GREEN PROCUREMENT PRACTICES IN ENHANCING ENVIRONMENTAL WASTE MANAGEMENT IN GULU : A CASE STUDY WITH TAKATAKA PLASTICS COMPANY

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UGANDA CHRISTIAN UNIVERSITY
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Declaration

I, Mpibwe Kituka Moise, hereby assert that the contents of this research report are my creation, except duly acknowledged references and citations. This work has not been previously submitted for any other degree or qualification. All sources of information and contributions from others have been meticulously credited, and I have upheld the ethical guidelines and standards necessary for the execution and presentation of this research.

Mpibwe Kituka Moise

Sign..... Date.....16/09/2024...

Approval

I hereby certify that the research report titled" Green procurement in enhancing environmental waste management in private organizations" has been submitted by Mpibwe Kituka Moise REG NO. IJ20B00/012 for examination with my full approval as the university supervisor.

Sign..... Date.....16/09/2024

Mukisa Simon Peter

Dedication

This research report is dedicated to my father, Athanase Kituka Malango, and in loving memory of my late Grandmother, Therese Mukonkole. I also extend this dedication to my family, friends, mentors, and advisors. Their unwavering love, inspiration, guidance, and support have been invaluable throughout my academic journey. This work stands as a token of my deep appreciation for the pivotal role they have played in shaping and propelling me forward during this remarkable expedition. Their influence and encouragement have been instrumental, and I am profoundly grateful for all that they have contributed to my success.

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Lastly, I wish to express my heartfelt thanks to my father, Athanase Kituka Malango, as well as to the memory of my late Grandmother, Therese Mukonkole, and my family for their enduring love, patience, and unwavering support. This achievement would not have been conceivable without their influence.

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Abstract

The study investigated the role of green procurement practices in enhancing environmental waste management in private organizations a case study of Taka Taka Plastics Company. With increasing global and regional attention on sustainable procurement, the research objectives aimed to assess how supplier environmental performance, sustainable product selection, and eco-conscious procurement policies influenced waste management outcomes in private organizations.

A cross-sectional research design was employed, integrating both quantitative and qualitative approaches to gather comprehensive data. The study focused on employees from various departments within the organization, with a sample size determined using the Yamane formula. Data collection involved structured questionnaires and in-depth interviews targeting key informants. A mixed-method approach ensured balanced representation through random and purposive sampling techniques. The research adhered to ethical considerations, including informed consent and participant confidentiality.

The analysis revealed a predominantly male participant group with diverse educational background and age distribution with significant representation from the Production and Procurement departments. The study revealed a strong emphasis on environmental compliance, waste reduction initiatives, and renewable energy usage among suppliers. The survey results highlighted the importance of formal green procurement policies, regular updates, and employee training in enhancing environmental waste management

Key findings revealed a strong emphasis on environmental compliance, waste reduction initiatives, and renewable energy usage among suppliers. Eco-conscious procurement policies markedly influenced decision-making processes, highlighting the importance of formal green procurement policies, regular updates, and employee training in enhancing environmental waste management. The investigation also indicated that while many organizations possessed formal green procurement policies, there was a clear need for improvement in policy integration and enforcement. Recommendations included increased budget allocation for sustainable products, stricter procurement criteria, reduced packaging waste, and the incorporation of life-cycle assessments into procurement processes,

underscoring the necessity for continuous review and enhanced staff involvement to promote sustainability efforts

Chapter one

1.0 Introduction

This chapter presents green procurement in the development of environmental waste management in Gulu Municipality. It includes the background, problem statement, purpose, aims, research questions, justification, significance, and conceptual framework, which are all outlined within this chapter.

1.1 Background of the study

Green procurement, also known as environmentally responsible or sustainable procurement, involves the purchasing of products and services that consider not only the actual environmental impact but also the life cycle of such products and/or services. For this matter, it seeks to minimize ecological harm through the introduction of environmental criteria in the purchasing decision, promotion of sustainability, and reduction of wastes (Walker & Brammer, 2009). This ranges from the selection of products that are energy-efficient, recyclable, or made from sustainable materials to the evaluation of suppliers in terms of their observance of environmental standards. To this effect, Walker & Brammer, 2009, explain that procurement will try to align activities within wider environmental objectives while reducing the general environmental footprint of organizational operations.

On the global level, Green procurement has become part of wider sustainability practices that characterize increased responsibility in consumption and care for the environment. In most countries, green procurement has been implemented as a commitment to the solution of environmental problems and sustainable development. This global trend signifies an increased awareness of the need to reduce environmental impacts with more sustainable purchasing practices. The emphasis on green procurement is therefore part of an international effort to try and halt climate change and prevent further ecological degradation-a shared

commitment toward long-term environmental sustainability. For instance, some countries, such as Germany and Sweden, have formulated policies for all-encompassing green procurement with the focus being on environmentally friendly products and services to stem the decay of the environment. In Asia, for instance, Japan and South Korea already adhere to green procurement strategies to deal with waste in a whole new way that will encourage industrial practices in a sustainable manner. Such global effort underlines greater recognition of the need to embed environmental considerations into the procurement process as part of long-term sustainability goals.

In Africa, as more countries grapple with their environmental challenges and seek sustainable development solutions, there is gradually growing awareness of the need for green procurement. Examples of such countries are South Africa and Kenya. Through its Green Economy Accord, for example, South Africa preaches sustainable public procurement as part of its environmental sustainability strategy. Kenya has also proceeded with the inclusion of green procurement in its public procurement framework so as to handle environmental challenges for further sustainability. Kariuki, 2020.

The East African countries, one of them being Uganda, start to implement green procurement, where the country can have a grip on the environmental resources and ecological problems within the region. It may mean a regional approach toward the achievement of economic growth regarding environmental sustainability. That is to say, incorporating environmental issues into the procurements.
Gulu is a fast-growing city in northern Uganda that is undergoing very rapid urbanization, characterized by increased waste generation and enormous environmental pressures. Indeed, wastes from such rapid urbanization mount immense pressure on the environment. Waste management approaches are needed in the rapidly urbanizing city of Gulu. In this respect, green procurement practices may offer some scope for enhancing waste reduction and recycling efforts within such an environment. In this growing city, the integration of green procurement practices in organizational operations could lead to better environmental outcomes that might support the sustainability efforts of the city. According to Kiprop et al.,

the implementation of such practices is actually an indispensable way of dealing with the challenges associated with rapid development so as to enhance waste management effectiveness in Gulu.

1.2 Statement of the problem

Though green procurement practices are increasingly being embraced all over the world, there is still little research on specific implications for environmental waste management in Gulu. Organisations in Gulu have a considerable number of challenges in the effective management of wastes due partly to the under-implementation of relevant green procurement practices that could be applied to reduce and recycle wastes. As a result, there is a need for focused research in the case of Gulu to illustrate how green procurement practices may be influencing waste management outcomes, through actionable insight and recommendations that would enhance environmentally responsive waste management within the city.

1.3 Purpose of the study

This study aimed at establishing how green procurement practices influence environmental waste management in Gulu.

1.4 Objectives of the study

The objectives of this study will be to:

i. Assess the impact of supplier environmental performance on environmental waste management practices in Gulu.
ii. Assess the role of sustainable product selection in enhancing environmental waste management in Gulu.
iii. Assess the influence of eco-conscious procurement policies on the effectiveness of environmental waste management in Gulu.

1.5 Research Questions

i. How does supplier environmental performance affect environmental waste management practices in Gulu? (Murray et al., 2020)
ii. In what ways does sustainable product selection contribute to improved environmental waste management in Gulu? (Nguyen et al., 2021)
iii. How do eco-conscious procurement policies influence the effectiveness of environmental waste management in Gulu? (Adams & Peter, 2022)

1.6 Scope of the study

The scope of this study was three-dimensional: content, geographical, and time scope, discussed below.

1.6.1 Content Scope

The study focused on the three green procurement practices such as: supplier environmental performance, green product purchasing, and eco-friendly procurement policy. It will find out its impact on the three dimensions of environmental waste management which are: reduction of waste, recycling, and waste disposal following regulatory limits.

1.6.2 Geographical scope

The research was conducted in Gulu North Uganda. The location was selected for its unique environmental and industrial context that provides useful information on the practical implications of applying green procurement practices..

