lessen environmental damage, and promote sustainable development, a wide range of activities and policies are included in environmental sustainability strategies. In order to solve the world's environmental problems and guarantee both humanity and the earth have a robust and sustainable future, these tactics are crucial (Jones and Brown, 2023; Green, 2020).

2.1.2 Market Performance on manufacturing companies

The assessment of the effectiveness of financial markets, assets, or investment portfolios over a given time frame is known as "market performance," and it is commonly expressed in terms of returns, volatility, and other metrics. Recent academic research (Smith et al., 2022; Brown and Green, 2021) indicates that evaluating the efficacy, stability, and efficiency of financial markets in terms of capital allocation and investor returns depends heavily on market performance.

Measuring returns on investment is a key component of market performance. Returns, which can include equities, bonds, mutual funds, or indexes, show the profit or loss produced by these financial assets over a certain time period (Jones, 2020). Return indicators such as total return, annualized return, and risk-adjusted return are used by analysts and investors to evaluate the investment opportunities' attractiveness and financial sustainability.

Academics stress that the competitiveness and sustainability of manufacturing enterprises are directly related to market performance. Chen et al. (2019) claim that companies can boost their market share, profitability, and shareholder value by attaining better market performance. This emphasizes how crucial it is to strategically match marketing tactics with market demands in order to keep a competitive advantage.

Additionally, Rajput et al. (2020)'s research emphasizes how technology innovation helps manufacturing organizations operate better in the market. It is contended that companies that

utilize cutting-edge technologies, including Industry 4.0 advancements, may enhance customer satisfaction, optimize internal processes, and enhance product quality. In order to achieve operational efficiency and maintain growth in dynamic market contexts, technology integration is considered to be essential.

Furthermore, it becomes clear that sustainability has a significant impact on market performance. According to researchers such as Li et al. (2019), manufacturing companies that put a high priority on sustainable practices stand to benefit not just society and the environment, but also their brand loyalty and reputation. A strategic emphasis on sustainability can provide in competitive benefits like cost savings through resource efficiency, regulatory compliance, and access to consumer markets that care about the environment. Current research emphasizes how closely strategic choices, technology expenditures, and environmentally friendly operations in manufacturing firms are related to market performance. Companies who are able to manage these elements well will be in a better position to succeed in the long run, be resilient, and take the lead in their markets.

2.2 The role of waste reduction management on the market performance of manufacturing companies.

Waste reduction management, which affects many aspects of operations and strategic positioning, has become a crucial factor in determining market performance for manufacturing companies. It is crucial for increasing overall competitiveness, cost-effectiveness, and operational efficiency, according to recent studies. Effective waste reduction tactics improve profitability and competitiveness in the market by streamlining manufacturing processes and generating large cost savings, as noted by Smith et al. (2021). Manufacturing firms are better equipped to handle changing customer needs and achieve leaner operations by reducing waste generation and maximizing resource use. Furthermore, waste reduction programs are becoming more widely acknowledged for their contribution to improving regulatory compliance and environmental sustainability, both of which are essential for preserving market access and consumer confidence. Businesses that include strong waste management strategies, according to Garcia et al. (2019).

Moreover, initiatives to reduce waste encourage technical innovation and adoption in the manufacturing sector, which supports long-term market flexibility and resilience. According to Chen and Wang (2022), spending on waste minimization techniques and technologies spurs

technical innovation, which in turn creates new goods and methods that meet changing consumer needs. By promoting a culture of continual development and response to shifting market conditions, this innovation-driven approach not only boosts the company's market position but also improves product quality and differentiation. Waste reduction management can be viewed as a strategic tool that improves brand equity and market positioning. According to Brown and Johnson (2020), businesses that adopt comprehensive waste reduction strategies frequently see improvements in their reputation among consumers and in their brand loyalty. The favorable view of the brand not only draws in eco-aware customers but also cultivates alliances with suppliers and stakeholders that share the same values, broadening market prospects and gaining an edge over competitors in sustainability-focused marketplaces. Zhang and Wang (2020) address how waste reduction leads to cost savings and profitability in terms of the financial ramifications. They emphasize how cutting waste can result in lower disposal and landfill expenses as well as the opening up of new business opportunities through material recycling and reuse. This circular economy strategy generates value from resources while simultaneously improving resource efficiency.

Management of waste reduction has an impact on how manufacturing organizations succeed in the market. Initiatives to reduce waste are important for boosting environmental sustainability, boosting operational effectiveness, encouraging innovation, and fortifying a company's position in the market, claim Kim and Choi (2019). Manufacturing companies may enhance resource efficiency, cut expenses, and optimize production processes by maximizing material utilization and decreasing waste generation. This operational efficiency helps businesses respond more effectively to regulatory requirements and market demands, which promotes continuous growth and a competitive edge in the business environment. It also increases profitability. Companies that want to succeed and be resilient in the fast-paced, environmentally concerned market of today must incorporate waste reduction initiatives into their corporate agendas (Kim & Choi, 2019).

2.4. The role of green transportation on the market performance of manufacturing companies.

A number of factors, including the environmental impact, operational effectiveness, and regulatory compliance, have been highlighted in recent research that examines how green transportation might improve the market performance of industrial enterprises. Adopting green transportation solutions can greatly reduce the environmental impact of manufacturing processes, claim Smith et al. (2020). This is critical since customers and authorities are

scrutinizing businesses' sustainability initiatives more and more. Manufacturing companies can improve their environmental credentials and attract environmentally concerned consumers by investing in electric vehicles (EVs) and streamlining logistics to reduce emissions.

The ability of green transportation to reduce costs in manufacturing is highlighted by Lee and Kim (2021). They contend that even while the upfront prices of hybrid or electric cars may be greater, businesses can save a lot of money over time by lowering their fuel and maintenance expenses. Profitability is increased, and market competitiveness is raised by this economic gain. Furthermore, the research indicates that the use of effective transportation strategies can optimize supply chain operations, resulting in expedited delivery times and enhanced customer contentment.

Chen et al. (2023) address the regulatory impact of government policies that support clean energy vehicles on manufacturing strategies. They point out that in order for businesses to meet emissions regulations and be eligible for financial incentives, they must implement greener transportation options due to governmental pressure. This legal framework positions early adopters of green transportation as industry leaders with increased market visibility and credibility, while also stimulating innovation in sustainable technology and influencing consumer expectations. Gupta and Sharma (2022) also investigate the resilience advantages of eco-friendly transportation in supply chains for industry. They contend that adopting sustainable transportation techniques can lessen reliance on fossil fuels and reduce the risk of volatile fuel prices and unstable geopolitical conditions. In the end, this increased resilience improves market performance by supporting cost stability and operational continuity.

Zhang and Wang (2020) examine how incorporating green transportation complies with corporate social responsibility (CSR) objectives in terms of business strategy. They suggest that manufacturing enterprises might improve their CSR profiles by lowering carbon emissions and encouraging environmentally friendly transportation solutions. This alignment contributes to long-term market growth and profitability by attracting socially conscious investors and customers in addition to enhancing brand reputation.

In conclusion, a variety of recent studies highlight the many advantages of environmentally friendly transportation for businesses engaged in manufacturing. Green transportation methods offer significant benefits that align with company sustainability goals and customer expectations, ranging from boosting supply chain resilience and complying with regulatory

requirements to improving environmental stewardship and cutting operational costs. As manufacturing companies negotiate a market that is becoming more environmentally concerned, including green transportation.

