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DEPARTMENT OF PROCUREMENT AND SUPPLY SCIENCE

PROJECT TOPIC

EFFECT OF GREEN PROCUREMENT PRACTICE ON ENVIRONMENTAL WASTE REDUCTION. A CASE STUDY OF WILMAR AFRICA GHANA LIMITED.

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A PROJECT WORK PRESENTED TO THE DEPARTMENT OF PROCUREMENT AND SUPPLY SCIENCE IN THE FACULTY OF BUSINESS AND MANAGEMENT STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF TECHNOLOGY IN PROCUREMENT AND SUPPLY CHAIN MANAGEMENT

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DECLARATION

We hereby declare that this research is the result of our own original work and that no part of it has been presented for another diploma in this university or elsewhere except for references made to other peoples' work which has been duly cited.

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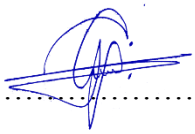
Signature: 

Date: 26/09/2024

CERTIFICATION

The preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of research laid down by Koforidua Technical University.

Name: Dr. Gloria Pokuaa-Dua

Signature  ……..…

Date……30/09/2024…….

DEDICATION

This piece of academic work is dedicated to the Almighty God and also to our parents and siblings.

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ABSTRACT

In the last three decades, pressure from stakeholders have forced many firms including the food manufacturing firms to integrate sustainability into their operations in the quest to minimize their implications on the environment. The study examined the effect of green procurement practice on environmental waste reduction, using Wilmar Africa Ghana Limited. Using a sample of fifty (50) respondents and employing the purposive sampling and convenience sampling techniques, the study found out that Wilmar Africa Ghana Limited practices green procurement; thus, under supplier selection, the highest agreement is on using green materials that focus on recycling, reusing, reducing, and refurbishing leading to waste reduction. On the score of importance of green procurement practices, reducing emissions and waste are top priorities, reflecting a strong commitment to minimizing environmental impact. The study further revealed that customer satisfaction is highly valued, underscoring the importance of aligning green practices with consumer expectations. The study revealed that the challenges faced by Wilmar Africa Ghana Limited in implementing green procurement practices are multifaceted. Key issues include the lack of appropriate technology and supplier resistance, both of which are seen as significant obstacles. The study recommends that Wilmar Africa Ghana Limited should invest in advanced green technologies and provide comprehensive training for employees to enhance their competence in green procurement. Furthermore, to overcome resistance from suppliers, the company should develop stronger partnerships and communicate the long-term benefits of green procurement. Incentives or support programs could be introduced to encourage suppliers to adopt sustainable practices.

Key Words: Green Procurement, Environmental Waste Reduction

CHAPTER ONE
GENERAL INTRODUCTION

1.0 Background of the Study.

In the last three decade, pressure from stakeholders have forced many firms including the food manufacturing firms to integrate sustainability into their operations in the quest to minimize their implications on the environment (Aboelmaged & Gharib, 2019; Ben Amara and Chen, 2021; Touriki et al., 2021) . These among other factors has raised global discourse on the issues of procurement sustainability as among the key strategies in reducing environmental impact of firms (Papadopoulou et al., 2021)

Procurement is emerging as a strategic way in achieving sustainability in both private and public sector organization. Many businesses have grown used over the past 20 years to strategies and initiatives that push their quest for competitiveness while ignoring critical environmental concerns. However, the formation of the three pillars of sustainability (i.e., environmental, economic, and social) has forced the world community to compel businesses to examine novel ways and practices that support the environment once again through regulations and protocols (Aboelmaged, 2018a). In this new era of environmentalism, green procurement practices (such as recycling, reusing, eco-design, etc.) have emerged as necessary actions that positively contribute to the worldwide fight to reduce carbon emissions, conserve energy, water, and natural resources, seize toxic products and materials, and manage the detrimental effects of global warming on resource conservation.

Green procurement is explained as the practice of "purchasing products and services that cause minimal adverse environmental impacts. It incorporates human health and environmental concerns into search for the high-quality products and services at competitive prices"

Green procurement includes activities such as reprocess, reduction and recycling in the process of procuring or purchasing, either by public or private entity. (Salam, 2018). The idea of green procurement focuses on minimizing environmental negative impact; and as a result, led many organizations or entities to incorporate issues related to the environment in its procurement making decision. This practice in its wholesomeness can be referred to as green procurement.

Within many of sectors of the economic system, there has been an evaluation in management practices closer to greater sustainable modes of operation. This has worried all facets of commercial enterprise operation, from procurement and manufacturing through to advertising and marketing, sales, packaging and labeling. Weather alternate and consciousness of the greenhouse emissions generated in the process of production of products and offerings will maintain the focus at the environmental overall performance of agencies and authorities nicely into the destiny (Salam, 2018). The above illustrates the significance of weather and environment on sustainable procurement. In a comparable context, Salam, (2018).) stated that, procurement is a vital aspect of environmental overall performance of manufacturing enterprise and authorities. a lot in order that, some groups now have dedicated Environmental Control Strategies (EMS), divisions, reporting procedures and auditing packages built in to their organizational shape. Procurement is positioned because the starting point for progressed environmental performance and transition towards extra economically viable, socially acceptable and environmentally accountable enterprise practices. (Kiereini, 2019; Fernandez and Rainey, 2016)

While most manufacturing firms in emerging economies like Ghana lack the necessary infrastructure to support sustainability, these businesses also encounter numerous obstacles when establishing green procurement systems. Aboelmaged and Gharib (2019) advanced that green procurement practices plays an integral role to achieving sustainability particularly in manufacturing firms.

However, till date, it is unclear how green procurement among firms may influence procurement sustainability in environmental waste reduction in emerging economies like Ghana. This study is therefore conducted to examine green procurement practices in reducing environmental waste, using Wilmar Ghana limited.

1.2 Problem Statement

Over the years, green initiatives have occasioned interest among researchers particularly in supply chain management across the globe. The importance of green procurement is motivated by innumerable key factors. These factor are but not limited to the increasing deterioration of the environment, deserted waste sites, decrease of raw materials, and the increase in the degree of environmental contamination (Farrukh et al., 2022). On the other hand, as focus swings to the implementation of environmental policies or strategies, organisations, particularly manufacturing one, to be in tandem with the current business requirements which culminates in to increased levels of profits

Martha and Houston (2019) opined that the objective of green procurement ingenuities is to reduce waste, by creating value taking into thought total cost of implementing green procurement strategies. Extant studies show there exist relationship between green purchasing and supplier performance (Skare and Riberio Soriano, 2020), green procurement and growth (Yamoah and

Arthur, 2014; Houghton, 2017; Hollosby & Paulrajac, 2018). Even though there is doubt about the positive implications of green procurement, it applications is dominant in developed economies (Ivanova, 2020), and poses interesting avenues for more empirical studies in developing economies.