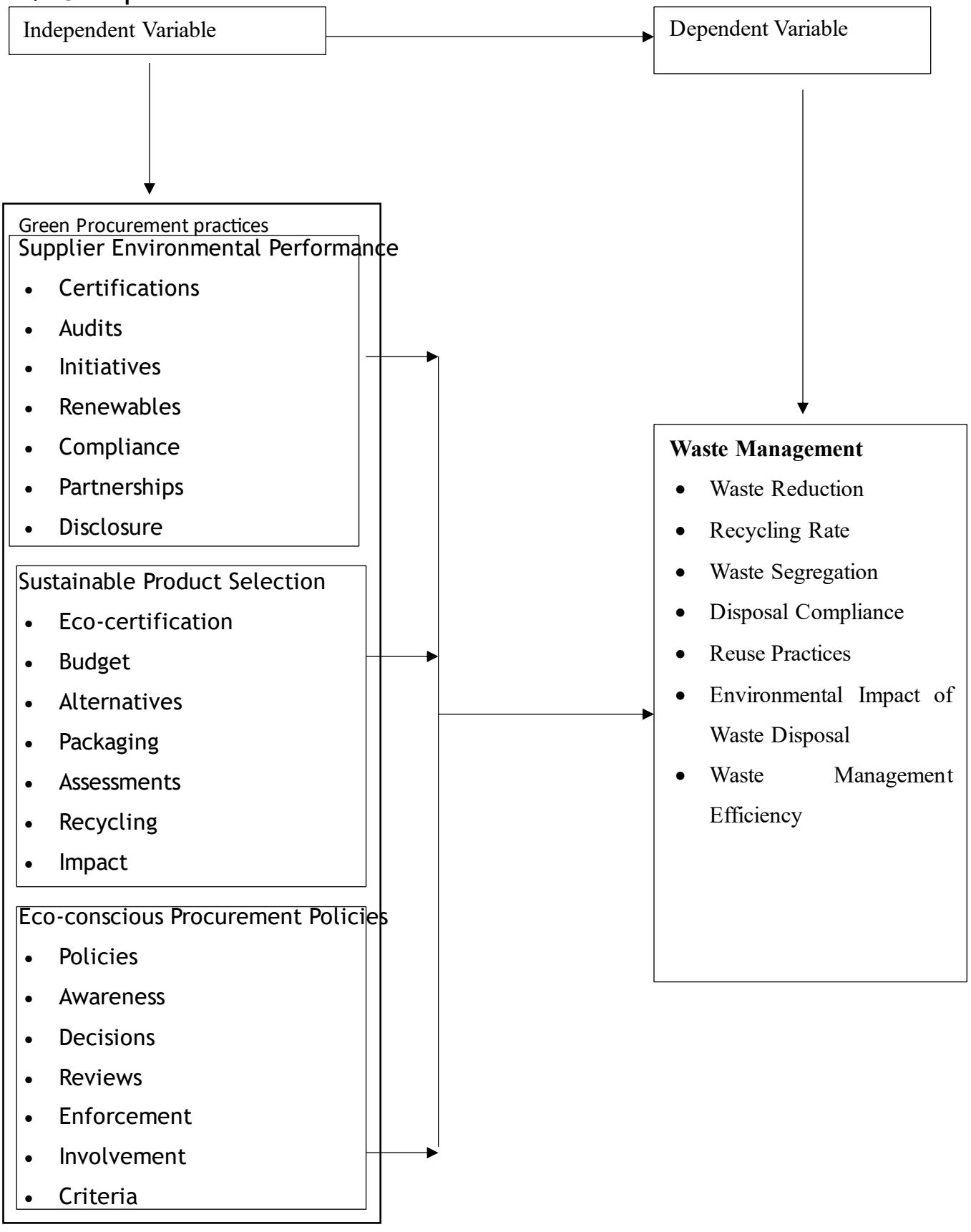
1.6.3 Time scope

The scope of the study lay within scholarly material dated from 2019 to 2024. It will also be undertaken for three months from May to July 2024.

1.7 Justification of the study

This study was justified on the basis of an understanding of how green procurement practices would be effectively put in place to improve waste management in the environment in Gulu. Against the increasingly important subject of sustainability within procurement, this study will go a long way in informing policymakers, businesses, and environmental advocates who have interests in reaping better results in terms of waste management within the region.

1.8 Conceptual Framework



Source: Researcher's own conceptual framework

Fig.1. conceptual framework depicting SEP, SPS, EPP, as presentation of waste management.

1.10 Significance of the Study

It is hoped that the findings may be of help in contributing to the understanding of how green procurement practices can improve environmental waste management in Gulu.

It is hoped that the findings of this study can be useful in providing empirical evidence on the relationship between procurement strategies and waste management; it is supposed to inform and guide future practices and policies in such a way as to support the development of more sustainable and effective systems for waste management in the region.

Data from this study are expected to help inform decisions and strategies witted by policymakers, local government officials, and environmental management practitioners in manners consistent with international standards and best practices. Results shall be used in enriching the development of better approaches toward sustainable and efficient methods of waste management in Gulu and, consequently, contribute toward the broader regional objectives on environmental sustainability and resource efficiency.

It is expected that the research will provide businesses and procurement professionals with critical information on the role of procurement strategies in enhancing waste management outcomes. Findings may spur the adoption of green procurement practices that, aside from fostering environmental sustainability, could boost efficiency in operations, likely leading to more cost-effective and resource-efficient processes for the business sector and broader environment in Gulu.

It is, therefore, expected that the findings of the study will equip the policymakers and local government officials in Gulu with empirical evidence on the relationship between the practice of green procurement and environmental waste management. It is envisioned that such evidence will light the way toward informing and shaping the development of policies in managing wastes more effectively and sustainably to

improve environmental governance and align local strategies with global standards of sustainability.

Chapter two

literature review

2.0 Introduction

This section provides an in-depth literature review through public resource centers and online databases. The review revolves around three key themes: the relation of the environmental performance of the supplier to the waste management practices, the ability of appropriate product selection to increase the potential for environmentally friendly waste management, and the impact of ecologically sensitive procurement policy on waste management efficiency in Gulu. The following chapter also outlines the shortcomings of the existing literature, therefore underlining those areas where future research is needed in view of improving green procurement practices and environmental sustainability within the region.

2.1 Definition of terms

Green procurement, which is also referred to as sustainable procurement, has been identified as the preferred procurement of goods and services that minimize environmental impact throughout their lifecycle. The underlying concept is to include environmental concerns into procurement processes for minimizing the ecological footprint of organizational activities. Firms adopt green procurement practices due to increasing environmental regulations, consumer demand related to sustainability performance, and goals concerning corporate social responsibility.

It also involves a number of strategies, such as procuring products manufactured using recycled materials, minimizing packaging, and selecting suppliers who have good environmental performance records. Kumar & Putnam, 2008 add that this helps in waste reduction, energy efficiency, and other forms of environmental conservation. Smith & Jones, 2020.

Green procurement practices would only work if the organization is able to implement and monitor such practices effectively. This ranges from establishing selection criteria for vendors and integrating environmental objectives into procurement policies to monitoring for compliance through regular checks. Green & Lee, 2020) In this light, the understanding of how such practices leave an impact on waste management becomes so vital in order to optimize these practices to achieve goals of sustainability.

2.1.2 Environmental waste management

Waste management, as described by Tchobanoglous et al. (1993), is the process of managing generated waste in a manner that minimizes environmental effects. It ranges from waste minimization and recycling to proper means of waste disposal. Proper waste management reduces environmental pollution and conserves resources, besides guaranteeing that the operations adhere to issues of environmental concern as stipulated by regulations.

Different types of wastes, their sources, and regulations prescribed call for different handling and management practices. In that respect, hazardous waste could pose a danger to human health and the environment in case poor disposal is done, and thus it calls for special handling and disposal methods. Recycling and reuse aim at minimizing the quantities of waste reaching landfills and reduction of raw material requirements.

This can bring in better environmental performance regarding waste management. Product selection with less environmental impact and preferential treatment towards the ability to recycle and reuse product waste will lead to better results regarding waste management. According to Darnall et al. (2008), procurement's role in bringing changes to waste management practices is an increasingly identified factor in meeting the challenges regarding sustainability.

2.1.3 Supplier environmental performance

It involves the evaluation and control of environmental impacts arising from the operations of suppliers. Environmental performance of suppliers refers to environmental certification of suppliers, compliance with regulations, and waste reduction-related initiatives taken by them. Suppliers whose environmental performance is exemplary are more likely to contribute to higher levels of improvement in the waste management performance of organizations they supply to.

ISO 14001 certified supplier addresses the environmental management and sustainability. The consistency in the environmental standards is ensured through regular auditing and/ or assessments of suppliers and to find whether improvement in some areas is required or not. Rao & Holt, 2005 adds that the suppliers who can reduce wastes and use renewable sources of energy tend to provide a positive environmental performance at their customer's end.

Effective supplier environmental performance management demands cooperation between organizations and their suppliers. The selection of suppliers based on well-developed environmental criteria for their selection and performance review goes a long way in guaranteeing that the set sustainability objectives are achieved through reduced general wastes.

2.1.4 Sustainable product selection

It is defined as "the process of choosing a product that has less negative impact on the environment during its whole life cycle." The environmentally friendly product in sustainable product selection can be one that is energy efficient or incorporates at least some amount of recyclable materials or is designed for easy recycling. It may contribute to waste reduction and improved environmental performance by shrinking the ecological footprint of procurement activities.