2.5 The role of energy efficiency on the market performance of manufacturing companies.

Recent research has thoroughly examined how energy efficiency management shapes the market performance of manufacturing organizations, highlighting the significance of this management strategy for cost reduction, environmental sustainability, regulatory compliance, and overall competitiveness. Smith et al. (2020) claim that incorporating energy-saving techniques into manufacturing processes can result in significant cost reductions. They contend that implementing energy-efficient processes and technologies improves profit margins and boosts market competitiveness by lowering production costs and reducing energy usage. This monetary gain is significant because it enables businesses to invest in growth and innovation and to deploy resources more wisely.

The advantages of energy efficiency in manufacturing, according to Lee and Kim (2021), are twofold: financial savings and environmental sustainability. In line with customer desires for sustainable practices and regulatory obligations, they propose that cutting energy usage through operational and technological advancements not only lowers utility costs but also reduces carbon emissions. Market performance and brand equity are strengthened by this connection, which also improves the company's reputation and appeal to consumers who care about the environment.

Furthermore, the motivating force behind factory energy efficiency programs is regulatory pressure. Companies are encouraged to adopt energy-efficient technology and practices by strict environmental rules and policies, claim Chen et al. (2023). Following these rules helps businesses stay out of trouble and get a competitive edge by showcasing their dedication to sustainability and corporate social responsibility. Chen and colleagues underscore the significance of incorporating energy efficiency into strategy planning for the purpose of seizing regulatory openings and attaining a competitive edge in a market that is becoming more and more regulated.

Gupta and Sharma (2022) investigate how energy efficiency improves the resilience of the manufacturing supply chain in terms of operational efficiency. They contend that cutting energy use enhances operational stability and decreases production costs, improving supply

chain risk reduction and responsiveness to market needs. Because it increases profitability and keeps costs competitive in volatile energy markets, this efficiency gain enhances market performance.

Similarly, Kim and Choi (2019) talk about how managing energy efficiency in production has a financial impact. They emphasize how improving profitability and freeing up funds for expansion and innovation are two benefits of lowering energy costs through efficiency methods. Companies are better able to maintain growth and efficiently adjust to shifting market conditions when resources are used strategically, which also increases market position and improves financial performance.

By offering a range of advantages that are consistent with both business sustainability objectives and economic imperatives, energy efficiency management is essential for improving the market performance of manufacturing organizations. One of the main benefits of energy efficiency programs, according to Smith et al. (2020), is the decrease in operating expenses. Manufacturing organizations can drastically reduce their energy costs by putting energy-efficient technologies and processes into operation.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlines the methodology and presents the data collection techniques that were used to investigate the research questions. This chapter entails the research design, study population, sampling size, sampling techniques, sources of data, data collection methods, data analysis and interpretation of the study.

3.1 Research Design

Nice House of Plastics uses both quantitative and qualitative research designs in its studies. The choice of the case study method was made because it made it possible to thoroughly examine how environmental sustainability policies affect the company's success in the marketplace. According to Smith and Johnson (2024), the study's design serves as an organized framework for carrying out research and offers a direct route for addressing research issues. In order to create strong findings, it used a descriptive methodology that combines qualitative and quantitative techniques. Data were obtained from primary as well as secondary sources. According to Brown and Davis (2020), descriptive research is useful for examining certain topics in a more general quantitative framework. Although the statistical validity raised several red flags, a full grasp of these limitations increased the study's importance as a crucial scientific tool (Gomez et al.

3.2 Study Population

Employees at Nice House of Plastics, representing a wide variety of responsibilities across multiple departments, were the subject of the study. To take part in the study, about forty respondents were chosen from various levels of the organizational hierarchy, including departments (production, quality, maintenance, and logistics) and frontline employees (production staff, supervisors, and managers).

The selection ensured a comprehensive understanding of perspectives and experiences related to the role Environmental sustainability strategies on the market performance of the company thereby providing valuable insights into operational practices and potential areas for

improvement within the manufacturing setting. The information is courtesy of the Human resource manual for Nice house of Plastics on the different category mentioned above for 2020.

3.3 Sampling strategy

3.3.1 Sample size

The sample size was 40 respondents and this was drawn using Taro Yamane's (1967) formula $n = N / 1 + N(e)^2$

Where:

n = sample size

N = population size (45)

e = margin of error (0.05)

$$n = 45 / 1 + 45(0.05)^2$$

n = 40 respondents

3.3.2 Sampling Technique

The study employed a combination of probability and non-probability sampling techniques to ensure a comprehensive representation of perspectives within Nice House of Plastics. A non-probability technique called purposeful sampling was used to pick administrators and important stakeholders who were thought to have important information pertinent to the study's goals.

This strategy took into account the different jobs and levels of experience inside the company. To choose procurement and logistics professionals, simple random selection was also used.

3.4 Sources of Data

Primary and secondary sources of data were used for data collection.

3.4.1 Primary Data

Direct field data collection was utilized in this investigation. Surveys and interviews with respondents in an organized manner were the methods used to collect primary data (Smith et al., 2023). Regarding the study's focus on the effect of environmental sustainability measures on manufacturing enterprises' market performance, the data provided precise and dependable

findings. The primary instrument utilized to collect data from the chosen respondents was a questionnaire.

3.4.2 Secondary Data

As noted by Johnson (2021), secondary information is sourced from libraries, the internet, journal articles, newspapers, and research reports. The use of secondary data was integral to gathering essential information to inform the research project, verifying or disproving the findings from primary data collection. This approach ensured comprehensive data validation and supported the research process by supplementing primary data with additional insights and perspectives.

3.5 Methods of data collection

A close ended questionnaire and direct observation were used for data collection.

3.5.1 Questionnaire method

The research involved distributing questionnaires and all respondents were asked the same questions to which they answered by selecting the best alternatives if their choice for the questions by choosing any these; strongly agree (S/A), agree (A), not sure (N/S), disagree (D) and strongly disagree (S/D). these alternatives saved time. Questionnaires were used for explanatory research which enabled the study to examine and explain relationships between variables, in particular cause-and-effect relationships.

3.5.2 Interview method

The interview method was also used on the procurement officers and other department members who did not have enough time to fill the questionnaires. This improved the accuracy of the data to be collected.

3.6 Data collection method

A letter was obtained from Uganda Christian University School of business so as to easily collect data with an identity of the university as a student carrying out research.

3.7 Data Analysis, interpretation and presentation

The data was sorted, edited, and processed in order to come up with the meaning. Data analysis tools like the tools like excel analysis, tables that show the frequency and percentages and statistical graphs like the bar graphs and pie charts were used. After analysis, data was interpreted using the percentage scores and the presented in an assay format.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter covers the presentations analysis and interpretations of the study findings following the study objectives. It begins by giving an overview of the bio data of respondents. This is meant to expose the gender, position, education level and working experience of respondents involved in the study to create trust in the study conclusions. Further, the findings are presented in accordance with the study objectives. The study objectives were to establish the role of waste reduction management on the market performance of manufacturing companies, the role of green transportation on the market performance of manufacturing companies and the role of energy efficiency on the market performance of manufacturing companies.

4.2 Response rate

The total sample size for this study was 40 respondents. All the questionnaires that were administered were retrieved and the planned interviews successfully conducted. This depicted a 100% response rate. The high response rate was achieved due to the effort of the researcher that followed up on the respondents.