The gap necessitating this study is the fact that, there is little empirical study about green procurement practices and the few extant one are related to developed economies and public sectors (Skare and Riberio Soriano, 2020). Hence, the current study fills this gap in literature by focusing on Ghana, an emerging economy and the private sector organisations. Therefore, the current study seeks to examine the effect green procurement practices on environmental waste reduction. A case study of Wilmar Africa Ghana Limited

1.3 Objectives of the study

The main objective of this study is examine green procurement practices in manufacturing companies. A case study of Wilmar Africa Ghana Limited. The specific objectives include

i. To identify the extent to which green procurement is practiced in Wilmar Africa Ghana Limited
ii. To examine the importance of the implementation of Green procurement practices in Wilmar Africa Ghana Limited
iii. To identify the challenges in the implementation of green procurement practices in Wilmar Africa Ghana Limited

1.4 Research Question

i. To identify the extent to which green procurement is practiced in Wilmar Africa Ghana Limited

ii. What are the importance of the implementation of Green procurement practices in Wilmar Africa Ghana Limited?

iii. What are the challenges in the implementation of green procurement practices in Wilmar Africa Ghana Limited?

1.5 Significance of the Study

The study is conducted basically on green procurement practices in manufacturing companies in Ghana. The outcome of this study will make significant practical and theoretical contributions. First and foremost, this study will also contribute empirically to green procurement practices, the immense benefit of using green procurement and therefore what policies and frameworks need to be implemented to ensure lasting benefits. Again, the nature of the study will benefit manufacturing organizations by contributing immensely towards how these organizations will come out with policies that will ensure that inherent issues that confront green procurement applications are addressed with respect to the recommendations that will be made available in the studies.

Theoretically the study will also add to literature in academia especially in Sub Sahara Africa by providing direction on procurement organisations among business professionals of diverse cultural orientations in Ghana. The literature again revealed that, most research with respect to the subject matter were skewed to developed economies. However, there is very little empirical research of this nature in developing counties in Africa. This study see this gap as one worth investigating especially in Ghana.

1.6 Scope of the study

The scope sets the context and boundaries of the research. Contextually the study focused green procurement practices in manufacturing companies. A case study of Wilmar Africa Ghana Limited. Though green procurement is measured by several factors, this study focuses on performance with respect to manufacturing firms. The study is also limited to Ghana.

1.7 Limitation of the study

The study has some limitations. In doing this research, the researchers experienced hindrances by the issue of time and restricted resources in terms of adequate literature, difficulties in getting back questionnaires .Further studies should be given ample time Despite these obstacles, the researchers were committed to ensuring that this research was of high quality and adheres to the university's writing criteria.

1.8 Organization of the study

The study is structured into five chapters. The Chapter One first and foremost introduces the study, then the research problem, research objectives, research questions, significance of the study, scope of the study, limitations of the research and overview of the research methodology.

The Chapter Two, reviews relevant literatures related to topic under study. The literature review encompasses both theoretical and empirical sections. The various concepts about the study will also be reviewed in the Chapter Two.

The Chapter Three elaborates on the research methodology. The chapter discusses the study design, population of the study, sampling, data collection, data processing, data analysis and ethical consideration.

The Chapter Four of the study present analyses of the data and discuss the result.

The Chapter Five summarizes the research result, makes the necessary conclusions and recommend appropriate and feasible policy and managerial measures for improvement.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the literature review on the subject. The broad areas of this chapter includes the conceptual review, definition of concept of procurement and Concept of Green procurement. Also, this chapter considers the three thematic areas of Green Procurement, theoretical review, Green procurement practices, challenges of green procurement implementation, and conceptual framework for the study.

2.2 Conceptual Review

This section gives the definitions and the concepts of the variables under study. It defines the concepts of sustainable procurement, green supply chain and supply chain surplus. The section also defines procurement and sustainability.

2.2.1 Defining the Concept of Procurement

The concept of procurement, according to Ezeanyim et al (2020) involves origination and acquisition of goods, works and services at the right time and price with the right quality and quantity through the process of identification of firm or individual needs, determination of sources, identification, evaluation and selection of the right supplier. In other words, procurement encompasses all the processes and activities that an organization go through, guided by the firm's policy and compliance regulations, in order to purchase the inputs, they need for operations.

According to Van Weele (2018) cited in Moshtari et al (2021), procurement involves communication and collaboration with internal buyers regarding specifications of products and

services, sourcing, supplier and product evaluation, and contract and relationship management among other things. Procurement activities can be grouped into primary and secondary tasks. It concerns with the processes through which firms identify external sources of suppliers of goods, services and works and enter into contractual agreement with the supplier often through the process of tendering or competitive bidding. (Van Weele, 2018). In other words, the procuring entity must match its needs with and external supply source, engage in negotiation and enter into contract with the successful supplier for supply of goods, services and works.

Procurement includes all the activities of a firm, which ensures the effective utilization of the limited or scarce resources available to the firm for the benefit of the company and its stakeholders (Mutangili, 2021). In other words, procurement activity involves the purchase of materials for reuse or service by an individual, private or government organisations for the benefit of the user(s) (Aigheyisi & Edore, 2018). Literature has shown that, procurement is the function of an organisation, that ensures the purchasing and availability of needed resources at the right time and price, of the right quality and quantity and from the right source through the guidance of the organisation's purchasing policy.

Therefore, procurement is the function of an organisation, that ensures the purchasing and availability of needed resources at the right time and price, of the right quality and quantity and from the right source through the guidance of the organisation's purchasing policy

2.2.2 Definition and Concept of Green Procurement (GPP)

Sustainable Procurement is very crucial if sustainability development goals and objectives are to be achieved. According to Birkin et al. (2019) cited by (Meehan & Bryde, 2010) Business

entities are now operationalizing and integrating environmental aspect of performance that are in support of the triple bottom line (TBL) concept. Sustainable Procurement can be defined as program of activities which seeks to achieve sustainability development objectives through responsible buying and supply process (Journal of purchasing and supply management, 2012). According to Rajeev et al. (2018) Sustainable procurement includes all activities carried out by an organisation to satisfy its needs for goods, services, works and utility in a way, such that value for money is achieved on whole life basis with regards to the achievement of benefits not only to the organisation but also to the society and the economy, whilst minimizing damage to the environment. According to the European International Contractors, (2014), Sustainable Procurement plays a crucial role in achieving Sustainable Development. This is because Sustainable procurement practice incorporates social, economic, and environmental and community factors in the purchase and sale of products (Islam et. al., 2016).

Therefore, to be regarded as green procurement, the purchasing practices typically evaluate the supply chain and its effects in regard to five 9 aspects: environment, diversity, human rights, philanthropy and safety (Brammer and Walker, 2021). Sustainable procurement deals with managing all aspects of the upstream components of the supply chain to maximize triple bottom line performance In other words, supplier's activities must be sustainable. Sustainable Procurement is an act or an effort by a firm in an attempt to achieve sustainability development objectives through the means of purchasing and supply (Walker and Brammer, 2017). This means that, firms, in their attempt to achieving economic and organisation goals must show positive attitude towards society and the environment through the acquisition of their inputs through responsible purchasing from suppliers who integrate sustainability in their activities.

According to Walker and Bramme (2019) cited by (Journal of purchasing and supply management (2015) Sustainable procurement is in line with, and supports the principle of sustainable development objectives to maintain a strong, healthy and just society, living within environmental limits and promoting good governance. In other words, sustainable procurement seeks to create a polluted free environment and society for the betterment of mankind. To achieve sustainable development designing and implementing strategies organisations must do well to consider to include all members of its supply chain (Green et al., 2016, Nathan, 2015) cited by (Joanne Meehan & David Bryde, 2020). Which means that for a firm to formulate and implement a successful sustainable development objective, firms must collaborate and engage in learning process with its upstream and downstream member accurate data to formulate strategies.