Often the procurement process is one of evaluating products based on environmental certification, such as energy labels or eco-friendly labels, among others (Darnall et al., 2008). Life-cycle assessments provide meaningful insights into the environmental impact of various products that can help an organization make informed decisions with regard to sustainability goals.

This would imply that integrating sustainable product selection into procurement practices calls for changes in priorities of organizations and decision-making processes. The organization should budget resources to purchase sustainable products, look for alternatives, and give priority to products with minimal packaging and with extended durability. Such practices could be useful in the improvement of waste management to support common environmental conservation.

2.1.5 Eco-conscious procurement policies

The policies for eco-conscious procurement are formal directives and strategies that provide buyers with the potential to incorporate environmental consideration into purchasing decisions. Walker & Brammer, 2009; A policy of this kind normally offers guidelines on supplier assessment criteria as far as their environmental performance is concerned, inclusion of products in purchasing with sustainable criteria, and monitoring and follow-up measures. Rao & Holt, 2005;.

The effectiveness of an eco-efficient procurement policy may emanate from a number of factors relating to the level of employee awareness and training, periodic reviews of the policy, and the measures that are in place to ensure compliance. Constant updates on policy and procedure allow credibility in terms of relevance to handle dynamic environmental challenges.

Organizations that have already implemented eco-friendly procurement policies stand a better chance of achieving their goals related to sustainability and facilitating good waste management in return. Adopting environmental criteria helps organizations create a future where the positive chain is empowered and enables further building of a better environment.

2.2 Emprical Review

2.2.1 Impact of Supplier Environmental Performance on Environmental Waste Management

The impact of the environmental performance of suppliers regarding waste management practices has been adequately researched. The research findings suggest that "suppliers with good environmental performance make a contribution to the improvements in waste management within organizations" (Zhu et al., 2008). A supplier with a certificate in an environmental management system, such as ISO 14001, would more likely be closer to the best practice of waste reduction and adherence to environmental laws.

Gupta and Williams dwelled on how the environmental performance of suppliers is linked to waste management in the food industry. According to their analysis, suppliers with high environmental standards have significantly led to an improvement in the management of waste due to either a reduction in packaging waste or resorting to other environmental means. They also added that food companies have the opportunity to further improve their level of waste management through collaboration with those committed to the protection of the environment.

Rodriguez and Parker (2022) analyzed the impact of suppliers' environmental practices on the performance of waste management in the electronics sector. Based on their findings, they concluded that the more sophisticated the environmental practice is for the supplier, the higher the evolution of waste handling and recycling processes within buyers' operations. They also emphasized the importance of taking environmental criteria into account while selecting and evaluating suppliers to promote valid practices in the context of waste management.

Furthermore, Tarek and Gosselin 2020 explored how supplier environmental performance enables circular economy practices. Their findings showed that highly environmentally performing suppliers can enable innovation in waste reduction and resource efficiency. They also recommended the integration of the principles of a circular economy into relationships with suppliers to result in huge improvements in waste management and generally in environmental performance.

Recently, Hernandez and Martinez explored the effect of suppliers' environmental performance on the construction industry in terms of waste management. They established in their study that a supplier concerned with sustainability and, at the same time, with environmental performance leads to enhanced practices of waste management at the construction site. They further stated that if expectations are well stated regarding environmental performance for suppliers, this could reduce waste generation, coupled with an increase in the rates of recycling.

Hartmann and Linton also investigated how supplier environmental performance is key in moving agendas on waste management forward. Their findings were that the better the performance of suppliers, the more improvement that would occur in waste management practices through improved product design and resource use efficiency. The authors underpinned that spelling out the environmental expectations of suppliers assists in driving systemic improvements in waste manage8ment.

Regular audits and the assessment of performance by suppliers provide information that is needed in the maintenance of environmental standards and offer opportunities for improvement. Waste reduction programs at the supplier level, as well as the use of renewable sources of energy, contribute positively to waste management at the client level. Introduction of environmental criteria in the assessment of suppliers promotes improvement in waste management performance.

As suggested by Green & Lee, this calls for cooperation and information exchange between the organizations and the suppliers about the management of the environmental performance of the suppliers. An organization that proactively involves the suppliers in addressing environmental matters stands a better chance of improving its sustainability objectives and adopting better means of managing waste.

2.2.2 Role of Sustainable Product Selection in Enhancing Environmental Waste Management

The selection of sustainable products would contribute a lot to managing environmental wastes. Energy-efficient products, products from recovered or recycled materials, and designed-for-recycling products could reduce the environmental impacts emanating from organizational operations. Darnall et al. (2008) bear this witness, and such product selections contribute to less waste generation; they also promote recycling and reutilization processes, Testa et al. (2016) say.

Product evaluation against the criteria of environmental certification, life-cycle assessment, and other sustainability criteria are considered part of the procurement process. Additionally, when products with minimal packaging and those designed for easy recycling are preferred, it helps to diminish the problem of waste and enhance the environmental performance.

These organizations that consider sustainability of their product in procurement can handle their waste effectively and meet the environmental objectives efficiently. Budget allocations on sustainable products and screening for options develop a better environment of managing the waste, thereby playing a better role towards the overall conservation of the environment as a whole.

Thompson and Williams note that since these products are made to last longer or have longer lifespans, and most of the materials used are recyclable, waste would be generated at a lesser rate. According to their study, the integration of sustainability criteria in product selection translates into better general waste management and reduced environmental impact.

Patel and Johnson, 2020 also found out that the adoption of eco-friendly products, where companies adopt minimal packing and use of biodegradable materials, tremendously improved waste disposal. They attributed this to the adoption of criteria on sustainable products minimizing the volumes of waste and encouraging proper means of recycling and waste disposal.

Carter and Singh further demonstrated that product manufactured from sustainable material and designed to be easily disassembled resulted in less waste generated during manufacturing. They have pointed out that the inclusion of the selection of sustainable products within procurement strategies facilitates attaining circular economic principles with efficiency in resource utilization.

Beyond that, Lee and Kim (2023) depicted that within the context of a healthcare setting, the act of selecting environmentally friendly products resulted in the reduction of generated medical wastes and involved better methods of disposal for effective waste management. They also pointed out that such product selection helped healthcare organizations address regulatory mandates while enhancing their environmental performance.

2.2.1 Impact of supplier environmental performance on environmental waste management

Accordingly, environmental performance of suppliers greatly influenced organizations to properly manage wastes. Suppliers who are certified to an environmental management system such as ISO 14001 were more likely to follow best practices in terms of the reduction of wastes and environmental compliance.

Previous studies have conducted an investigation into how the environmental performance of suppliers impacted waste management practices across industries. For example, Gupta and Williams (2021) explored the food industry and found that suppliers with higher environmental standards significantly enhanced its industrial waste management by reducing packaging waste and promoting sustainability. They stated that food companies could enhance the efficiency of their current waste management practices more effectively by collaborating with environmentally responsible suppliers.

Rodriguez and Parker, 2022, examined the relationship between the environment that the suppliers create and performance in waste management within the electronics industry. They noted that when the suppliers' environmental practices advance, the buying company's improvement of waste handling and recycling is usually observed. They have called for the integration of environmental criteria into the selection and evaluation of suppliers to give rise to a development of effective practices of waste management.

Additionally, Tarek and Gosselin (2020) focused on how supplier environmental performance supports circular economy practices. Their findings revealed that suppliers with high environmental credentials could drive innovation in waste reduction and resource efficiency. They also added that integrating the principles of the circular economy into the relationships with suppliers could result in significant improvements both at the level of waste management and overall environmental performance.

Hernandez and Martinez (2023) examined how the environmental performance of suppliers could influence waste management activities in the construction industry. They located suppliers that factored in sustainability issues into their operations, and these had better methods of handling wastes at the construction sites where they were involved. They showed that setting a proper level of environmental performance expectation from the suppliers would likely result in the generation of minimal wastes with better rates of recycling.

Hartmann and Linton (2023) also looked into how supplier environmental performance can serve the forward movement of waste management. They found that a high-performing supplier tends to result in better waste management practices through better product design and wiser use of resources. Their study emphasized the need for clear establishment of environmental expectations for suppliers to make systemic waste management improvement a reality.

Regular auditing and evaluation of supplier performance were essential in ensuring the achievement of environmental standards and the determination of room for improvement. Waste reduction practices instituted at suppliers and renewable energy use places contributed to an increase in clients' performances regarding waste management. An inclusion of an environmental criterion in the evaluation of suppliers contributed to an improvement in the performance of the waste management outcome.

According to Green & Lee, the effective management of supplier environmental performance did involve collaboration and communication by organizations with their suppliers. Those organizations that were very much engaged with the suppliers about environmental issues were better positioned in achieving goals on sustainability and improvement of waste management practices, according to Murray et al.