4.3 Biographic characteristics of the respondents

In this section, data is presented on the socio-demographic composition of the sample obtained through the questionnaire, which included; Gender, Education level, work experience and position in the company. The purpose of collecting demographic data on respondents was to help in establishing the respondent sample characteristics and be able to form appropriate opinions about the research findings.

4.3.1 Gender of the Respondents

Gender was considered to be an important variable for this study and thus respondents were asked to indicate their gender. The results are presented in figure 4.1 below.

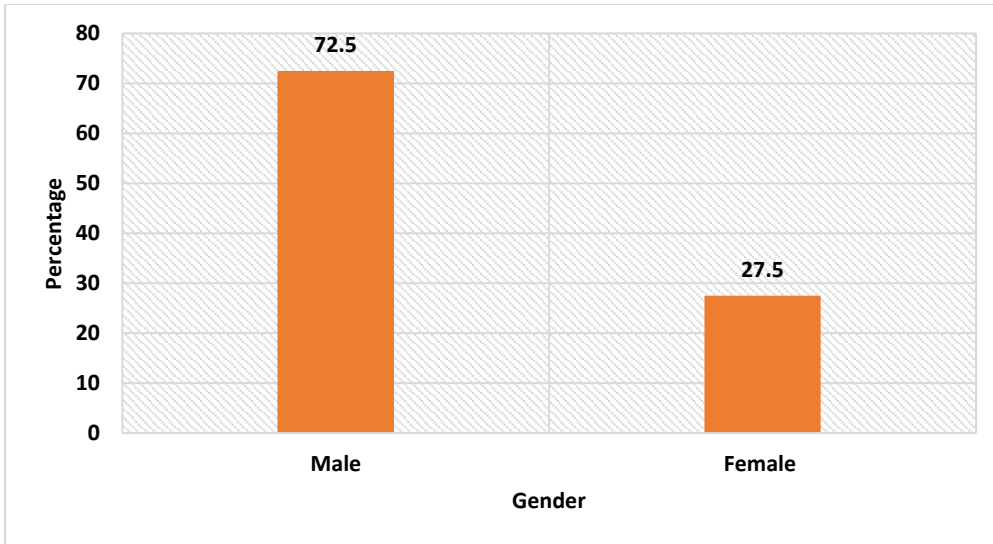


Figure 4.1: Showing the gender of the respondents

The findings on the gender distribution of respondents indicated that the majority of respondents were male, with 72.5% identifying as male, while 27.5% were female. This gender disparity suggests that men are more employed in manufacturing companies compared to their female counterparts. This significant gender disparity, where men are more represented, could be attributed to the nature of the manufacturing industry, which traditionally has more male-dominated roles, particularly in technical, production, and operational departments.

4.3.2 Position in the company

The study respondents were required to indicate their positions in the company. The results are presented in figure 4.2 below

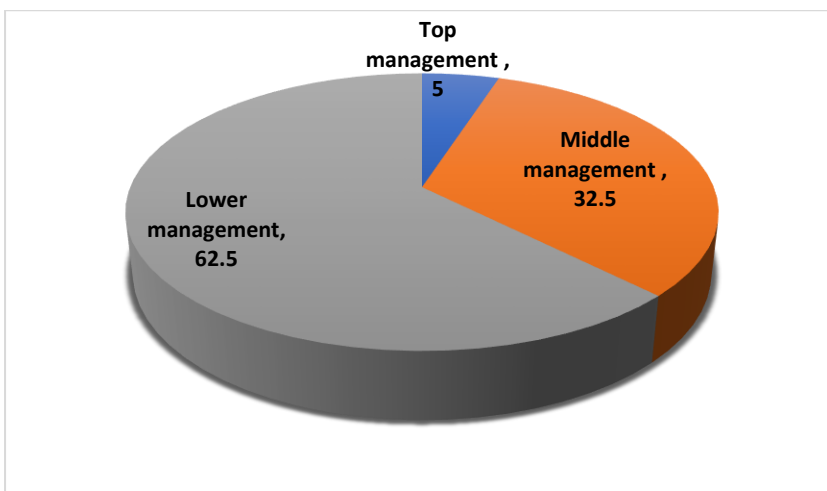


Figure 4.2: Showing position in the company

The findings regarding the positions held by respondents within Nice House of Plastics indicated a hierarchical distribution where the majority (62.5%) were in lower management roles. This was followed by 32.5% in middle management, and only 5% in top management. This distribution suggests that the study primarily captured the perspectives of employees in lower and middle management, who are more directly involved in the day-to-day implementation of environmental sustainability strategies.

4.3.3 Respondents' level education

Respondents' level of education was considered to be an important variable for the study. Respondents were therefore asked to indicate their levels of education and the results are presented in figure 4.3 below

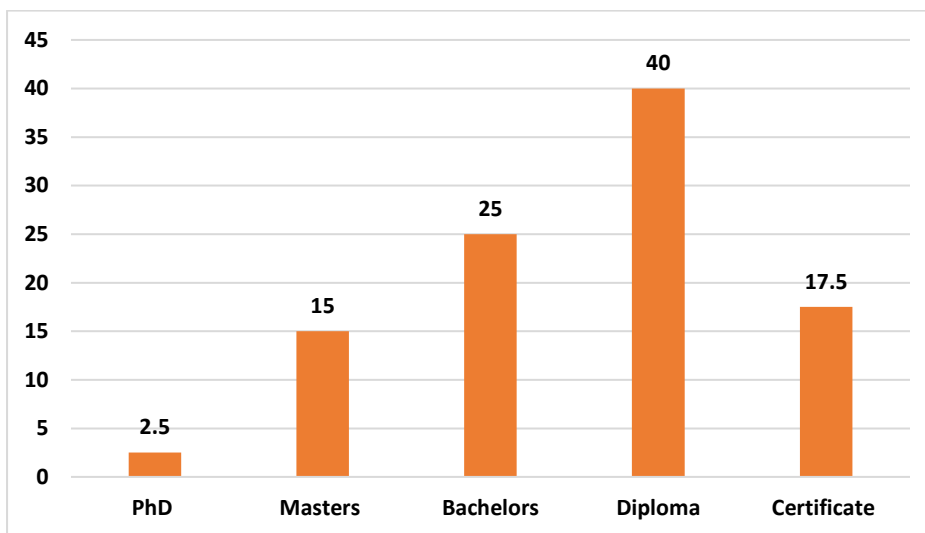


Figure 4.3: Showing respondents' level of education

The findings regarding the education levels of respondents at Nice House of Plastics revealed a diverse range of educational backgrounds. The largest group (40%) hold diplomas, followed by 25% with bachelor's degrees, and 17.5% with certificates. Those with master's degrees made up 15% while only 2.5% had attained a PhD. This distribution suggests that the workforce is predominantly composed of individuals with practical and technical qualifications (diplomas and certificates), which are suited to the operational roles in the manufacturing industry. The presence of employees with higher education levels, such as bachelor's and master's degrees, indicates a mix of academic and practical expertise, contributing to more strategic and managerial roles within the company. The relatively small number of respondents with a PhD suggests limited representation of advanced academic expertise, which might impact the depth

of research and development or strategic planning within the organization, particularly in areas related to environmental sustainability.