An effective collaboration with a company's suppliers is very crucial towards the achievement of a better environmental performance by a firm by (Joanne Meehan & David Bryde, 2020). In other words, firms must work with its suppliers to reduce toxic waste. According to Rajeev & Kasun, 2015, Efforts of combination from different disciplines is needed, in an attempt to achieve sustainable developments. Sustainable procurement is a potential multi-dimensional tool to help firms achieve that.

Based on the above definitions, the study defines Green Procurement as the set of operational policies of a firm, which seeks to achieve economic benefits, and towards the creation of a better social and environmental conditions for mankind and nature.

2.2.3 Three Thematic Areas of Green Procurement

1. **Environmental Purchasing**

Regulations and escalating awareness of consumers on the impact of manufacturing companies on the environment and society has informed and led most companies to respond by way of consideration of transforming their supply chain process (Louis Lu, Wu, & Ku, 2017). According to Koplin et al., (2017), Maignan et al., (2020) cited by (Stefan Winter & Rainer Lasch, 2019) responsibilities and accountabilities of companies stretches beyond just their internal practices to include their suppliers' behaviours. Environmental Purchasing is about buying with social and ethical responsibility (Md. Mazharul Islam, 2017). It is concerns with how firms source their supplies from suppliers whose operations are consistence with sustainable development objectives in an attempt to improve upon society and the environment. It is concern with how a firm learn about the operations of its suppliers to ensure that, their operation is sustainable before purchasing from them. Sustainability has been embraced and considered by most companies and has resulted in these firms introducing supplier selection schemes, which includes environmental and social criteria in their engagement with suppliers (Seuring and Muller, 2018) cited (Md. Mazharul Islam, 2020).

Many companies have come to understand the value and benefits of sustainable actions or purchasing by (Md. Mazharul Islam, 2020), and the competitive advantage they enjoy as a result of behaving responsibly (Seuring and Muller, 2018) by producing products differentiation and market position improvement (Polonsky and Jevons, 2016). According to Wu and Dunn (2021) and (Porter 1985) cited by (Louis Lu, Wu, & Ku, 2017) all the members of the supply chain should be involved in reducing the focal firm's total environmental from start to finish and

throughout the product life cycle. Environmental purchasing therefore means that companies exhibit responsible behaviour in sourcing or dealing with supplier

2. Diversity

The intense competition within the business environment makes it difficult for manufacturing SMEs. Minority business enterprises and the women own business enterprises to compete for procurement contracts, but this unfavourable situation has a negative effect with respect to the achievement of green procurement development goals. Diversity is one of the ways to resolve the situation. Procurement Diversity is in consistence with green procurement development goals, and it is one of the many means through which organisations can act green towards the society, and involves companies procuring from local suppliers, SMEs, Minority and Women own business enterprises. According to Mayoux, (2017) cited by (Barbara Orser and Allan Riding, 2021) one of the sure mechanisms through which organisations can deal with and to redress the perceived market failures such as discrimination and economic exclusion is green procurement and green practices. In other words, companies engage in diversity procurement to supports the environmental safety issues of the society or the social economy. Most companies are now considering procurement diversity as a procurement policy knowing the benefits of dealing with minority enterprises, and according to Carter, Auskalns, and Ketchum, (2019), Minority Business Enterprises (MBE) and Organizational Diversity Procurement Programs, a company's reputation is enhanced as an ethical entity when it procures diversely and this can have a positive impact on the entity's market position. Organisations should therefore design preferential green procurement programs supports and encourages diversity.

3. Safety

Unfavourable working condition affects productivity and has a negative impact on sustainality development. Employees need a safe working environment and working condition to be productive, and work towards the achievement of sustainable development goals. Organisation should be responsible towards the well-being of their suppliers and must engage in a constant inspection of the premises of their suppliers to ensure that safety protocols are dully observed and followed. According to Hughes et al, (2018) safety is concerned with employees' security from physical injury at the work place.

The International Occupational Hygiene Association (IOHA) defines occupational health and safety as the science of anticipating, recognizing, evaluating, and controlling hazards that may arise in or from the workplace and endanger workers' health and well-being, while also considering the potential impact on surrounding communities and the general environment. Safety should be a procurement criterion of entities pursuing sustainability development. According to Miles, (2020) Occupational related accidents, diseases and hazards are estimated to cost Ghana about her 7% GDP. In other words, the cost associated with unsafe working environment has a negative impact on productivity and finances of an organisation. Companies must therefore work to maintain and achieve environmental safety and towards sustainability development, they must employ an innovative technology to create a safe working environment.

2.3 Theoretical Review

In this study the following theories are covered in relation to the of green procurement practices; Resource Based Theory and legitimacy Theory.

i. Resource Based Theory

This Resource Based Theory (RBT) is an economic tool used to determine the strategic resources available to a firm. The main principle of the RBT is that the basis for a competitive advantage of a firm lies primarily in the application of the bundle of the valuable resources at the firm's disposal. To transform a short-run competitive advantage into a sustained competitive advantage requires that these resources are heterogeneous in nature and not perfectly mobile (Peteraf, 2015). Effectively, this translates into valuable resources that are neither perfectly imitable nor substitutable without great effort (Hoopes, 2016). If these conditions hold, the firm's bundle of resources can assist the firm in sustaining the above average returns. The resource-based view of the firm also emphasizes that valuable, rare, imperfectly imitable, and non-substitutable resources result in competitive advantage (Barney, 2021)

Resource based view theory is an important aspect and concern for the companies to acquire the essential resources that are useful in implementing the green management practices. The field of purchasing a raw material and to procure the material to manufacture products are essential part for the companies. Each firm is regulated by the certain policies and it is essential for the manufacturing firm to procure the materials that are used to build a quality product. The resources should be adequate to procure the materials that are essential to enhance supply chain management. The natural resource-based view is an essential part for the firm to connect between the environmental performances and to attain the competitive advantage in the corporate market. It is in firm's capacity to deploy the resources usually in the combination of the

organisational processes in order to gain competitive edge in their manufacturing department (Chacón Vargas & Moreno Mantilla, 2017).

ii. Legitimacy Theory

Legitimacy implies the existence of a social contract between an organization and its constituents (or stakeholders). Though scholars define it with varying degree of specificity, one of the broadly adopted definitions of legitimacy is that it is a general perception or assumption that the actions of an entity are appropriate within some socially constructed system of norms, values, beliefs, and definitions (Scott,2020). Given its unique ability to connect organizational actions to stakeholder expectations, there is a widespread support for the notion that legitimate behaviour can lead to superior rewards and benefits. Legitimacy of organizations has historically been approached from two opposing theoretical perspectives – institutional and strategic. From the institutional perspective, legitimization is envisioned as a process of institutionalization, whereby external norms and beliefs are adopted without much thought. On the other hand, the strategic theoretical perspective envisions legitimacy as instrumental, proactive, and more importantly, a deliberate pursuit that can ultimately enhance external beliefs, thereby creating newer and enhanced levels of legitimacy.

Given its ability to explain organizational initiatives that do not follow the norms of profit maximization, the legitimacy-based view provides a sound theoretical basis for explaining environmentally-oriented initiatives. Studies relying on the institutional theory suggest that pressures from a firm's institutional fields will drive it to seek legitimacy in the eyes of its stakeholders. At the same time, given that institutionalization highlights "organizational skepticism" when legitimacy-seeking behaviours conflict with other firm objectives such as

profit maximization, institutional theory also signals that firms might pursue only basic environmental initiatives that could sufficiently satisfy stakeholder needs.