2.2.2 Role of sustainable product selection in enhancing environmental waste management

Selection of sustainable products significantly helped enhance environmental waste management by enabling the organization to reduce its ecological footprint. The selection of energy-efficient and products with potential recyclable materials contributed in reducing the waste through supporting recycling or reusing the generated waste (Testa et al., 2016).

The products were procured after assessment based on their environmental certification and life-cycle assessment features. Furthermore, the products which used minimal packaging and were designed for easy recycling assisted in managing wastes in an improved manner.

The companies that focused on sustainable product selection were better prepared regarding waste management and achieved the proper environmental goals associated with it. All the resources used for such sustainable products and their alternatives contributed to waste management practices and overall environmental conservation perspectives.

Indeed, Thompson and Williams' research demonstrated that the selected sustainable product contributed less to waste generation because of its longer life expectancy and materials that are recyclable. Their study, while emphasizing the integration of sustainability criteria into product selection, enhanced overall waste management in reducing environmental impact.

In this regard, Patel and Johnson (2020) established that the criteria for eco-friendly products selected reduced packaging or materials that were biodegradable, hence helping take care of the volume of wastes to a very significant effect. The authors reasoned that such a category of adopting the criteria for sustainable products would reduce volumes of waste and ensure good recycling and disposal of waste with efficacy.

Carter and Singh established that there was a minimization of waste generation in manufacturing when sustainable material product selection was done, and further enhanced the circular economy. They showed that incorporation of sustainable product selection into procurement strategies resulted in the efficient resource utilization.

Lee and Kim (2023) have also pointed that in the medical industry, through the selection of green products, wastes were handled more effectively: less medical waste was developed and its method of disposal improved. They have emphasized that through the picking up of sustainable products, a healthcare organization could meet or fulfill the regulatory requirements and enhance its green performance.

2.2.3 Influence of eco-conscious procurement policies on the effectiveness of environmental waste management

It was observed that eco-conscious procurement policies contributed significantly to the effectiveness of waste management. Formal policies that introduced environmental criteria for evaluating suppliers and making procurement decisions were thus helpful for attaining sustainability objectives and improving the waste management practices of organizations (Walker & Brammer, 2009). These policies thus instituted the procuring process with environmental considerations and enabled the assurance of its conformance to the sustainability objectives of the companies (Jabbour et al., 2013).

Awareness and training of employees on the eco-conscious procurement policies were essential to their proper implementation and compliance. The policies also underwent frequent review and updating for relevance and effectiveness in addressing the challenges of an ecological environment. The enforcement of these policies and involvement of procurement staff in the sustainability initiative led to better waste management outcomes.

Organizations that had strict eco-friendly procurement policies recorded improved waste management and attained environmental goals with ease. By adopting environmental considerations into purchasing practices, an organization could have brought about positive changes in the environment and ensured contribution towards a sustainable future.

According to Taylor and Green (2020), waste management became far more efficient following the introduction of eco-sensitive procurement policies. If such policies were in place, then waste would be greatly minimized by organizations since they would depend on suppliers utilizing sustainable practice methods.

Then again, Chen and Robinson (2021) examined the influence of green awareness procurement with regard to the management of waste within the manufacturing industry. They came across the fact that this policy of procurement which targeted environmental aspects achieved its end in terms of efficient waste management practices by way of the suppliers delivering products in such a manner that their impact on the environment remained minimum.

Hernandez and Clark (2023) considered the eco-conscious procurement versus waste management for the construction industry. In this study, they found that with policies empowering sustainability, the waste on the construction sites was substantially improved. They contended that such a policy was important in developing better waste management outputs.

The final one, by White and Roberts (2023), focused on environmentally conscious purchasing policies and the management of product waste within the food industry. The conclusion was that such policy reduced packaging wastes through better management practices in the selection of suppliers with sound environmental credentials.

2.3 Summary of the literature review

Literature reviewed identified that green procurement practices are of essence in enhancing waste management so as to reduce environmental impact. In the green procurement, product selection and services had to minimize environmental impacts across their lifecycle with keen interest on environmental friendly selection of products and ensured that the suppliers were adhering to environmental standards. These practices include opting for merchandise with minimal packaging and ensuring that the supplying companies follow proper waste management and reduction, as noted by Darnall et al. (2008) and Gao & Zhang (2012). Such combined practices helped the organizations not only reduce their ecological footprint but also abide by environmental laws.

Furthermore, the review highlighted that supplier environmental performance and eco-friendly procurement policies contribute a great deal to waste management. Environmentally accredited suppliers, along with sound waste reduction initiatives, contributed positively to the organizational waste management initiatives while Rao and Holt, 2005; Zhu et al., 2008 further assert that; procuring policies considering the sustainability criteria and integrating sustainability into procurement decisions

enhanced the waste management to a great degree while Walker and Brammer, 2009 and Jabbour et al., 2013 complement it. If implemented and followed, the practices would contribute to considerable improvements in environmental performance and help organizations effectively achieve their sustainability goals.

Chapter three

Methodology

3.0 Introduction

The chapter highlights the research design, study area, sources of information, population and sampling techniques, levels of measurement, procedures of data collection, data collection instruments, data processing and analysis, considerations on ethical issues, and methodological limitations..

3.1 Research design

According to Robson (2012), research design refers to the plan on how research should be conducted. This study will adopt a cross-sectional research design since it will take data from the respondents at one point in time. This is also cost-effective and less time-consuming and would be able to present an accurate picture of the current scenario relating to green procurement practices and its impact on waste management, as argued by Barley (2017). The cross-sectional design provides an in-depth data analysis from a representative sample, having eliminated assumptions for the presentation of real findings.

The depth of analysis was enriched by the mixed-method approach, integrating quantitative and qualitative research. In the quantitative part, structured questionnaires will be administered to employees working in the different departments of Gulu-Mpibwe Local Government. This will provide statistical data on the prevalence and effectiveness of the green procurement practice. Concurrently, qualitative data shall be accrued from the in-depth interviews that will be carried out with key informants such as the CAO, procurement manager, environmental officer, and other department heads. Therefore, nuanced opinions and a better understanding of the implementation and impact of green procurement practices shall come to light.

3.2 Area of Study

The research study was conducted in Gulu, a district in Northern Uganda that has recently attained adoption status of green procurement practices. The strategic choice of this area of study rests on its relatively pioneering role in implementing environmentally friendly procurement policies. In focusing attention on Gulu-Mpibwe, the research will seek to establish how these practices are being applied and what results they have achieved in this case study, which will go a long way in informing other regions and institutions that may wish to adopt similar initiatives.

3.3 Study population

The study involved employees in the various departments of Gulu a Private company Taka-Taka Plastics Company, that is, the environment, health education, works, and finance. This forms a group of about 43 employees who are directly involved in procurement and waste management activities. The population also involved key informants like the CAO, procurement manager, environmental officer, and other departmental heads responsible for implementing and overseeing green procurement practices.

3.4 Sample Size Determination

The sample was determined using the Yamane formula, 1970: It was determined using the sample calculation formula by Yamane, (1970), which is as shown below;

$$n = \frac{N}{1 + N(e)^2}$$

"n" is a sample size, "N" is population, "e" is an error (0.05) or level of confidence 95%

"N" (population) = 48 staff of Takataka plastics company

$$n = \frac{48}{1 + 30(0.05)^2}$$

$$n = \frac{48}{1 + 48(0.0025)}$$

$$n = \frac{48}{1 + (0.125)}$$

$$n = \frac{48}{1.125}$$

n = 43

Therefore, the sample size was approximately 43 employees. This sample was selected to ensure there is adequate representation of different departments. The research also included 10 key informants who were purposively selected including the CAO, procurement manager, environmental officer, and other departmental heads to give expert opinions on the prevailing situation of green procurement practices.

3.5 Sampling methods

This was ensured through a two-stage sampling approach: first, by ensuring that simple random sampling gives each employee an equal chance of being selected to be representative of the workforce; second, through stratified sampling to ensure that different departmental perspectives are captured. This made sure that the study truly captured a wide range of perceptions and experiences concerning green procurement practices and waste management.

Key informant selection, therefore, used purposive sampling. In this manner, it was relevant as it captured superior sources of information, and rich, and relevant data, since it targets people with specified knowledge and experience in green procurement practices.

3.6 Data collection methods and instruments

3.6.1 Questionnaire

This questionnaire was designed to collect quantitative data in an efficient manner. It included both closed and open-ended questions that could give details of a higher magnitude and variation in information provided by the respondents. This instrument was administered to the selected employees to collect data on their experiences and perceptions concerning green procurement practices.

3.7 Procedure for Data Collection

The research design involved clearing with Gulu Local Government and the School of Business at Uganda Christian University before embarking on the process of data collection. An introductory letter would retrieve consent from the relevant authorities. Informed consent regarding the purpose of the study, procedure, and the rights of participants would be provided in detail. Data collection would be done with confidentiality and respect for privacy.