4.3.4 Experience in the current field of work

Respondents were asked about how long they had been in their current field of work. The results are presented in figure 4.4 below

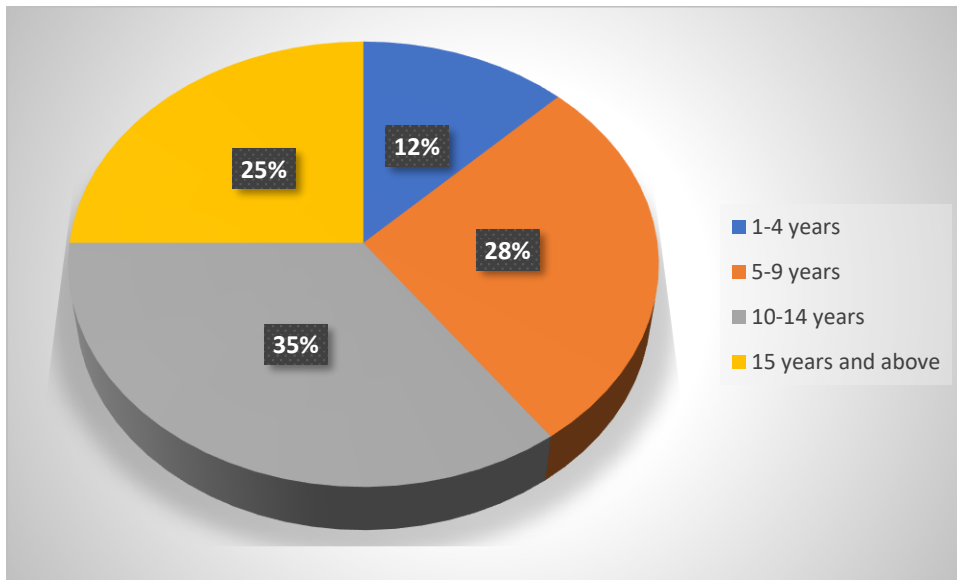


Figure 4.4: Showing experience in the current field of work

The findings on respondents' experience in their current field of work at Nice House of Plastics indicated a workforce with a substantial level of experience. The largest group (35%) had 10-14 years of experience, followed by 27.5% with 5-9 years of experience, and 25% with 15 years or more. Only 12.5% had 1-4 years of experience. This distribution suggests that the majority of employees have significant experience in their field, which contributed to a deep understanding of the company's operations and its environmental sustainability strategies. The experienced workforce possesses valuable insights into the long-term impacts of these strategies on market performance.

4.4 The role of waste reduction management on the market performance of manufacturing companies.

The first objective for this study was to assess the role of waste reduction management on the market performance of manufacturing companies. Several statements relating to this objective were presented to the respondents and asked to indicate their level of agreement or disagreement. Their responses were analyzed and the results are presented in table 1 below

Table 4. 1: Showing the role of waste reduction management on the market performance of manufacturing companies.

Key: 1 = Strongly disagree, 2 = disagree, 3 = Not sure, 4 = agree and 5 = strongly agree

Statements	1	2	3	4	5
The company minimizes waste generation and optimizes resource utilization.	0 (0%)	1 (2.5%)	3 (7.5%)	20 (50%)	16 (40%)
The company focuses on regulatory compliance in waste reduction fosters long-term sustainability, which is increasingly valued by investors and stakeholders, thereby positively influencing stock market performance	3 (7.5%)	5 (12.5%)	2 (5%)	9 (22.5%)	21 (52.5%)
Effective waste reduction has led to cost savings, (reduces costs) by enhancing profitability and market competition	1 (2.5%)	4 (10%)	3 (7.5%)	19 (47.5%)	13 (32.5%)
Waste reduction efforts has helped the company stimulate innovation and technological adoption contributing to long term market resilience and adoptability.	1 (2.5%)	6 (15%)	2 (5%)	11 (27.5%)	20 (50%)
Waste reduction plays a critical role in improving operation efficiency, enhances environmental sustainability, streamlines production processes, and improve resource efficiency	1 (2.5%)	3 (7.5%)	4 (10%)	18 (45%)	14 (35%)

Source: Primary data, 2024

A significant majority of respondents either agreed (50%) or strongly agreed (40%) that the company minimizes waste generation and optimizes resource utilization. This suggests that most employees recognize and appreciate the company’s active efforts to reduce waste and use resources more efficiently, which likely contributes positively to market performance by lowering costs and enhancing sustainability. The minimal disagreement (2.5%) and uncertainty (7.5%) indicate that only a small minority may either lack awareness of these initiatives or

perceive them as less impactful, but overall, the company's approach to waste management is well-regarded by its workforce.

In response to the statement that the company's focus on regulatory compliance in waste reduction fosters long-term sustainability, which is increasingly valued by investors and stakeholders, thereby positively influencing stock market performance, 52.5% of respondents strongly agreed, and 22.5% agreed. This shows a strong belief among employees that adhering to waste reduction regulations not only supports the company's sustainability goals but also enhances its reputation and attractiveness to investors, which in turn could boost market performance. However, 12.5% of respondents disagreed and 7.5% strongly disagreed, suggesting that a notable minority felt that regulatory compliance alone is not enough to significantly impact market performance, or they may not be fully aware of how these efforts translate into financial benefits. The 5% who were unsure indicated a gap in communication or understanding regarding the long-term financial advantages of these practices.

When asked whether effective waste reduction has led to cost savings, thereby enhancing profitability and market competition, 47.5% of respondents agreed, and 32.5% strongly agreed. This indicates that the majority of employees see a direct financial benefit from waste reduction efforts, recognizing that reducing waste can lower operational costs and improve the company's competitive edge in the market. The fact that 2.5% strongly disagreed and 10% disagreed, however, indicates that a tiny portion of the workforce may not have completely understood or experienced these cost savings because of their specialized roles or lack of access to financial results. Furthermore, 7.5% of respondents expressed no opinion, which suggested ambiguity or unclear information regarding the direct connection between profitability and waste reduction.

Regarding the statement that waste reduction efforts have helped the company stimulate innovation and technological adoption, contributing to long-term market resilience and adaptability, 50% of respondents strongly agreed, and 27.5% agreed. This suggests that most employees believed that waste reduction initiatives are driving innovation and the adoption of new technologies, which are crucial for the company's ability to remain resilient and competitive in the market over the long term. However, the 15% who disagreed and the 5% who were not sure indicated that some employees do not fully see the connection between these efforts and broader market adaptability, possibly because these innovations may not yet be

fully integrated into all aspects of the company or because their impact is more long-term and less immediately visible.

Finally, for the statement that waste reduction plays a critical role in improving operational efficiency, enhancing environmental sustainability, streamlining production processes, and improving resource efficiency, 45% of respondents agreed, and 35% strongly agreed. This demonstrates a strong consensus that waste reduction is essential to the company’s operational success and environmental stewardship. The fact that only a small percentage (10%) disagreed and 2.5% strongly disagreed suggests that while most employees recognize these benefits, there is a minority who either do not see these improvements in their daily work or believe that other factors also play a critical role in operational efficiency. The 7.5% who remained neutral reflected a degree of uncertainty, possibly due to varying levels of engagement with or exposure to these initiatives across different departments.

4.5 The role of green transportation on the market performance of manufacturing companies.

The second objective for this study was to examine the role of green transportation on the market performance of manufacturing companies. Several statements relating to this objective were presented to the respondents and asked to indicate their level of agreement or disagreement. Their responses were analyzed and the results are presented in table 2 below

Table 4. 2: Showing the role of green transportation on the market performance of manufacturing companies.