Following these ideologies within the institutional view of legitimacy, extant research has identified regulatory compliance, competitive advantage, and social concerns as key proponents of corporate environmental initiatives. More importantly, organization theorists contend that the visibility of an organization can invite increased institutional pressure to pursue environmentally sound practices. (Scott, 2020).

2.4 Implementation of Green Procurement Practices

Green procurement steams from pollution prevention principles and activities. Also known as green or environmental purchasing, green procurement compares price, technology, quality and the environmental impact of the product, service or contract. (Miles, 2020). He further asserted that green procurement policies are applicable to all organizations, regardless of size. Green procurement programs may be as simple as purchasing renewable energy or recycled office paper or more involved such as setting environmental requirements for suppliers and contractors. (Miles, 2020). Green products or services utilize fewer resources, are designed to last longer and minimize their impact on the environment from cradle to grave. In addition, green products and services have less of an impact on human health and may have higher safety standards. Whilst some green products or services may have a greater upfront expense, they save money over the life of the product or service (Miles, 2020).

Lozano (2016) suggested that before a green procurement program can be implemented, current purchasing practices and policies must be reviewed and assessed. A life cycle assessment of the

environmental impacts of products or services is required and a set of environmental criteria against which purchase and contract decisions are made has to be developed. (Lozano, 2016). The outcome is a regularly reviewed green purchasing policy that is integrated into other organisational plans, programs, and policies. A green purchasing policy includes date stamped priorities and targets, the assignment of responsibilities and accountability and a communication and promotion plan. (Lozano, 2016). The author further elaborated that, green procurement policies and programs can reduce expenditure and waste; increase resource efficiency; and influence production, markets, prices, available services and organizational behavior. This is explained to mean that, green procurement can also assist countries in meeting multilateral requirements such as the Kyoto Protocol and Rotterdam Convention. International Standards Organization and other bodies have established guidelines for green procurement programs.

Jae Mather (2019), observed that obstacles to implementing a green procurement program include: lack of readily available environmental friendly products; expensive or zero environmental alternatives; inaccurate studies; lack of organizational support; and inaccurate or unsupported environmental claims by manufacturers and suppliers. Legislation, organizational policies, directives, environmental management systems or multi-lateral agreements often require organizations to implement a green procurement program (Jae Mather, 2019).

As reported by Morrison (2021) in one of his studies, 70% of the organizations have specific allocations made to tackle this issue. But still many organizations consider this from a corporate reputation and that the competitors are doing it which forces them to do it as well. It is nothing more than a marketing gimmick or advertisement agenda for the firm. Governments of different nations are encouraging both private and public firms to become green in which ever ways

possible and have been creating policies and providing with incentives for initiatives taken by firms within the economic space. Environmental issues have been the core of sustainable procurement. The ozone depletion, reduction of carbon emission, bio-degradable materials, eco-friendly products, alternate energy sources to effectively use the natural sources have all been important factors. Socio-economic development of the local, like the social welfare of people, health care, employment opportunities also form the core of sustainable procurement. (Morrison, 2021)

2.5 Factors That Affect the Implementation of Green Procurement Practices (Challenges)

Belfitt et al, (2021) asserted that although there are several potential advantages for a company adopting green procurement practices, they are not widely implemented. This is because there are several barriers which discourage companies from accepting and adopt green procurement practices in their procurement process. Three major commonly cited examples of barriers to successful implementation of green procurement are increased cost, increased effort, and inefficient supply chain communication (Seuring and Müller 2018). In a study conducted by Wood and Ellis (2015), it was noticed that whilst perceptions and even experiences on green procurement practices were positive, relationships sometimes remained cost driven, even when there were perceived benefits in a change to the new approach.

Higher initial cost of green products has been adduced by Mensah and Ameyaw (2018) as one of the challenges associated with implementing sustainable procurement. In addition, potential demand for green housing has not been fully explored for peoples' undeveloped environmental consciousness. Ning et al. (2016) said that the initial higher cost of green buildings than

conventional buildings limited by the design and technology level is one of the significant challenges that face the practice of SP.

The authors conclude that the spread of green buildings in the market requires the involvement of all stakeholder groups including the customers who are at the extreme end of the supply chain, suppliers, and the government. However, the lack of top management support has been cited as one of the factors militating against Sustainable procurement (Hinrichs & Wettlin 2019). Boomsma (2018) opines that sustainable sourcing needs first the commitment of strategic executives of an organization and the involvement of all interest groups in the sustainability processes. Mensah and Ameyaw (2018) investigated sustainable procurement in the construction industry in Ghana and discovered the lack of social drive, low technical and management capacity, the absence of internal management structures hindered the implementation process.

Other factors cited in the literature as hindering sustainable procurement implementation include budgetary constraints and funding issues, lack of knowledge about sustainability by supply chain partners, poor policy regulations, lack of incentives and the absence of commitment by leadership (Parkin et al. 2016; Mensah & Ameyaw, 2018). Sourani & Sohail (2021) also found the absence of clear guidance and tools for best practice for sustainable procurement, ambiguous definitions and explanation of sustainability, insufficient time to address sustainability issues, high opposition to change, high cost of sustainability, lack of training for supply chain partners, inadequate investment in research and development to address sustainability issues among others.

Brammer and Walker (2021), in their international comparative study discovered that the degree of GP practice and adoption differs largely across regions. Many organizations continue to face

challenges in successfully implementing the practice of sustainable procurement in their procurement process. Even though SP implementation challenges have been looked at in several studies, they were largely concentrated on the European experience (Walker & Brammer 2021; Kahlenborn et al. 2019). In Ghana, even with the amendment of Act 914 of 2016 to incorporate SP, not many studies have been conducted to know that situation as far as implementation of sustainable procurement is concerned. This study therefore is timely as it seeks to bring to the fore the level of implementation and implementation challenges of SP in the public sector of Ghana.

Seuring and Mueller (2018) focused their literature review more specifically on SSCM. From a total of 191 scientific papers, they identified general pressures and incentives, supporting factors, and barriers. General pressures or incentives for SSCM comprise legal and customer demands, stakeholder claims, competitive advantage, and the prevention of reputation loss. Concrete supporting factors were found more specifically in the technical and human resources domain. In the literature reviewed by Seuring and Mueller (2018) the supporting factors mentioned the most were company-overlapping communication, management systems and monitoring schemes, but also training of procurement staff and the integration of sustainability into the corporate policy. Their list of barriers is shorter and refers to elevated costs, complexity of coordination and related efforts, and insufficient or missing communication in the supply chain. With respect to FSI, Conner et al. (2019) analyze the potential for increased sustainability of school foods in the USA from a transaction cost perspective based on a qualitative study among supply chain actors. They point at barriers such as cost and quality concerns

2.6 Practices of Green Procurement and Environmental Issues

1. Top Management Support

The conventional trade control literature has regularly pointed to the pivotal position top management aid plays in the implementation of organizational change, Fernandez al., (2016). In the procurement and Green procurement literature, a comparable function is given to pinnacle management assist (Hoejmose and Adrien-Kirby, 2022). for example, a look at by means of Brammer and Walker (2021) observed management and pinnacle management assist to be important in the implementation of sustainable procurement. If managers are supportive and incorporate green procurement in their techniques or goal putting, challenge groups will indeed procure sustainably (green). (Brammer and Walker, 2021). Pinnacle control guide may be defined as a force that attracts a undertaking team together to a path of action deemed very necessary for the application of Green procurement inside their procurement undertaking installation (Herscovitch and Meyer, 2020). Top control support is taken into consideration as a very vital aspect which determined the variety of Green procurement in Green procurement literature to support safe environmental issues. (Erdmenger, 2022; Michelsen and de Boer, 2019).