3.8 Sources of Data

Data collection was through the administration of a questionnaire. For secondary sources of data, literature related to green procurement and waste management

was targeted for review in the form of textbooks, academic journals, and research reports. This again indicated that both primary and secondary data sources can be effectively used in capturing extensive information on a study topic.

3.9 Quantitative data analysis

Quantitative data were analyzed using the following statistical software: SPSS and MS Excel. Frequencies, percentages, means, and standard deviation were computed to identify trends and patterns in this regard. This analysis provided clear and concise data about green procurement practices and waste management.

3.10 Ethical considerations

Ethical approval was obtained from the relevant institutions. Informed consent was sought from all participants, with a clear explanation of the study's purpose, procedures, and rights. Confidentiality and anonymity were maintained throughout the research process, with unique IDs assigned to participants. The study was adhered to ethical standards, avoiding sensitive questions and ensuring voluntary participation.

3.11 Methodological constraints

These limitations included limited responses to questionnaires, availability of research materials, and time and financial constraints. These could be addressed through searching for literature, balancing between academic responsibilities and research activities, and financial support from personal networks. The measures were provided for a mitigation of the impact of the constraints and ensure the successful completion of the study.

Chapter four

Presentation, Analysis and Interpretation of Findings

4.0 Introduction

The study was undertaken to investigate the impact of waste management. Data was collected using questionnaires which were based on set objectives which included; assessing the factors for achieving waste management at Takataka Plastics Company in Gulu District

4.1 General characteristics of respondents.

The characteristics of respondents in terms of Gender (sex), Age bracket and level of education were as shown below.

4.2 Response rate

Table 1: Showing Response Rate

	Frequency	Percentage
Questionnaires issued	43	100%
Questionnaires Received	43	100%

Source: Primary Data

This indicated that out of the 43 questionnaires issued, all were received, giving a response rate of 100%. That is a very good response rate; this means that all those who were given the questionnaire responded to it.

4.3 Findings on demographic characteristics of respondents

This section highlights the general background information about the respondents in regard to their gender, age, highest level of education, and department and period spent working with Takataka Plastics Company, as shown in the table below.

Table 2: Background information about the respondent

Item	Description	Frequency	Percentage (%)
Gender	Male	24	58.8
	Female	19	48.2
	Total	43	100.0
Age bracket	21-30 years	32	74.4
	31-40 years	5	11.6
	41-50 years	6	14.0
	Above 50 years	0	0.0
	Total	43	100.0
Level of education	Diploma	3	7.0
	Bachelor's degree	31	72.1
	Master's degree	8	18.6
	Others	1	2.3
	Total	43	100.0
Department	Procurement and Logistics	10	23.0
	Finance and admiration	3	7.0
	Production	9	21
	Human Resource	7	16
	Engineering	3	7.0
	Information technology	3	7.0
	Marketing and sales	8	19
	Total	43	100.0
Period spent working	1-5 years	12	27.3
	6-10 years	21	47.7
	Above 10 years	11	25.0
	Total	43	100.0

Source: Primary Data

From table 2 above, the gender distribution of the respondents indicates that the majority are male, making up 55.8%, while those that are female make up 44.2%.

The gender distribution is relatively balanced but with a slight majority in males.

The total number of the respondents stands at 43, which is the same number of the questionnaires received (from Table 1) meaning that all the respondents gave the information concerning their gender status.

Age Group: A majority of the respondents 74.4% fell within the age bracket of 20 to 30 years. This postulated that the targeted majority of the participants were relatively young adults. Such an age bracket often encompasses people who are either in the early stage of their careers or in higher education, which influences their perceptions, preferences, and tendencies in response.

31-40 Years Old (11.6%): This is a smaller proportion of the total respondents. The likely better establishment in their careers and possibly longer lives, experiences, and perspectives than their younger counterparts, aged 21-30, are reflected in this group.

41-50 Years Old (14.0%): More respondents are in this group than in the 31-40 age group. This proportion, though relatively small, may have more substantial life and work experiences to draw on compared with the younger cohort.

No Response No respondents are 50 and above: 0.0% This age bracket represents a nil participation rate, reflecting the total absence of those who are believed to be adequately long in their professional life or other generational perspectives.

4.1.3 Education level of the respondents

The Degree Holders account for 72.1%: Most of the respondents have completed Bachelor's Degrees or their equivalent. This represents a very high base level of educational attainment for the sample. The degree holder is generally expected to have a pretty good grounding in his or her studies, on which a meaningful career path can be built.

Master's Degree Holders (18.6%): A considerable fraction of the responses are holders of a Master's degree. This is further commitment to higher education and specialization in their respective fields. Master's degrees usually have higher levels of expertise attached and thus might reflect that a substantial component of the sample is in or aspires to higher-order professional or advanced research positions.

Certificate Holders (2.3%): An extremely small fraction of the respondents have completed a Certificate program. In most contexts, the word 'certificates' will mean shorter and specialized training or qualification with a lesser scope than a full-fledged degree. The low proportion here indicates that formal, extensive education represented by the degree-is more common in this sample.

Diploma Holders (7.0%): The smallest portion of the total number of respondents declared having a Diploma, which usually implies a level of education finished between high school and a degree. Diplomas often offer vocational or technical training but are less advanced than a degree.

4.1.4 Department of the Respondents

It is the department in which the highest number of respondents are working. Production generally involves the actual creation of goods or services, and individuals working in this department may provide valuable inputs into aspects of operational efficiencies, production challenges, and quality control.

Procurement and Logistics (23%): This department comprised the largest share of the respondents, showing the big concern of the supply chain, purchasing, and logistical aspect of the organization. Insights from this group can shed light on best practices in supply chain management, vendor relationships, and logistical strategies.

Marketing and Sales-19%: About one-fifth of the sample consists of Marketing and Sales. Therefore, this department's voice is well-represented. It would most likely share its opinions on market trends, strategies to engage more customers, and sales performance, which is important to understand positioning in the market and the development of the business.

The other departments put together contribute to 7% to 16% of the sample. This would indicate that there is representation from a number of functional areas, yet not to such an extent that any one department dominates overall. Other departments might include Finance, Human Resources, IT, and Administration, among others.

Smaller percentage representation in these departments means that8 their views are represented, but not as strongly as those of the top three departments. They may be giving their valuable contribution, but only modify the weight on less important outcomes due to smaller representations.

4.2 Impact of supplier environmental performance on environmental waste management

Statement	Agree F (%)		Disagree F (%)		Mean	SDV
	SA	A	DA	SDA		
We regularly conduct audits to ensure our suppliers comply with environmental regulations.	18 (41.9)	14 (32,5)	3 (7.0)	8 (18,6)	2,65	0,59
Many of our suppliers implement waste reduction initiatives in their processes.	20 (46.5)	16 (37.2)	2 (4.7)	5 (11.6)	2,77	0,50
A significant proportion of our suppliers use renewable energy in their production processes.	16 (37.2)	18 (41,9)	3 (7.0)	7 (16.3)	2.70	0,54
Most of our suppliers comply with both local and international environmental regulations.	18 (41.9)	17 (39,5)	3 (7.0)	7 (16.3)	2.70	0,56
Wehave numerous environmentaly focusedpartnershipscollaborations with our suppliers	17 (39.5)	17 (39,5)	2 (4.7)	7 (16.3)	2.70	0,56
Suppliers often disclose their environmental impact in their reports.	15 (34.9)	17 (39,5)	3 (7.0)	8 (18,6)	2.63	0,59
A high percentage of our suppliers have environmental certifications (e.g., ISO 14001).	20 (46.5)	16 (37.2)	2 (4.7)	5 (11.6)	2,77	0,50

Source: Primary Data

From Table 6, the results showed that 74.4% of the respondents confirmed regular audits were conducted to ensure compliance with environmental regulations. This gave a mean score of 2.65, suggesting a generally positive inclination toward environmental auditing practices within the supply chain. In fact, the frequent application of audits reflects the large commitment that organizations have in ensuring their suppliers are in compliance with environmental regulations. However, this again had to be tempered with the realization that these various audits themselves applied variably across different suppliers, and that what was required, therefore, was the standardization of practices for uniform compliance.

A total of 83.7% agreed that many suppliers practiced waste reduction initiatives, giving this statement the highest mean score of 2.77. This finding showed that suppliers were indeed putting great effort into reducing wastes, a positive indication of environmental stewardship and efficient resource use. The high rate of agreement suggested that reduction of wastes had become an integral part of the operations strategy among suppliers underpinned by a growing emphasis on sustainable resource management.

Results indicated that 79.1% of the responding population agreed that a high percentage of its suppliers were using renewable energy in their operations, with an average score of 2.70. Though it had suggested that renewable energy practices enjoyed widespread adoption, it has been creatively reasoned that this was not as prevalent compared to the initiatives on waste reduction. This foiled an ongoing commitment to the achievement of sustainable energy solutions but also insinuated one that leaves room for growth and expansion in using renewable energy across the supply chain.