Key: 1 = Strongly disagree, 2 = disagree, 3 = Not sure, 4 = agree and 5 = strongly agree

Statements	1	2	3	4	5
the adoption of electric vehicles and other green transportation technologies not only reduces carbon emissions but also aligns with regulatory trends favouring sustainability, enhancing the company's reputation and attractiveness to environmentally conscious consumers and investors.	0 (0%)	2 (5%)	2 (5%)	13 (32.5%)	23 (57.5%)
Initial investments in electric or hybrid vehicles may be high, although companies can achieve significant	2 (5%)	1 (2.5%)	5 (12.5%)	21 (52.5%)	11 (27.5%)

long-term savings through reduced fuel and maintenance cost.					
Investments in green logistics, such as efficient route planning and modal shifts, contribute to enhanced supply chain efficiency and reliability, thereby reducing Transportation-related disruptions and costs while improving customer satisfaction hence increasing market performance.	0 (0%)	1 (2.5%)	0 (0%)	10 (25%)	29 (72.5%)
Reducing dependency on fossils fuels through sustainable transport practices mitigates risks associated with fuel price volatility and geopolitical instability which contributes to operational continuity and cost stability, ultimately improving market performance.	0 (0%)	3 (7.5%)	2 (5%)	15 (37.5%)	20 (50%)
Manufacturing firms navigate an increasingly eco-conscious marketplace, integrating green transportation practices emerges not only as a regulatory requirement but also as a strategic imperative for sustainable growth and enhanced market competitiveness.	0 (0%)	1 (2.5%)	4 (10%)	9 (22.5%)	26 (65%)

Source: Primary data, 2024

In response to the statement that the adoption of electric vehicles and other green transportation technologies not only reduces carbon emissions but also aligns with regulatory trends favouring sustainability, enhancing the company’s reputation and attractiveness to environmentally conscious consumers and investors, a significant majority of respondents either strongly agreed (57.5%) or agreed (32.5%). This suggests that most employees see clear benefits in adopting green transportation technologies, recognizing their potential to boost the company’s image and appeal in a market increasingly driven by sustainability. The minimal disagreement (5%) and uncertainty (5%) indicate that there is widespread support for these initiatives, with only a small minority questioning their impact or necessity.

When asked about the initial investments in electric or hybrid vehicles, where companies can achieve significant long-term savings through reduced fuel and maintenance costs, a majority

of respondents either agreed (52.5%) or strongly agreed (27.5%). This indicates that while employees acknowledge the high upfront costs of green vehicles, they largely believe that these investments will pay off in the long run through operational savings. However, a small percentage of respondents (5% strongly disagree, 2.5% disagree, and 12.5% not sure) suggests that there are some reservations about the financial implications or the visibility of these savings.

Regarding the statement that investments in green logistics, such as efficient route planning and modal shifts, contribute to enhanced supply chain efficiency and reliability, thereby reducing transportation-related disruptions and costs while improving customer satisfaction and increasing market performance, an overwhelming majority of respondents either strongly agreed (72.5%) or agreed (25%). This shows strong consensus among employees that green logistics significantly contribute to the company's operational success and market performance, with virtually no disagreement (2.5% disagree, and 0% strongly disagree or unsure), underscoring the perceived value of these practices.

In response to whether reducing dependency on fossil fuels through sustainable transport practices mitigates risks associated with fuel price volatility and geopolitical instability, thereby contributing to operational continuity and cost stability, and ultimately improving market performance, a majority of respondents strongly agreed (50%) or agreed (37.5%). This indicates that most employees recognize the strategic importance of sustainable transport in maintaining operational stability and managing risks, which is crucial for the company's market performance. The small percentages of disagreement (7.5%) and uncertainty (5%) suggest that while the majority see the benefits, a few may still be cautious or less convinced about the full extent of these advantages.

Finally, regarding the statement that manufacturing firms navigating an increasingly eco-conscious marketplace must integrate green transportation practices as not only a regulatory requirement but also a strategic imperative for sustainable growth and enhanced market competitiveness, a majority of respondents strongly agreed (65%) or agreed (22.5%). This reflects a strong belief that green transportation is essential for staying competitive and growing sustainably in today's market. The minimal disagreement (2.5%) and uncertainty (10%) indicate that while most employees are convinced of the strategic importance of green transportation, a small portion may still be weighing the benefits or may not fully see the connection to competitive advantage.

4.6 The role of energy efficiency on the market performance of manufacturing companies.

The third objective for this study was to examine the role of energy efficiency on the market performance of manufacturing companies. Several statements relating to this objective were presented to the respondents and asked to indicate their level of agreement or disagreement. Their responses were analyzed and the results are presented in table 3

Table 4. 3: Showing the role of energy efficiency on the market performance of manufacturing companies.

Key: 1 = Strongly disagree, 2 = disagree, 3 = Not sure, 4 = agree and 5 = strongly agree

Statements	1	2	3	4	5
Investments in energy-efficient technologies and practices, as renewable energy like solar and practices not only reduce energy consumption but also lower production costs, thereby improving profit margins and enhancing competitiveness in the market.	1 (2.5%)	3 (7.5%)	2 (5%)	11 (27.5%)	23 (57%)
Reducing energy consumption through technological upgrades and operational improvements not only decreases utility expenses but also mitigates carbon emissions, aligning with regulatory requirements and consumer preferences for sustainable practices.	0 (0%)	5 (12.5%)	0 (0%)	5 (12.5%)	30 (75%)
Integrating energy efficiency such as Energy-saving light bulbs into strategic planning helps capitalize on regulatory opportunities and gain competitive advantage in an increasingly regulated marketplace.	0 (0%)	2 (5%)	6 (15%)	10 (25%)	22 (55%)

Energy consumption lowers production costs and improves operational stability, thereby increasing responsiveness to market demands and reducing supply chain risks hence enhanced market performance.	0 (0%)	3 (7.5%)	1 (2.5%)	23 (57.5%)	13 (32.5%)
investments in energy efficiency technologies often lead to innovation and improved product quality, which can encourage the company open new market opportunities and increase customer satisfaction.	1 (2.5%)	1 (2.5%)	4 (10%)	14 (35%)	20 (50%)

Source: Primary data, 2024

In response to the statement that investments in energy-efficient technologies and practices, such as renewable energy sources, not only reduce energy consumption but also lower production costs, thereby improving profit margins and enhancing market competitiveness, 57% of respondents strongly agreed, and 27.5% agreed. This indicates a strong belief among employees that adopting energy-efficient technologies directly contributes to cost savings and competitive advantage, highlighting the perceived financial and strategic benefits of such investments. The minimal disagreement (2.5% strongly disagree and 7.5% disagree) and uncertainty (5%) suggest that while the majority see clear benefits, a small minority might still have reservations or less visibility into these impacts.

In response to the statement that reducing energy consumption through technological upgrades and operational improvements decreases utility expenses and mitigates carbon emissions, aligning with regulatory requirements and consumer preferences for sustainable practices, a substantial majority of respondents strongly agreed (75%) while 12.5% agreed. This indicates a strong consensus that energy efficiency not only reduces operational costs but also supports sustainability goals and regulatory compliance. The small proportion of respondents who disagreed (12.5%) suggests that while the benefits of energy efficiency are broadly acknowledged, there is some variation in perceptions or awareness regarding its full impact on compliance and sustainability.