Without the proper thoughts-set, consumers will make traditional picks. pinnacle control help is therefore a large determinant to what an organization can done, Hoejmose and Adrien-Kirb, (2022). even though Green procurement literature identifies the relevance of top management support of the procurers and task groups to change, little interest is given to the traits of top

management aid. Literature from the sector of organizational change gives more insights into top management support to adjustments. pinnacle management aid to change does not should be present from the onset of the procurement manner; it is able to arise after training or coerced involvement on the man or woman or system degree (McLaughlin, 2018).

2. ICT Infrastructure

Authoritative standard inside business venture and control is incited by an assortment of different fields and trains alongside brain research, human science, political innovative know-how, building and financial aspects. There's need to comprehend the hierarchical rule, jumping up from the administration recognition to give a clarification to the authoritative directions, outlines and frameworks. The store network connections among organizations have realized a basic need to investigate the association thought between authoritative degree. ICT programming program that backs green acquirement must be in a position to guarantee procedures are helpful for the environment and its data sources and yields are not hazardous to the surroundings such are utilization of e-acquisition.

3. Supplier Selection

One system comprising of ecological criteria in unpracticed obtainment is through the supplier determination. Murray and Cupples (2021) acknowledge as valid with that purchasing need to mindfulness on the decision of top of the line suppliers and in like manner, fruitful unpracticed provider examination need to look at the provider set up of the item. Colossal examinations have been proficient concerning the frameworks and strategies for picking suppliers at some stage in the Green securing strategy and different structures were progressed. Literature, for instance, pinpointed general execution benchmarks that endeavors ought to remember at some stage in the fresh procurement choice process and besides provoked philosophies for viably picking suppliers

from an environmental perspective; while Shen, Olfat, Govindan, Khodaverdi and Diabat (2020), guided a feathery method for assessing green suppliers (the cushioned framework makes usage of logical qualities to cure hazards of human perception in the midst of the examination methodology.)

In view of the enormous extent of practices and techniques an association can investigate, multi-models decision enable outfit to have been made as a last item. every now and again, when a business makes or select a procurement assessment and choice approach, the association need to first pick what their specific necessities are. It is essential, along these lines, that there is an extent of choice methodologies and groups to look over as unmistakable frameworks may besides consider specific requirements (Wu, Zhang, Wu and Olson, 2020; Govindan, Rajendran, Sarkis and Murugesan, 2021).

4. Compliance of Laws and Regulations

The important aspects of the green procurement practices implemented by the firm are laws and regulations implied on each firm and how each organisation is regulated by the authorities to enhance corporate performance. Every firm is bound to work on the ethical boundaries and various supply chain process in the manufacturing industry are regulated by the environmental rules and regulations. Lack of awareness is one of the important issues that are considered as the barriers in implementing the green procurement practices. The procurement managers are experiencing various threat in the domain of the green practices such as climate change, green house effects, pollution and various other factors that are impacting the manufacturing department of the company (Chan et al., 2018). Laws and regulations are implied on the manufacturing firms to comply with the policies of the country and to act accordingly to the

provided policies. Sustainable energy management in each firm plays an important part for the company to implement and sustain the green procurement process under the rules and regulations that are set by the regime of the region (Grandia & Voncken, 2019).

5. Implementation Cost

Developing the green procurement practices is the initial development process for the operational management in the supply chain department. Tender management is directly linked with the cost management. The low-cost implementation is the main part of every management and each shareholder is striving to reduce the cost of the implementation of the technologies and assets that are required to influence the organisational performance (Rüdenauer et al., 2017). Green criteria such as noise reduction, consumption of fuel, avoiding harmful substance and recycling manual system requires a heavy cost and expertise and its implementation process is also an expensive part of the green procurement practices.

A green procurement examination should be associated with all understandings. While recognizing to which contracts it might be material, thought wishes to be gone up against the advantage of participating in the strategy. Some of these charges fuse the open entryway charges of shopping, information social event and evaluation charges and trip costs from daring to all aspects of the procurement destinations. In this manner it may be pushed that a green supplier assessment should handiest be executed to those Green purchases that are viewed as having high cost (or high need) and insinuating absurd environmental peril. In viewing which framework as used, uncommonly for associations that don't have the capacity or understanding to draw out a colossal natural procurement assessment, Murray and Cupples (2021).

2.7 Green Manufacturing (Environmental Waste Reduction)

According to Atlas and Florida (2021) green manufacturing is defined as the production processes which use inputs with relatively low environmental impacts, and they are highly efficient and generate little or no waste or pollution. Johansson and Winroth (2019) stated that Green manufacturing aims for continuous improvements of industrial processes and products to reduce or prevent pollution to air, water and land. He also suggested that by these improvements, there is possibility of minimizing risks to humans and other species. Richards (2019) stated the challenges associated with the Green manufacturing like meeting the customer demands for environmentally sound products, development of recycling schemes, minimizing the materials use, and selecting the materials causing low environment impacts. Atlas and Florida (2022) also stated that Green manufacturing can lead to lower the raw material cost, increase the production efficiency and reduces the environmental and occupational safety expenses. The power consumption can be reduced to greater extent by implementing green manufacturing process. Green manufacturing enhances environmental consciousness through 3 Rs activities (Zhu et. al,2021).

2.7.1 Green Creativity and Sustainability

There are some studies examined that green procurement requires for sustainability (Lim, 2016; Przychodzen, Przychodzen, & Lerner, 2016). Green creativity found as an important factor for sustainability in construction industry (Wao, 2018). Song & Yu (2018) showed that mangers of organization who have comprehended green procurement results sustainable development and also helps for competitive advantage (Nunes, D., & de Hoyos Guevara, A. J., 2018). Likewise, Chen, Chang, Lin, Lai, & Wang (2016) argued that proactive and reactive sustainability reacts

green creativity, which influence to green product development performance. Thus, Green procurement relates the original ideas and novel for green product, green building, green process, green practices and sustainability (Chen & Chang, 2019). When an organization implements original useful green ideas, it encourages enhancing the green building and green innovation for society and environment. From the client and government point of view, they surely demand for less environment pollution and focusing on green building may forces to bring idea for green outcomes and process that fulfill their demand. According to stakeholder theory, the concern about environment are highly active by stakeholders in this age (Garvare & Johansson, 2019). Hence, firms have been focused on self-encourage to regulate the government environment plan. As per stakeholder forces, the managers are more focused on green creativity and waste reduction that help for economic, social and environmental concern, which turns into sustainability in many industries.