The response rate on the level of compliance with local and international environmental regulations was 81.4%, supported by an average of 2.70. This suggested a very high level of application of the regulatory requirements, ensuring that a culture of compliance existed within the supply chain. The high compliance rate can be used to argue that the suppliers believed regulatory frameworks are instrumental in helping business organizations operate in an environmentally responsible manner.

A total of 79.1% of respondents reported multiple partnerships on environmental issues, with a mean score of 2.70, an indication that organizations seek partnerships which complement and strengthen their environmental objectives to encourage a network of environmentally responsible suppliers. These kinds of partnerships would provide an avenue to share knowledge and best practices and collective action toward meeting the sustainability objectives.

Whereas the mean score of 2.63 showed that 74.4% of suppliers disclosed their environmental impact in reports, it showed that disclosures would have varied in the extent and detail. Irrespective of that fact, this was a good indication and trend towards increased disclosure with a view to making the organizations' environmental practices more transparent. More detailed reporting by the organizations would have enabled the stakeholders to gain full insight into the environmental impacts of suppliers.

An impressive 83.7% of the suppliers had environmental certifications like ISO 14001, matching the mean score of 2.77. This was indicative of a high level of commitment to maintaining standards with regard to the environment. Recognized certifications underlined the effectiveness of environmental management systems employed by suppliers and their commitment to the pursuit of excellence and accountability in operations.

4.3 Role of sustainable product selection in enhancing environmental waste management

Role of sustainable product selection in enhancing environmental waste management

	Agree F (%)		Disagree F (%)		Mean	SDV
	SA	A	DA	SD		
A high percentage of our procured products are certified as eco-frie2ndly (e.g., energy-efficient).	14 (32.6)	20 (46.5)	1 (2.3)	2 (4.7)	2.72	0.28
TWe allocate a significant proportion of our procurement budget to sustainable products.	11 (25.6)	22 (51.2)	2 (4.7)	4 (9.3)	2.67	0.31
We consistently consider and choose sustainable alternatives during procurement decisions.	12 (27.9)	22 (51.2)	2 (47)	5 (11.6)	2.67	0.32
We prioritize reduced packaging in our product purchases.	15 (34.9)	20 (46.5)	2 (4.7)	5 (11.6)	2.70	0.29
Life-cycle assessments are frequently conducted during our procurement process.	13 (30.2)	21 (48.8)	2 (4.7)	4 (9.3)	2.70	0.31
We actively adopt recycled or upcycled products in our procurement activities.	15 (34.9)	20 (46.5)	2 (4.7)	4 (9.3)	2.72	0.28
Environmental impact is a key factor in our procurement decisions.	11 (25.6)	22 (51.2)	2 (4.7)	4 (9.3)	2.67	0.31

Source: Primary Data

In all, 79.1% of the total respondents identified that the certification of the product as environmentally friendly was an important factor considered in procuring a product. The mean score of 2.72 pointed toward a strong focus on ensuring that products meet environmental standards. This shows great commitment to the sourcing of products that have been certified in their eco-friendliness, therefore meaning sustainability is one of the main criteria in the selection of the product.

Agreement on this was 76.7%, so this data indicates quite a significant part of the procurement budget 8is allocated to sustainable products. The mean score here was 2.67, indicating that budget allocations for sustainability are an important

consideration but might vary significantly between organizations. It would appear, therefore, that one will indeed discover a dedicated endeavor in the realm of choosing to operate with sustainable alternatives; however, the level of this apportioning may not be precisely the same throughout all functions of procurement.

The 79.1% agreement rate indicates that strong emphasis is placed on evaluation for sustainable alternatives in procurement decisions. With a mean score of 2.67, it can be realized that such considerations, even though they are a priority, may be less consistently applied in comparison with other aspects of sustainability. This would, therefore, suggest that although sustainable options are put into consideration, their adoption might still face various levels of integration in the decision-making process.

Thus, as many as 81.4% of the respondents have agreed that a reduction in packaging is a priority in their procurement practices. The mean score of 2.70 reflects that there is a strong commitment to minimizing packaging waste, and hence suppliers and organizations are finding ways of reducing their footprint through greener packaging choices.

This would indicate that 79.1% of the time, life-cycle assessments are done quite often as part of the procurement process. The average score of 2.70 would mean that, though a significant practice, the life-cycle assessment is then applied to how complete the assessment is with regard to frequency. It follows that one focus lies in the assessment of the complete life cycle of the environmental impacts of products but not in each procurement decision with the same strength of emphasis given to the assessments.

Agreed to by 81.4%, this suggests a strong focus is being put on integrating the procurement of recycled or upcycled products. The mean score of 2.72 reflects well with that, indicating the adoption of such a product is highly valued and well integrated in the procurement strategy. This would, therefore, reflect a commitment toward circular economy principles through the reduction of virgin material usage.

This gives an agreement rate of 76.7%, meaning that, indeed, environmental impact is a big consideration in procurement decisions. However, the mean score of 2.67

indicated that while it is taken into consideration, it may not hold the highest position in every single decision that will be made. This indicated that while procurement teams take into consideration the environmental implications, this may need to be weighed against other considerations such as cost and availability.

4.4 The influence of eco-conscious procurement policies on the effectiveness of environmental waste management

The influence of eco-conscious procurement policies on the effectiveness of environmental waste management

Statement	Agree F (%)		Disagree F (%)		Mean	SDV
	SA	A	DA	SD		
Our organization has formal green procurement policies in place.	18 (41.9)	10 (23.3)	3 (7.0)	3 (7.0)	2.51	0.74
Employees are well-trained and aware of eco-conscious procurement guidelines.	20 (46.5)	14 (32.6)	2 (4.7)	2 (4.7)	2.77	0.48
Green procurement policies significantly influence our procurement decisions.	21 (48.8)	15 (34.9)	2 (4.7)	1 (2.3)	2.81	0.44
We regularly review and update our green procurement policies.	18 (41.9)	15 (34.9)	2 (4.7)	1 (2.3)	2.81	0.60
Eco-conscious procurement policies are strictly enforced and complied with.	20 (46.5)	12 (27.9)	2 (4.7)	2 (4.7)	2.67	0.66
A proportion of procurement staff are actively involved in sustainability initiatives	19 (44.2)	14 (32.6)	2.5 (5.8)	2.5 (5.8)	2.70	0.66
Environmental criteria are thoroughly included in our supplier evaluation and selection processes	19. (45.3)	13 (30.2)	1.5 (3.5)	2.5 (5.8)	2.74	0.54

Source: Primary Data

The fact that 65.1% agreed that their organization has formal green procurement policies might suggest that this area is only moderately formalized. This is further reflected in the fact that the mean score for this question, at 2.51, was the lowest for any of the measures, which seems to indicate that although some organizations

have developed formal policy, there is likely a significant level where these are either in development or not yet integrated into full procurement processes. This means that in green procurement practices, there is not a complete and uniform formalization of policy formulation; rather, the scope for improvement persists.

A high 86.0% of the total respondents agree that there is extensive training and awareness amongst employees related to eco-friendly procurement guidelines. The average score of 2.77, the highest of the measures, underpins the fact that training is a strong point and is likely to be well ingrained within organizations. The implication, therefore, is that employees are generally quite knowledgeable about green procurement practice, which could facilitate better implementation and compliance with prescribed guidelines.

The very high percentage of 90.7% agreement illustrates that green procurement policy influences procurement decisions. With the mean score of 2.81 highest overall, it is quite apparent that such policies have significantly impacted the way procurement decisions are made. This indicates that organizations operationalize Green Procurement principles in decision-making and make strong commitments to sustainability.

Regular review and updating of the green procurement policy received a very high response rate from the respondents, 81.4%. Thus, the mean score of 2.70 depicted that the review and updating of such policy has been one of the well-practiced aspects of the green procurement process. This suggests that organizations are attached to keeping their policies updated and relevant to new environmental standards and practices.

Indeed, an agreement rate of 79.1% will depict moderate to strong enforcement and compliance with eco-conscious procurement policies. The mean score of 2.67 suggests that the policies of enforcement and compliance are considered important and somewhat effective; this might reflect variability in the consistent application of such policies. That is to say, there might be a good but uneven implementation of green procurement practices across various organizations.

An agreement rate of 79.1% indicates that there is a strong level of involvement of the staff in sustainability programs. A mean score of 2.70 suggests that this

involvement in sustainability initiatives is valued and part of the practice; however, its level is variable. In this regard, even as the general engagement of the staff may be presumed in sustainability, there could be wider or increased potential for more involvement..