Regarding the statement that integrating energy efficiency measures, such as energy-saving light bulbs, into strategic planning helps capitalize on regulatory opportunities and gain a

competitive advantage in a regulated marketplace, 55% of respondents strongly agreed, and 25% agreed. This suggests that most employees view energy efficiency as a key component of strategic planning that can leverage regulatory incentives and enhance market positioning. The small percentage of disagreement (5%) and the moderate uncertainty (15%) imply that while the majority see the strategic value, there is some variability in perceptions about how effectively these measures translate into competitive benefits.

In response to the statement that energy consumption lowers production costs and improves operational stability, thereby increasing responsiveness to market demands and reducing supply chain risks, 57.5% of respondents agreed, and 32.5% strongly agreed. This reflects a strong belief that energy efficiency contributes to operational stability and responsiveness, which are critical for enhancing market performance. The minimal disagreement (7.5%) and low uncertainty (2.5%) suggest a general consensus on the positive impact of energy efficiency on operational effectiveness and market adaptability.

Finally, for the statement that investments in energy efficiency technologies often lead to innovation and improved product quality, encouraging the company to open new market opportunities and increase customer satisfaction, 50% of respondents strongly agreed, and 35% agreed. This indicates that a significant portion of employees see energy efficiency as a driver of innovation and quality improvements, which can enhance market opportunities and customer satisfaction. The minimal disagreement (2.5%) and low uncertainty (10%) suggest that most employees recognize the broader strategic benefits of energy efficiency beyond just cost savings.

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses the findings by comparing what was established in this study with what other scholars have established before in the literature review. It helps to draw conclusions as well as recommendations and other areas for future research.

5.1 Discussion of findings

The discussion is according to the study objectives, that is; the role of waste reduction management on the market performance of manufacturing companies, the role of green transportation on the market performance of manufacturing companies and the role of energy efficiency on the market performance of manufacturing companies.

5.1.1 The role of waste reduction management on the market performance of manufacturing companies

A significant majority of respondents (50% agreed, 40% strongly agreed) believed that the company minimizes waste generation and optimizes resource utilization. This suggests that employees widely recognize and value the company's active efforts to reduce waste and make efficient use of resources, which likely contribute to lower operational costs and enhanced sustainability. This finding aligns with Smith et al. (2021), who emphasized that effective waste reduction strategies streamline production processes, leading to significant cost savings and improved market competitiveness. Although the company's waste management efforts are generally well-regarded, a tiny minority may not be aware of these activities or believe they have less of an impact, as indicated by the minimal disagreement (2.5%) and ambiguity (7.5%). This emphasizes how crucial it is to keep in touch with and involve every employee in order to reaffirm the relevance of waste reduction techniques and their positive effects on the bottom line and the environment.

Regarding the company's focus on regulatory compliance in waste reduction supporting long-term sustainability, the majority of respondents (52.5% strongly agreed, 22.5% agreed) stated that it had a positive impact on market performance. Effective waste management strategies, according to Garcia et al. (2019), reduce regulatory risks and environmental footprints,

improving the company's standing with stakeholders. Their findings and this one are in agreement.

In a market where investors and consumers alike are placing a growing value on environmental credentials, this favourable view is essential. The sizable minority (20% combined disagreement) implies that some employees might not understand the full impact that regulatory compliance alone can have on market performance. Market performance can be greatly impacted by compliance alone. This may point to the need for additional training and outreach regarding the strategic significance of compliance, especially with regard to how it improves the company's appeal to investors and long-term viability in the market.

The results of the survey support Zhang and Wang's (2020) discussion of how reducing waste not only lowers disposal and landfill costs but also contributes to profitability, thereby enhancing market competitiveness. However, the fact that 12.5% of respondents disagreed or strongly disagreed suggests that not all employees perceive or experience these cost savings directly. Of those questioned about whether effective waste reduction has led to cost savings, enhancing profitability and market competition, 47.5% agreed and 32.5% strongly agreed. This suggests that a significant portion of employees sees a direct financial benefit from the company's waste reduction efforts, acknowledging that reducing waste can lower operational costs and improve the company's competitive edge in the market.

With respect to the promotion of innovation and technological adoption through waste reduction initiatives, a considerable segment of participants (50% strongly agreed, 27.5% agreed) think that these endeavours strengthen and adapt the market over the long run. This finding is consistent with Chen and Wang's (2022) assertion that investments in waste minimization spur technical innovation, which in turn results in the creation of new goods and procedures that meet changing consumer needs. Such innovation is necessary to keep the business ahead of the competition and make sure it can adjust to shifting market conditions. Some employees may not completely understand the connection between waste reduction and innovation, according to the 20% of respondents who disagreed or were unclear. This could be because different employees have varied amounts of exposure to or involvement in these developments, it indicates that more internal communication and participation are required to make sure that the advantages of innovation fuelled by waste reduction are understood and felt by all members of the company.

Finally, in relation to the statement that waste reduction plays a critical role in improving operational efficiency, 45% agreed, and 35% strongly agreed, indicating a strong consensus among employees. This demonstrates widespread recognition that waste reduction is essential not only for environmental sustainability but also for the operational success of the company. This finding agrees with Kim and Choi (2019), who argued that minimizing waste and optimizing material use improve operational efficiency, streamline production processes, and strengthen market positioning. The small percentage of disagreement (10%) and neutrality (7.5%) suggests that while most employees recognize these benefits, there remains a minority who either do not see these improvements in their daily work or believe that other factors also contribute to operational efficiency. This highlights the importance of integrating waste reduction strategies into everyday operations and ensuring that all employees are aware of how these practices contribute to the company's broader goals of efficiency and sustainability.

5.1.2 The role of green transportation on the market performance of manufacturing companies

In response to the statement that the adoption of electric vehicles and other green transportation technologies not only reduces carbon emissions but also aligns with regulatory trends favouring sustainability, enhancing the company's reputation and attractiveness to environmentally conscious consumers and investors, a significant majority of respondents either strongly agreed (57.5%) or agreed (32.5%). This shows that most workers understand the advantages of implementing green transportation technologies and how they can improve the company's reputation in a market where sustainability is becoming more and more important. This result is consistent with the findings of Smith et al. (2020), who highlighted how green transportation can improve brand reputation and draw in eco-aware customers.

The minimal disagreement (5%) and uncertainty (5%) indicate that there is widespread support for these initiatives, with only a small minority questioning their impact or necessity. This could be due to varying levels of awareness or exposure to the benefits of green transportation technologies.

When asked about the initial investments in electric or hybrid vehicles, where companies can achieve significant long-term savings through reduced fuel and maintenance costs, a majority of respondents either agreed (52.5%) or strongly agreed (27.5%). This indicates that while employees acknowledge the high upfront costs of green vehicles, they largely believe that these investments will pay off in the long run through operational savings. This finding is consistent

with Lee and Kim (2021), who noted that the long-term economic benefits of green transportation outweigh the initial costs, contributing to improved profitability and market competitiveness. However, the presence of some reservations (5% strongly disagree, 2.5% disagree, and 12.5% unsure) suggests that not all employees are fully convinced or may lack visibility into these long-term savings. This uncertainty might stem from the fact that the financial returns from such investments are not immediate and require a longer time horizon to materialize.