2.7.2 Green Procurement and Sustainability; The Future Trend

Procurements management and supply chain are two main factor in the construction industry for project success (Y. C. Yong & Mustaffa, 2012). This means that the project managers of construction firm in the competitive market have to competently mange the procurement for run their project successfully. According to green Council (2010) Green procurement is buying process of product and services which minimize the environment impact. Green procurement in construction industry catch all lifecycle which consist material extraction, supply chain process, manufacturing or producing, packing, storage and deliver on the construction site. Thus, Green procurement is an important factor in the new era for green transformation in the industry and contribute in economic and society greenly. The literature assumed that the green procurement

under environment regulation reduce the environment impacts. For instance, Blome, Hollos, & Paulraj (2014) argued that firms have engaged in green procurement that reduced the impact on environment and increased in supplier performance. Selection of contractor and environment setting also considered while tender and evaluation criteria are also part of green procurement. This regulation can help stakeholder building materials with consist for less energy consumption, less carbon produces, less water pollution, waste management and minimize the environment pollution. Green procurement in construction industry improves the environment performance (Varnäs, Balfors, & Faith-Ell, 2009). Moreover, Chin et al. (2015) revealed that green supply chain considers green procurement that positive influenced on sustainability performance. Similarly, Braulio-Gonzalo & Bovea (2020) argued that green public procurement also helps to reduce the environmental impact from construction projects and sustainability occurs.

2.8 Summary

Green procurement over the years has been adopted as a good practice of ensuring safe environmental business practice. It is evident that, the practice has resulted in numerous organisational benefits including reduction of cost and reduced toxic emissions into the environment. The implantation of green procurement practice does not come easy; thus has some challenges the organisations would have to grabble with. Nevertheless, the cost-benefit analysis of green procurement is in the positive as shown by the current literature review of tis study. It is therefore, apparent not to take a critical look at the practice of green procurement in any organisation. Hence, the current study with focus on manufacturing organisations, Wilmar Africa Ghana Limited.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents an outline of the various methods and strategies employed by the researchers to collect data, clean the data and analyze the data using the appropriate analytical tools. It looks at the research design, the population of the study, sampling technique and sampling size, data collection, data analysis, ethical consideration and profile of the organisations.

3.2 Research Design

In terms of data collection, measurement, and analysis, the research design refers to how a study is carried out. It establishes the conditions for data collection and analysis in such a way as to strike a balance between relevance to the study purpose e and organizational efficiency.

The study will employ the descriptive survey design where deductive reasoning will be applied for the quantitative data (Liyanage et al., 2016). Deductive reasoning will be used to make logical conclusions after the analysis. The Usage of the survey method is considered to be efficient and economical; it brings many advantages to the researchers; For instance, it is economical compared to interviewing, authorizes secrecy, and could produce additional truthful

answers, besides it has the possibility of eliminating prejudice owing to wording questions differently with diverse respondents (Kothari, 2012).

3.3 Population of The Study

The population is a wide range of subjects from which a sample should be taken (Quansah et al., 2019). The whole collection of all units of analysis that a researcher wants to assess for a particular study is referred to as the target population (Babbie, 2015). The population of the study comprised employees within the Wilmar Africa Ghana Limited. The population will include the Top Managers, Middle Management, and Support Staff.

Table 3.1 Target Population

Category	Target Population
Top Management	7
Middle Management	11
Staff	Above 65
Total	**Above 83**

3.4 Sample Size

The sample size defines that proportion of the population on which the study used in achieving the objectives of the study. The sample size is therefore the subset of the population. For this current study, the sample size will make up 51 participants for this research. At least five (5) employees will be chosen from each supermarket. The number will depend on the total number of employees in the said supermarket.

Table 3.2 Sample size

Category	Sample Size	Percentage
Top Management	6	10
Middle Management	9	16
Support Staff	43	74
Total	**Above 58**	**100**

3.5 Sampling Technique

Berndt (2020) explains that sampling involves selecting parts of a population to make conclusions about the total. This reduces costs and improves accuracy. When it's hard to survey a whole population, sampling is more convenient. A purposive and convenience sampling techniques was used to select the respondents for the study. The Unit of analysis will be the mangers, stores officers, and attendants (employees) of the organisation.

3.6 Data Sources and Methods Of Data Collection

Two main sources of data exist in any research, this includes primary data and secondary data. While primary data refers to first-hand information gathered by the research for the research, secondary data deals with already existing data gathered for a different purpose. The choice of the data source in any research is dependent on the nature of the objective of the study. Considering the nature of this study, primary data is more suitable to be able to achieve the objectives proposed in Chapter one. The choice of primary data is justified by the quest to gather first-hand information on the views being explored in this study. Data used in this study was therefore gathered using a well-structured questionnaire.

The questionnaire will be adapted to investigate how the relationship between the variables of the study. All the items and construct were adapted from existing literature and will be measured

using the Likert scale, (Nayak, 2017; Mihaela, 2015). All questions in the instrument will be closed-end questions measured on a 5-point Likert scale.

3.7 Method of Data Analysis

The method of data analysis forms an essential component of any research such that the choice of the method of analyzing data plays important role in the quality of findings, conclusions, and recommendations that are drawn from the data. Being a quantitative study, this study employed multiple quantitative techniques in analyzing the data to fulfill the goal outlined in chapter one. After gathering, all the data was compiled in excel for scrutiny. After the scrutiny, a few questionnaires that were found incomplete were discarded. The analysis employed the Statistical Package for Social Sciences (SPSS) version 26.0 The Statistical Package for Social Sciences (SPSS) was used for the analysis such as frequencies, means, standard deviations, Cross Tabulation etc.

3.8 Ethical Consideration

Research ethics are crucial in addition to creating effective collaborative work procedures. The permission of those who took part in it was acquired. Respondents will be told that this is just an academic study. Participants or respondents will be made aware of their responsibility in giving valuable information as well as the goal of the material. The study's goals will be explained to the participants, and they will be made to understand and agree to participate. Participants will also be assured of their privacy and confidentiality, as well as the fact that the survey is

completely optional. The researchers ought to protect the identity of study participants and the confidentiality of their disclosures until they consent to the publishing of private details (Armond et al. 2021). The questionnaire material will not ask for personal identification to ensure anonymity.

3.9 Profile of Wilmar Africa Ghana Limited

Wilmar Africa LTD., which is the manufacturing arm, is one of the largest manufacturing business entities and the producers of Frytol cooking oil and importers of Fortune rice brands, Fortune margarine, Frytol seasoning variants, among others. In addition is the Ghana Specialty Fats Industries LTD. (GSFIL), focusing on the crushing and exportation of shea. Again as a business entity, is African Consumer Products Ghana LTD. (ACPGL), which focuses on the production of several soap and detergent variants. Wilmar Africa LTD. values Safety & Sustainability, Teamwork, Excellence, Passion, Integrity and Innovation (STEP2II). We operate a merit-based business, which acknowledges effort and reward performance. We believe in the talents employees bring board and focus on reshaping them to take charge of the future.

Industry	Manufacturing
Company size	1,001-5,000 employees
Headquarters	Tema, Ghana
Type	Privately Held
Founded	2009

CHAPTER FOUR
DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.0 Introduction

This chapter demonstrates the presentation, interpretation, and analysis of the results obtained from field questionnaires. The data collected was processed using SPSS version 26, enabling the creation of tables for better visualization and comprehension.

The researchers sent out 58 questionnaires to the field. The study received 50 questionnaires, representing 86% were received at the end of the survey. In total, the researchers could not retrieve 8 questionnaires representing 14% of the total sample.