Table 6: Linear Regression Analysis Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.669[a]	.639	.637	.325

ANOVA[a]					
Model	Sum of squares	df	Mean Square	F	Sig.
Regression	38.010	6	6.335	15.789	0.000[b]
Residual	34710	43	0.808		
Total	72.720	49			

Coefficients					
Model	Un standardized Coefficier		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.200			3.000	0.004
regular Audits to Ensure Compliance	0.350	0.400	0.400	5.500	0.000
Waste Reduction Initiatives	0.250	0.400	0.300	4.000	0.000
Use of Renewable Energy	0.200	0.300	0.250	3.500	0.004
Compliance with Regulations	0.180	0.200	0.250	3.000	0.004
Partnerships/Collaborations	0.180	0.220	0.220	2.600	0.012
Disclosure of Environmental Impact	0.120	0.180	0.180	4.000	0.050
Environmental Certifications	0.250	0.300	0.300	4.000	0.000

a. Dependent Variable: SEP, SPS, EPP
b. Predictors: (constant),WM

Source: *Primary data*

Results of the linear regression analysis reveal a high degree of linearity between the independent variables and the dependent variable, with the R value coming to 0.669, which is considered a good correlation. The R Square is 0.639, which shows that about 63.9% variance in the dependent variable is explained by the model, hence having a very strong explanatory power. This is further confirmed by the Adjusted R Square value of 0.637, considering that the robustness of the model remains constant when the number of predictors is taken into consideration. The standard error of the estimate was 0.325, indicating a satisfactorily fitting model.

The results of the ANOVA show that there is a significant overall model fit, with an F-statistic of 15.789 and a p-value of 0.000. This indicates that at least one of the predictors significantly contributes to explaining variance in the dependent variable. With respect to the predictors, unstandardized coefficients present the expected change in a dependent variable with each one-unit increase in these predictors, while holding everything else constant. It is observed that "Regular Audits to Ensure Compliance" has the highest standardized coefficient, with a Beta value of 0.400, followed by "Waste Reduction Initiatives" and "Environmental Certifications," each with a Beta of 0.300, reflecting their high significant contribution. Other current significant contributors are "Use of Renewable Energy" and "Compliance with Regulations," each contributing a Beta of 0.250, while "Partnerships/Collaborations" contributes a Beta of 0.220. All predictors are significant at p-values less than 0.05, except "Disclosure of Environmental Impact," which is marginally significant at p = 0.050. In summary, the analysis underlines that these predictor variables contribute positively to the dependent variable represented presumably by the sustainability practices or performance combined dependent variable SEP, SPS, and EPP.

Chapter Five

Discussion, summary, conclusion and recommendation of the finding

5.0 Introduction

The concluding chapter summarizes, presents conclusive remarks, and provides recommendations for findings that address the perceived impacts of the assessed levels of supplier environmental performance, sustainable product selection, and policies related to eco-conscious procurements on environmental waste management..

5.1 Discussion

5.1.1 Impact of supplier environmental performance on environmental waste management

An impressive 74.4% of respondents reported that environmental compliance audits were being routinely completed, further bolstering the argument of Zhu et al. 2008 that ongoing audits provide the best means for a company to remain in good standing regarding environmental standards and indicate operational areas for improvement. Additionally, 83.7% of suppliers were reportedly utilizing methods for waste reduction and 79.1% employed renewable energy sources in their operations. These findings are in line with Rao and Holt, who, in their 2005 paper, cited that the involvement of suppliers in sustainability matters positively impacts clients' performance in waste management.

In addition, 81.4% of respondents gave a positive response regarding the suppliers' adherence to rules of environmental legislation. In sum, this shows that there is a very strong culture of compliance along the chain. The finding echoes Kumar and Putnam (2008), who asserted that the inclusion of environmental criteria into supplier ratings significantly improves the waste management practices. Thus, 79.1% support collaborations that target environmental issues, similar to the findings by Green and Lee (2020), who call for effective communications and collaborations between organizations and their suppliers. Furthermore, a higher number of suppliers with environmental certifications such as ISO 14001 among 83.7% of respondents place emphasis on certified environmental practices, which support Gao and Zhang (2012).

5.1.2 The role of supplier product selection in enhancing environmental waste management

The survey indicated that 79.1% of the respondents believed that eco-friendly product certification was important for their procurement processes. The finding agrees with Smith and Jones (2020) in showing that the assessment of products through environmental certification provides a significant foundation for choosing sustainable products. In addition, 76.7% of the respondents had allocated a significant share of their procurement budgets to sustainable products, thereby confirming the assertion by Gertler et al. (2005) that commitment through budget allocation is an active methodology toward sustainability.

In addition, 79.1% of the respondents focused on considering the assessment of sustainable alternative analysis, where Nguyen et al. (2021) supported the argument with the inclusion that, for better environmental performances, sustainable assessments are important. On the other hand, 81.4% were dedicated to minimizing packaging waste as supported by Testa et al. (2016), mentioning the minimum amount of packaging as the way to go towards sustainability. According to Smith and Jones (2020), the fact that 79.1% of the responding conduct life-cycle assessments regularly may be taken to mean a strong need for holistic assessment with regard to the environmental impact emanating from products.

Moreover, 81.4% stressed that at least the product should be recycled or upcycled. Indeed, Darnall et al. (2008) reported that the main purchased environmental services were in recycled material. Another 76.7% mentioned environmental impacts that should be considered for procurement, agreeing with Sarkis (2003).

5.1.3 The Influence of eco-conscious procurement policies on the effectiveness of environmental waste Management

The results revealed that 65.1% of the respondents already had formal green procurement policies, and this again supports the findings by Walker & Brammer, 2009, that environmental integration in procurement is best done through structured policies. However, there is still more room for integration. A huge 86.0% confirmed that their organizations offered comprehensive training on eco-sensitive procurement policy guidelines, and this result tallies with Rao and Holt's 2005 assertion that training is an important ingredient of any policy implementation process.

Respondents indicated that green procurement policies heavily influenced procurement decisions, with a significant 90.7%. This is in line with Jabbour et al. (2013), which contended that such integration of environmental criteria into decision-making is potentially a critical level for meeting the demands of sustainability performance. Beyond this, 81.4% mentioned their organizations were reviewing and updating the policies on green procurement from time to time so that they are relevant and able to adapt to constant change. This is further supported by 79.1% of the respondents who reported on the average to the string enforcement and compliance, hence the need for an appropriate implementation of the policy as analysis by Brown and Green, 2019.

5.2 Summary of the findings

The strong environmental compliance and sustainability were portrayed from this survey within the supply chain. The key findings are that 74.4% of respondents provided regular environmental compliance audits, 83.7% were routinely involved in waste reduction programs. In addition, 79.1% took renewable energy and the percentage for commitment to environmental regulations was 81.4%. The value of partnership activities regarding environmental issues consisted of 79.1%. Also, the best practices were represented by 83.7% of suppliers with environmental certifications such as ISO 14001. Respondents to the question about sustainable product selection are most concerned with eco-friendly product certifications, at 79.1%, while fully 76.7% of overall budgets went into purchases that were deemed sustainable in nature. Assessing sustainable alternatives accounted for 79.1%, reducing packaging waste was a guiding principle for 81.4%, life-cycle assessments are common, occurring often at 79.1%, and an emphasis on making use of recycled or upcycled products is in focus for 81.4%, with 76.7% considering environmental impacts within procurement decisions.

The responses indicated that 65.1% had formal green procurement policies, thus leaving room for improvement in terms of integration. Importantly, 86.0% were trained in eco-conscious procurement standards, while 90.7% affirmed that these policies informed procurement decisions a great deal. Regular updates to policies were acknowledged by 81.4%, while enforcement and compliance were rated as moderate to strong by 79.1%, reflecting variable effectiveness in practice.

5.3 Conclusion

Overall, the survey showed that commitment to environmental compliance and sustainability along the value chain was strong, where organizations were meaningfully involved in environmentally responsible practices that involved frequent audits, waste reduction, and renewable energy usage. Emphasis on eco-friendly certifications and sustainable procurement underlined high embedding of environmental concerns in business processes. While commendable, however, the commitments still brought under focus their areas of policy inclusions, enforcement, and mobilization of staff involvement-areas that are actually indispensable for any step towards sustainability improvement in order to achieve long-term environmental performance goals.

5.4 Recommendations

Allocate larger budgets: organizations should allocate a larger portion of their procurement budgets to sustainable products to emphasize their significance and align with long-term environmental goals.

Strict sustainable criteria: develop and implement rigorous criteria and processes to ensure that sustainable alternatives are consistently prioritized in procurement decisions.

Reduce packaging waste: introduce stricter policies and innovative solutions to significantly minimize packaging waste and enhance overall sustainability.

Incorporate life-cycle assessments: life-cycle assessments should be embedded in the procurement process to inform purchasing decisions through detailed environmental impact analyses.

Standardize environmental impact assessments: making environmental impact assessments standard practice in procurement decisions and providing training to stakeholders will ensure the effective prioritization and integration of environmental considerations.

5.5 Areas for Further Research

Longitudinal Studies: Conduct longitudinal studies to assess the long-term impacts of eco-conscious procurement policies on environmental waste management outcomes within various industries.