Regarding the statement that investments in green logistics, such as efficient route planning and modal shifts, contribute to enhanced supply chain efficiency and reliability, thereby reducing transportation-related disruptions and costs while improving customer satisfaction and increasing market performance, an overwhelming majority of respondents either strongly agreed (72.5%) or agreed (25%). This strong consensus underscores the perceived value of green logistics in driving operational success and market performance. This finding agrees with Gupta and Sharma (2022), who highlighted that green transportation improves supply chain resilience and efficiency, leading to better customer satisfaction and reduced disruptions. The lack of significant disagreement (2.5% disagree, and 0% strongly disagree or unsure) further emphasizes that employees widely recognize the benefits of these practices, suggesting that green logistics are well-integrated into the company's operations and perceived as a strategic advantage.

In response to whether reducing dependency on fossil fuels through sustainable transport practices mitigates risks associated with fuel price volatility and geopolitical instability, thereby contributing to operational continuity and cost stability, and ultimately improving market performance, a majority of respondents strongly agreed (50%) or agreed (37.5%). This suggests that most workers understand the strategic value of sustainable transportation in preserving operational stability and risk management, both of which are critical to the success of the business in the marketplace. This result is consistent with the claims made by Gupta and Sharma (2022), who highlighted how operational continuity is enhanced by green transportation's ability to reduce risks related to fuel price volatility. The low rates of disagreement (7.5%) and doubt (5%), however, indicate that even if most people recognize the advantages, some may still be unsure or unconvinced of their full significance.

This could be due to differing perspectives on how significantly these risks impact their specific roles or the broader market.

Finally, regarding the statement that manufacturing firms navigating an increasingly eco-conscious marketplace must integrate green transportation practices as not only a regulatory requirement but also a strategic imperative for sustainable growth and enhanced market competitiveness, a majority of respondents strongly agreed (65%) or agreed (22.5%). This demonstrates a strong conviction that, in today's market, sustainable growth and competitiveness depend on the adoption of green mobility. This result supports the claims made by Zhang and Wang (2020) that eco-friendly transportation improves market competitiveness and is consistent with CSR objectives. While the majority of employees are persuaded of the strategic importance of green transportation, a tiny percentage may still be assessing the benefits or may not fully comprehend the relationship to competitive advantage, as indicated by the minimal disagreement (2.5%) and doubt (10%). Different degrees of exposure to or comprehension of the larger market dynamics and the strategic significance of sustainability in preserving a competitive edge may be the cause of this.

5.1.3 The role of energy efficiency on the market performance of manufacturing companies

In response to the statement that investments in energy-efficient technologies and practices, such as renewable energy sources, not only reduce energy consumption but also lower production costs, thereby improving profit margins and enhancing market competitiveness, 57% of respondents strongly agreed, and 27.5% agreed. Employees' strong perception that implementing energy-efficient technologies leads directly to cost savings and competitive advantage is demonstrated by this, underscoring the alleged strategic and financial benefits of such investments. This result is consistent with the argument made by Smith et al. (2020) that energy efficiency programs can result in significant cost savings and increased profitability. Although the majority sees evident benefits, a tiny minority may still have doubts or less insight into these impacts, according to the minimum disagreement (2.5% strongly disagree and 7.5% disagree) and uncertainty (5%) figures. This can be the result of worries about the upfront costs of the investment or doubts about the real returns on these investments.

When asked about cutting energy use through operational and technological advancements, which lower utility costs and reduce carbon emissions, a sizable majority of respondents (75%) strongly agreed, while 12.5% agreed. This aligns with consumer preferences for sustainable practices and regulatory requirements. This shows that energy efficiency is widely accepted as a way to support environmental objectives, comply with regulations, and save operating

expenses. The results of Lee and Kim (2021), who emphasized the combined advantages of financial savings and environmental sustainability from energy efficiency measures, are in line with this finding. The minority of respondents (12.5%) who expressed disagreement implies that although energy efficiency is widely recognized for its benefits, there may be differences in understanding or opinions of its complete influence on sustainability and compliance. This discrepancy can be a result of their varying exposure to the regulatory environment or how important they think sustainability is to their particular responsibilities.

In reference to the claim that incorporating energy-efficient measures, like energy-efficient light bulbs, into strategic planning facilitates the optimization of regulatory possibilities and grants a competitive edge in a regulated market, 25% of respondents agreed and 55% strongly agreed. This indicates that a majority of employees consider energy efficiency to be a crucial element of strategic planning that can improve market positioning and take advantage of legislative incentives. This result is consistent with the findings of Chen et al. (2023), who stress the significance of incorporating energy efficiency into strategic planning in order to take advantage of regulatory opportunities. Although most people recognize the strategic relevance of these metrics, opinions on how well they translate into competitive advantages vary somewhat, as seen by the modest number of disagreement (5%) and moderate uncertainty (15%).

This variability may arise from differing experiences with regulatory incentives or varying levels of understanding of the strategic importance of energy efficiency in a competitive marketplace.

In response to the statement that energy consumption lowers production costs and improves operational stability, thereby increasing responsiveness to market demands and reducing supply chain risks, 57.5% of respondents agreed, and 32.5% strongly agreed. This reflects a strong belief that energy efficiency contributes to operational stability and responsiveness, which are critical for enhancing market performance. This finding is in line with Gupta and Sharma (2022), who argued that energy efficiency enhances supply chain resilience and improves profitability. The minimal disagreement (7.5%) and low uncertainty (2.5%) suggest a general consensus on the positive impact of energy efficiency on operational effectiveness and market adaptability. This consensus indicates a shared recognition of the importance of stable operations and the ability to respond quickly to market demands, both of which are supported by energy-efficient practices.

Lastly, 50% of respondents strongly agreed and 35% agreed with the statement that investments in energy efficiency technology frequently lead to innovation and increased product quality, allowing the company to open up new market prospects and raise consumer satisfaction. The aforementioned suggests that a considerable segment of the workforce regards energy efficiency as a catalyst for innovation and enhancements in quality, hence augmenting market prospects and augmenting client contentment. This result is consistent with Kim and Choi's (2019) discussion of how energy efficiency can free up funds for expansion and innovation, boosting a company's position in the market. The low levels of ambiguity (10%) and minor disagreement (2.5%) indicate that most employees are aware of the strategic advantages of energy conservation that go beyond simple financial savings. This widespread acceptance highlights energy efficiency's potential.

5.2 Conclusion

The results of the discussion make it clear that environmental sustainability strategies—such as energy efficiency, green transportation, and waste reduction management—are essential for improving the competitiveness of manufacturing firms in the market. The results showed that waste reduction management has a major positive impact on innovation and operational expenses, both of which improve market performance. Green transportation was found to be crucial for raising the company's status in the market by strengthening supply chain effectiveness, boosting brand recognition, and reducing the dangers connected with reliance on fossil fuels. Initiatives aimed at increasing energy efficiency have also been demonstrated to lower manufacturing costs, enhance operational stability, and foster innovation—all of which enhance market performance. The overwhelming agreement among those surveyed emphasizes the strategic significance of these sustainability efforts in preserving a competitive advantage in a market that is becoming more environmentally conscientious. Notwithstanding, the existence of certain discord and ambiguity highlights the want of sustained correspondence and involvement to guarantee that every staff member comprehends and values the advantages of these endeavours entirely.

5.3 Recommendations

The Role of Waste Reduction Management on the Market Performance of Manufacturing Companies

The organization should keep fortifying its waste reduction management tactics by raising employee knowledge and involvement in order to further improve market performance. Even if there is a general favourable opinion, a tiny percentage of workers do not completely understand the operational and financial advantages of waste reduction. Thus, the business ought to:

Organize frequent training sessions and workshops that highlight the concrete effects of waste reduction on financial savings and competitiveness in the market.