4.1 Background information of respondents

These demographic details encompassed a range of factors including gender, age, marital status, educational background, and the number of years each individual had spent in their respective roles.

4.1.1 Gender Distribution

The gender distribution of respondents revealed the following as shown in Table 4.1 below:

Table 4.1 Gender distribution of respondents

	Frequency	Percent	Cumulative Percent
Male	39	78.0	78.0
Female	11	22.0	100.0

Total	50	100.0

Source: Field Survey, 2024

Wilmar Africa Ghana Limited respondents' gender breakdown is seen in Table 4.1. Thirty-nine respondents (78%) are female, while 11 (22%) are male. Thus, more males than women participated in the study. This means that the respondent taking part in the study is skewed toward males

4.1.2 Age Distribution

Age distribution of respondents revealed the following as shown in the table 4.2

Table 4.2 Age distribution of the respondents

	Frequency	Percent	Cumulative Percent
18-25 years	12	24.0	44.0
26-35 years	23	46.0	70.0
36-45 years	13	26.0	96.0
More than 45	2	4.0	100.0
Total	50	100.0	

Source: Field Survey, 2024

The age distribution of respondents is seen in Table 4.2. Two respondents (4%) were More than 45years, whereas 13 (6%) were between 36 and 45years. 23respondents (46%) were in the range of 26–35 while twelve respondents representing (24%) were between 18 and 25years. The findings suggest that respondents are old enough to give valid research insights.

4.1.3 Marital Status of Respondents

Table 4.3 Marital Status of Respondents

	Frequency	Percent	Cumulative Percent
Married	27	54.0	44.0
Single	23	46.0	100.0

Total	50	100.0

Source: Field Survey, 2024

Table 4.3 talks about the marital status of the respondents. 27 respondents representing 54% are married while 23 respondents representing 46% are single indicating that married respondents are more than single respondents in the survey. The findings here is that there is a fair distribution of sample for the study with respect to marital status.

4.1.4 Education Background of Respondents

Table 4.4 Education Background of Respondents

	Frequency	Percent	Cumulative Percent
Masters	2	4.0	4.0
First degree	22	44.0	48.0
Diploma	26	52.0	100.0
Total	50	100.0	

Source: Field Survey, 2024

Table 4.4 shows that 4 percent of the respondents have Masters, and 44 percent have degree certificate. 26 respondents representing (52%) have HNDs. This suggests that all respondents are well-educated and can read, understand, and answer the questionnaire.

4.1.5 Working experience

The section aimed to determine the duration of employment for the respondents at the organization. The findings related to the length of their tenure can be observed in Table 4.5.

Table 4.4 Working experience

	Frequency	Percent	Cumulative Percent
Less than 1 year	7	14.0	14.0
1-2years	15	30.0	44.0
3-5years	11	22.0	68.0
More than 5years	17	34.0	100.0

Total	50	100.0

Source: Field Survey, 2024

Table 4.5 shows that (7) respondents representing 14%, said they had been with the organization for less than 1years. (15) respondents representing 30%, said they had been there for 1-2years. (11) respondents representing 22% indicated 3-5years and (17) respondents representing 34% indicated more than 5years. This suggests that most of the employees have been with the organization for a while and, thus, can contribute relevant data to the study

4.1.6 Employment status

The section aimed to determine the employment status of the respondents at the organization. The findings related to the employment status can be observed in Table 4.6.

Table 4.6 Employment status

	Frequency	Percent	Cumulative Percent
Permanent	16	32.0	32.0
Temporary	4	8.0	40.0
Contract	17	34.0	74.0
Casual	13	26.0	100.0
Total	50	100.0	

Source: Field Survey, 2024

Table 4.6 shows that (16) respondents representing 32% indicated permanent status. (4) respondents representing 8%, said temporary status. (17) respondents representing 34% indicated contract status and (13) respondents representing 26% indicated casual status. This suggests that most of the employees were permanent status and contract status. This give a strong basis for accepting the findings of the study.

4.2 Green Procurement Practiced at Wilmar Africa Ghana Limited

1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree, 5= Strongly Agree

	N	Mean	Std. Deviation
SUPPLIER SELECTION			
Green designed products	50	4.5472	1.33828
Green Materials (recycle, re-use, reduce, re-furbish)	50	4.6038	1.33503
Green packaging material	50	4.2075	.40943
Energy conservation	50	4.2642	1.57078
Suppliers to have ISO 14001certification	50	4.3075	.41943
E-PROCUREMENT			
Electronic supplier database	50	4.3372	1.31528
e-sourcing (soliciting of bids)	50	3.5038	1.11503
e-bidding (reverse auction)	50	4.3375	.40223
e-evaluation of bids	50	4.8942	1.44078

e-payment	50	4.2642	1.57078
LEAN SUPPLY			
Eliminating delays in delivery	50	4.5552	1.35528
Avoiding overstocking	50	4.0038	1.55503
Appropriate use of transport mode	50	4.4075	.51943
Avoiding over processing	50	4.3432	1.57788
Decreasing defects	50	4.4442	1.54625
SUPPLIER DEVELOPMENT			
Supplier relationship management	50	3.5472	1.33828
Supplier visits	50	3.0138	1.68503
Supplier trainings	50	4.5066	.40545
Frequent communication on green procurement KPI's	50	4.7644	1.7525
Rewards/Awards for improvements	50	4.8076	.40514
Valid N (listwise)	50		

Source: Field Survey, 2024

Table 4.3 Green Procurement Practiced at Wilmar Africa Ghana Limited

The mean score of 4.55 for green-designed products indicates strong agreement that selecting products with environmentally friendly designs is a crucial aspect of their procurement practices. This suggests a significant commitment to integrating sustainable products into their supply

chain. Similarly, the mean score of 4.60 for green materials—focused on recycling, reusing, reducing, and refurbishing—demonstrates a solid emphasis on using sustainable materials. Green packaging material is also valued, with a mean score of 4.21, though it is slightly less prioritized compared to other aspects. Energy conservation, with a mean score of 4.26, further reflects the importance placed on reducing energy use in supplier selection. Finally, the mean score of 4.31 for requiring suppliers to have ISO 14001 certification underscores the company's focus on partnering with suppliers who adhere to established environmental management standards. The inference here is that the company fully practices green procurement with regards to supplier selection. In that, the company ensures that suppliers are scrutinized on green procurement practices.

In e-procurement practices, the mean score of 4.34 for maintaining an electronic supplier database reflects a strong agreement on the value of digital tools for managing supplier information. E-bidding, particularly reverse auctions, also receives a mean score of 4.34, indicating a positive view of electronic bidding methods. The mean score of 4.89 for e-evaluation of bids highlights a significant emphasis on using electronic systems to assess and select suppliers, showing a commitment to efficient procurement processes. E-payment systems, with a mean score of 4.26, are recognized as important for streamlining financial transactions, though they are somewhat less emphasized compared to other e-procurement tools. E-sourcing, with a mean score of 3.50, shows a neutral stance, suggesting it is acknowledged but not as central to their procurement activities.

The inference here is that the company fully practices green procurement with regards to e-procurement. The study concludes therefore, that, the company ensures that there is full integration of ICT/IT in all procurement activities that requires same.