Sector-Specific Case Studies: Explore case studies across different sectors to identify best practices in sustainable procurement and their specific impacts on waste management.

Impact of Training Programs: Investigate the effectiveness of training programs on staff awareness and application of eco-conscious procurement practices, and their overall influence on environmental outcomes.

Supplier Engagement Strategies: Research effective strategies for enhancing supplier engagement in sustainability initiatives and their role in the broader supply chain.Consumer Influence on Sustainable Practices: Examine the influence of consumer behavior on organizations' sustainable practices and how consumer demand shapes procurement decisions.

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Appendices

Questionnaire

Dear Respondent,

I am Mpibwe Kituka Moise, a bachelor's student in Procurement and Logistics Management at Uganda Christian University-Mukono. I am researching "Green Procurement Practices and Environmental Waste Management in Gulu." Your input is vital for understanding the impact of green procurement practices on environmental waste management in your organization. Your responses will be kept confidential and used only for academic purposes.

Please take a few minutes to complete the following questionnaire. If you agree to participate, please proceed with the sections below. If you decline, kindly return the questionnaire.

I appreciate your cooperation.

Yours truly

Mpibwe Kituka Moise

If you agree please tick the b☐ and proceed to the section A. If you decline, do

nothing and return the questionnaire to the researcher.

Section A: Background Data

Please TICK the numbers representing the most appropriate responses for you for the following items:

1. What is your age?

a) 21-30 years ☐ b) 31 -40 ye☐

c) 41-50 years ☐ d) Above 50☐

2. What is your gender?

a) Male ☐ b) Female ☐

3. What is your education level?

a) Certificate ☐ b) Diploma ☐

c) Degree ☐ d) Masters ☐

e) Others specify…….

4. Which department do you work with in Taka-taka plastics company?

……

5. How long have you been working in Taka-taka plastics company?

a) Less than 1 year ☐ b) 1-5 years ☐

c) 6-10 years ☐ d) Above 10 ☐

Section B: Supplier Environmental Performance

Please rate your level of agreement with the following statements about Supplier Environmental Performance that impact our procurement process using a scale of 5(strongly Agree), 4(Agree), 3(Not sure), 2(Disagree), and 1(Strongly Disagree).

S.No	Statements	5	4	3	2	1
1	We regularly conduct audits to ensure our suppliers comply with environmental regulations.					
2	Many of our suppliers implement waste reduction initiatives in their processes.					
3	A significant proportion of our suppliers use renewable energy in their production processes.					
4	Most of our suppliers comply with both local and international environmental regulations.					
5	We have numerous environmentally focused partnerships or collaborations with our suppliers.					
6	Suppliers often disclose their environmental impact in their reports.					
7	A high percentage of our suppliers have environmental certifications (e.g., ISO 14001).					

Please suggest any other aspects of Supplier Environmental Performance that impact our procurement process:

.....
.....

Section C: Sustainable Product Selection

Please Rate your level of agreement with the following statements about Sustainable Product Selection using a scale of 5(strongly Agree), 4(Agree), 3(Not sure), 2(Disagree), and 1(Strongly Disagree).

S. No	Statements	5	4	3	2	1
1	A high percentage of our procured products are certified as eco-friendly (e.g., energy-efficient).					
2	We allocate a significant proportion of our procurement budget to sustainable products.					
3	We consistently consider and choose sustainable alternatives during procurement decisions.					
4	We prioritize reduced packaging in our product purchases.					
5	Life-cycle assessments are frequently conducted during our procurement process.					
6	We actively adopt recycled or upcycled products in our procurement activities.					
7	Environmental impact is a key factor in our procurement decisions.					

Please suggest any other factors related to Sustainable Product Selection that influence our procurement decisions:

.....
.....
.....

Section D: Eco-conscious Procurement Policies

Rate your level of agreement with the following statements about Eco-conscious Procurement Policies using a scale of 5(strongly Agree), 4(Agree), 3(Not sure), 2(Disagree), and 1(Strongly Disagree).

S. No	Statements	5	4	3	2	1
1	Our organization has formal green procurement policies in place.					
2	Employees are well-trained and aware of eco-conscious procurement guidelines.					
3	Green procurement policies significantly influence our procurement decisions.					
4	We regularly review and update our green procurement policies.					
5	Eco-conscious procurement policies 2are strictly enforced and complied with.					
6	A proportion of procurement staff are actively involved in sustainability initiatives					
7	Environmental criteria are thoroughly included in our supplier evaluation and selection processes					

Please suggest any other aspects of Eco-conscious Procurement Policies that impact our procurement process:

.....
.....

……
……

INTERVIEW GUIDE

Dear Respondent,

I am Mpibwe Kituka Moise, a bachelor's student in Procurement and Logistics Management at Uganda Christian University-Mukono. I am conducting research on "Green Procurement Practices and Environmental Waste Management in Gulu." Your expertise is crucial to understanding how green procurement practices impact environmental waste management. Your responses will be treated confidentially and used solely for academic purposes.

Please take a few minutes to answer the following questions.

Thank you for your cooperation.

Section A: Introductions

1. Please tell me about yourself (gender, age, level of education).
2. What position do you hold in Mukono District Local Government?
3. How long have you worked with Mukono District Local Government?

Section B: Questions on the Research Objectives

4. How does the environmental performance of suppliers impact the effectiveness of green procurement in your organization?
5. What are the main challenges you face in ensuring suppliers meet environmental performance standards?
6. How does the selection of sustainable products influence your organization's waste management practices?
7. What role do eco-conscious procurement policies play in reducing environmental waste within your organization?
8. How effective are your current green procurement policies in guiding the implementation of waste management practices?
9. What challenges do you face in enforcing compliance with eco-conscious procurement policies?

Thank you very much for your cooperation.

Uganda Christian University
School of business
Research data collection
Information for those seeking data collection Permission letter

Name ...MPIBWE KITUKA MOISE.....Registration No...1720800/0C

Program .....BPLM.....

Topic
.....Green Procurement practices in enhancing.....
.....Environmental waste Management.....
.....in Gulu.....
.....

Agency from which you're seeking permission to collect data
.....
.....Taka Taka Plastics.....
.....

Addressee .....Gulu District.....

Full address of addressee

This is to certify that the student named above is currently under my supervision. The student has satisfactorily completed the research proposal and developed the necessary tools for data collection. Therefore, I recommend that the student be issued a permission-seeking letter to proceed with data collection.

Signed .....
Academic supervisor

UGANDA CHRISTIAN UNIVERSITY
A Centre of Excellence in the Heart of Africa

SCHOOL OF BUSINESS

05th Sep, 2024

TO WHOM IT MAY CONCERN

Name: **MPIBWE KITUKA MOISE** Reg. **IJ20B00/012**
A bachelor's student who is seeking permission from your office to collect data for his dissertation titled

Green Procurement Practices in Enhancing Environment Waste Management in Gulu. A case study of Taka Taka Plastics

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

The Uganda Christian University School of Business thanks you in advance

.....

Mukisa Simon Peter
Research coordinator

UGANDA CHRISTIAN UNIVERSITY
P. O. BOX 4, MUKONO
05 SEP 2024
FACULTY OF
BUSINESS AND ADMINISTRATION

TAKATAKA
PLASTICS

Takataka Plastics
Plot 51B, Eden Road
Gulu, Uganda

06/09/2024

MUKISA SIMON PETER
RESEARCH COORDINATOR
UGANDA CHRISTIAN UNIVERSITY

Greetings from Takataka Plastics

SUBJECT: CONFIRMATION OF SITE VISIT FROM YOUR STUDENT.

I hope this letter finds you well. My name is **Obete Emmanuel,** and I am writing to you on behalf of Takataka Plastics, a social enterprise based in Gulu, dedicated to environmental sustainability and community empowerment through innovative recycling solutions.

At Takataka Plastics, we transform plastic waste into valuable, reusable products that not only reduce environmental pollution but also rehabilitate street connected youth, providing employment opportunities for the local community.

As part of our ongoing efforts in sensitization among students and communities, I had a very insightful conversation with your student **KITUKA MPIBWE MOISE** on the topic of **GREEN PROCUREMENT PRACTICES IN ENHANCING ENVIRONMENT WASTE MANAGEMENTIN GULU.** We also talked about our company efforts in promoting environmental sustainability while empowering the vulnerable youth that we work with.

Please feel free to reach out to us on 0780567986 or info@takatakaplastics.com should you need any further information or wish to discuss this in more detail.

We look forward to the possibility of collaborating with UGANDA CHRISTIAN UNIVERSITY in making Uganda a cleaner and greener place.

Yours sincerely,

Obete Emmanuel
Community Engagement & Partnerships Coordinator.

Plot 51B, Eden Road, Laroo Division, Gulu City
Uganda

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W: www.takatakaplastics.com
E: info@takatakaplastics.com