Improve internal communication to present quantifiable results and successful case studies from waste reduction programs, increasing the transparency and relatability of the financial benefits for all departments.

Encourage staff members to offer suggestions for reducing waste, and then reward or incentivize them for their efforts to promote an innovative culture. Make sure you understand how crucial regulatory compliance is to reducing waste.

The Role of Green Transportation on the Market Performance of Manufacturing Companies

Expanding the use of electric and hybrid vehicles while continuing to communicate the long-term cost savings and environmental benefits to all employees, particularly those who may be skeptical of the initial investments, is how the company should build on the positive reception that green transportation initiatives have received.

Enhancing the company's strategic planning's incorporation of green logistics—such as modal shifts and effective route planning—to further improve supply chain effectiveness and customer satisfaction.

By regularly providing updates and statistics that offer a clear understanding of the financial returns from green transportation projects, employers can aid employees who may still harbor misgivings or doubts.

Making sure that every employee is aware of the strategic significance of green transportation as a competitive differentiator and legal necessity

The Role of Energy Efficiency on the Market Performance of Manufacturing Companies

In order to optimize the impact of energy efficiency on market performance, the following actions should be taken by the company: Keep funding energy-efficient technology and make sure that staff members at all levels are aware of how these investments result in lower costs and increased market competitiveness.

By including energy efficiency measures into the company's strategic planning and showcasing how they complement market opportunities and regulatory incentives, you can promote more engagement in these activities.

Provide specific instances of how energy efficiency enhances supply chain resilience, operational stability, and responsiveness to market demands in order to allay any worries or uncertainties.

Utilize energy efficiency's potential to spur innovation and raise the Caliber of your products, creating new market niches and boosting consumer pleasure.

5.4 Areas for further research

Future research should focus on the long-term financial impacts of waste reduction strategies on operational costs and profitability. This research should analyse how different waste reduction practices influence financial performance over extended periods and across various manufacturing sectors.

Further research should evaluate the return on investment for green transportation technologies, including electric and hybrid vehicles. This study should examine the initial costs, long-term savings, and overall impact on supply chain efficiency and customer satisfaction.

Additional research should investigate the relationship between energy efficiency measures and technological innovation within manufacturing companies. This research should assess how investments in energy-efficient technologies contribute to the development of new products and processes.

Future research should examine the level of employee awareness and engagement regarding waste reduction, green transportation, and energy efficiency initiatives. This study should investigate how effectively employees understand and support these initiatives and identify ways to enhance internal communication and involvement.

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APPENDICES

Appendix 1: Questionnaire on the Role of Environmental Strategies in Manufacturing Companies

Dear Respondents,

My name is Kirabo Denise Nyakato a student of Uganda Christian university-Mukono pursuing a bachelor of procurement and logistics management Registration number S12B12/023 under research topic entitled the role Environmental sustainability strategies on the market performance of manufacturing companies with the case study of Nice House of plastics. Please kindly spare your time and fill in my questionnaire, the purpose of carrying out the research is purely for academic purposes, I will be grateful when my request is positively responded to.

Yours faithfully.

SECTION 1: General Information.

Please fill and use a tick to indicate your responses, (where applicable)

1. Gender of respondents

Male	Female

2. Position in the company

Top mgt position	Middle mgt position	lower mgt position

3. Level of Education

PhD	Masters	Bachelors	Diploma	Certificate

4. Level of Experience in the current field of work

1 to 4 years	5 to 9 years	10 to 14 years	15 and above

Section B.

Please rate/ indicate/ tick appropriately your response with respect to the importance of the statements below.

1	2	3	4	5
Strongly disagree	Disagree	Not Sure	Agree	Strongly Agree

PART A: The role of waste reduction management on the market performance of manufacturing companies.

Waste reduction management	1	2	3	4	5
The company minimizes waste generation and optimizes resource utilization.					
The company focuses on regulatory compliance in waste reduction fosters long-term sustainability, which is increasingly valued by investors and stakeholders, thereby positively influencing stock market performance					
Effective waste reduction has led to cost savings, (reduces costs) by enhancing profitability and market competition					
Waste reduction efforts has helped the company stimulate innovation and technological adoption contributing to long term market resilience and adoptability.					
Waste reduction plays a critical role in improving operation efficiency, enhances environmental					

sustainability, streamlines production processes, and improve resource efficiency					
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PART B: The role of green transportation on the market performance of manufacturing companies.

Green Transportation	1	2	3	4	5
the adoption of electric vehicles and other green transportation technologies not only reduces carbon emissions but also aligns with regulatory trends favouring sustainability, enhancing the company's reputation and attractiveness to environmentally conscious consumers and investors.					
Initial investments in electric or hybrid vehicles may be high, although companies can achieve significant long-term savings through reduced fuel and maintenance cost.					
investments in green logistics, such as efficient route planning and modal shifts, contribute to enhanced supply chain efficiency and reliability, thereby reducing transportation-related disruptions and costs while improving customer satisfaction hence increasing market performance.					
Reducing dependency on fossil fuels through sustainable transport practices mitigates risks associated with fuel price volatility and geopolitical instability which contributes to operational continuity and cost stability, ultimately improving market performance.					

manufacturing firms navigate an increasingly eco-conscious marketplace, integrating green transportation practices emerges not only as a regulatory requirement but also as a strategic imperative for sustainable growth and enhanced market competitiveness.					
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PART 3: The role of energy efficiency on the market performance of manufacturing companies.

Energy efficiency	1	2	3	4	5
Investments in energy-efficient technologies and practices, as renewable energy like solar and practices not only reduce energy consumption but also lower production costs, thereby improving profit margins and enhancing competitiveness in the market.					
Reducing energy consumption through technological upgrades and operational improvements not only decreases utility expenses but also mitigates carbon emissions, aligning with regulatory requirements and consumer preferences for sustainable practices.					
Integrating energy efficiency such as Energy-saving light bulbs into strategic planning helps capitalize on regulatory opportunities and gain competitive advantage in an increasingly regulated marketplace.					
Energy consumption lowers production costs and improves operational stability, thereby increasing responsiveness to market demands and reducing supply chain risks hence enhanced market performance.					
investments in energy efficiency technologies often lead to innovation and improved product quality, which can					

encourage the company open new market opportunities
and increase customer satisfaction.

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APPENDIX 2: INTRODUCTORY LETTER



**UGANDA CHRISTIAN
UNIVERSITY**

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SCHOOL OF BUSINESS

25th July, 2024

TO WHOM IT MAY CONCERN

Name: KIRABO DENISE NYAKATO

Reg. No S21B12/023

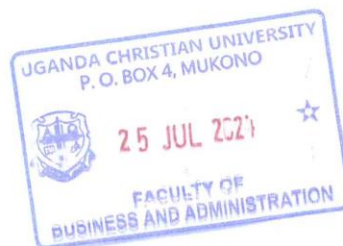
A bachelor's student who is seeking permission from your office to collect data for her dissertation titled

The role of environmental sustainability strategies on the market performance of manufacturing companies. A case study of Nile house of plastics

We shall be grateful if you could render assistance to her in collecting the necessary data for her dissertation

The Uganda Christian University School of Business thanks you in advance

Mukisa Simon Peter
Research coordinator



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