For lean supply practices, the mean score of 4.56 for eliminating delays in delivery indicates a strong commitment to improving the timeliness of supply chain operations. Avoiding overstocking, with a mean score of 4.00, reflects an agreement on the importance of managing inventory levels effectively. The mean score of 4.41 for the appropriate use of transport modes shows a focus on optimizing logistics and transportation. Avoiding over-processing is also emphasized, with a mean score of 4.34, indicating a commitment to streamlining operations for greater efficiency. The mean score of 4.44 for decreasing defects highlights the importance of improving product quality and reducing errors, further supporting a lean approach to procurement.

The inference drawn here is that the company as part of its green procurement practices ensues that wastages are reduced, efficiency is paramount and transportation is optimized. This is agood practice and must continued.

In supplier development, the mean score of 4.51 for supplier training reflects a strong agreement on the importance of enhancing supplier capabilities to align with green procurement practices. Frequent communication on green procurement KPIs, with a mean score of 4.76, underscores the importance of keeping suppliers informed about performance metrics and expectations. Rewards or awards for improvements, with a mean score of 4.81, are highly valued, demonstrating a robust approach to recognizing and encouraging progress in green procurement. However,

supplier relationship management, with a mean score of 3.55, and supplier visits, with a mean score of 3.01, are viewed less critically, suggesting these areas might not be as central to their development efforts compared to training and communication.

The above analysis shows that the company is more focused on ensuring long lasting relationship with suppliers. This in all sense shows a strong base of good procurement practices that the company undertakes.

4.3 Importance of the implementation of green procurement practices in Wilmar Africa Ghana Limited

1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree, 5= Strongly Agree

	N	Mean	Std. Deviation
Reducing emissions	50	4.8868	1.10350
Conserve resources	50	3.6226	1.44417
Improving sustainability	50	4.0189	1.18469
Cost reduction	50	4.3868	1.22250
Reduce waste	50	4.7925	1.09822
Maximize profitability	50	4.4468	1.00250
Customer satisfaction	50	4.7925	1.89822
Reduce environmental damage	50	4.3208	.64371
Valid N (listwise)	50		

Source: Field Survey, 2024

Table 4.7 Importance of the implementation of green procurement practices in Wilmar Africa Ghana Limited

The data reflects a strong consensus on the importance of implementing green procurement practices at Wilmar Africa Ghana Limited. The highest mean score is 4.89 for reducing emissions, indicating that minimizing environmental pollution is seen as a crucial objective. This high rating underscores the company's commitment to improving its environmental footprint and aligning with broader sustainability goals. Reducing waste also receives a significant level of agreement, with a mean score of 4.79. This highlights the importance placed on minimizing waste production and promoting more efficient resource use.

The inference drawn here is that there is a strong focus on waste reduction by the company, which aligns with the company's goal of enhancing its overall environmental performance. This is a good practice and the importance cannot be over-emphasize.

Cost reduction is another key area of focus, with a mean score of 4.39. This suggests that green procurement is not only viewed as beneficial for the environment but also as a strategy for achieving financial efficiency. Implementing green practices is seen as a way to reduce costs, demonstrating a balanced approach between environmental and economic benefits. Improving sustainability, with a mean score of 4.02, reflects the company's commitment to long-term environmental stewardship and resource management. While slightly lower than the scores for emissions and waste reduction, this rating still indicates that sustainability is a significant priority in the company's procurement strategy. The study concludes here that one great importance of green procurement following that of waste reduction is cost.

Maximizing profitability, with a mean score of 4.45, is also considered important. This shows that while environmental and sustainability goals are critical, the company recognizes the need to ensure that green procurement practices contribute positively to its financial performance.

Reducing environmental damage, with a mean score of 4.32, emphasizes the importance of mitigating the impact of operations on the environment. This reflects a strong commitment to environmental protection and aligns with the broader objectives of green procurement.

Conserving resources, with a mean score of 3.62, is seen as moderately important. Although it is ranked lower compared to other factors, it still reflects a recognition of the need to manage resources more efficiently as part of green procurement efforts. Customer satisfaction, with a mean score of 4.79, is highlighted as a significant benefit of green procurement practices. This indicates that the company values the positive impact of sustainable practices on customer perceptions and satisfaction, aligning environmental goals with consumer expectations. The importance of implementing green procurement practices is underscored by their substantial environmental and economic benefits. Adopting green procurement can significantly reduce a company's carbon footprint, lower operational costs, and enhance resource efficiency, as evidenced by Lee et al. (2020). This approach not only boosts corporate reputation and attracts customer loyalty but also aligns with regulatory compliance, thus mitigating risks and avoiding penalties, as highlighted by Smith and Williams (2022). Furthermore, green procurement drives innovation and competitive advantage by encouraging the development of sustainable technologies (Johnson et al., 2023) and fosters stronger stakeholder relationships through increased collaboration (Miller & Davis, 2020). Ultimately, such practices are crucial for achieving long-term sustainability goals and resource efficiency (Garcia & Martinez, 2024).

On the basis of the importance of green procurement, the study draws the following inference;
That the most seen importance of green procurement is waste production, cost reduction, profit maximization, conservation of resources. This shows that green procurement in all sense is very

important and that when practice, organisations benefits in great quantities. This findings of analysis answers the second objective of the study.

4.4 Challenges in the implementation of green procurement practices in Wilmar Africa Ghana Limited

1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree, 5= Strongly Agree

	N	Mean	Std. Dev
Lack of appropriate technology	50	4.3396	1.25489
Resistance from suppliers	50	4.9057	1.65558
Lack of enough finances to support the implementation	50	3.3396	1.45489
Lack of top management support	50	4.1132	1.51480
Lack of clear benefits from implementing Green Procurement	50	4.3396	1.33489
Lack of internal competence and training on green procurement	50	4.9057	1.55558
Lack of metrics (KPI) to measure and monitor performance	50	3.3396	1.45489
Lack of government incentives in implementing green procurement	50	2.4151	1.43358
Unavailability of green materials in the market	50	4.1132	1.51480
High cost of green products	50	4.7925	1.36380
Valid N (listwise)	50		

Source: Field Survey, 2024

Table 4.8 Challenges in the implementation of green procurement practices in Wilmar Africa Ghana Limited

Firstly, the mean score of 4.34 highlights that respondents generally agree that a significant challenge in implementing green procurement practices is the lack of appropriate technology. There is a clear consensus that inadequate technology hampers green procurement efforts. Next, the high mean score of 4.91 indicates that resistance from suppliers is a major obstacle. This score reflects a strong agreement among respondents that supplier resistance significantly impacts green procurement. This indicate that, there is a challenge and the organisation must act in overcoming such.

In terms of finances, the mean score of 3.34 suggests a neutral stance on whether insufficient finances are a major challenge. This indicates that while financial constraints are recognized, they may not be perceived as the most critical issue compared to others. Financial limitations still affect certain areas of green procurement implementation. The mean score of 4.11 indicates general agreement that the lack of top management support is a notable challenge. Securing support from top management is crucial for effectively driving and implementing green procurement initiatives across the organization.

The above indicates that the implementation of green procurement is not the sole responsibility of a section of the company but the entire population of the organisation. Hence, urgent need to ensure to management commitment, full finance support etc.

The mean score of 4.34 reveals that the lack of clear benefits from implementing green procurement practices is a significant challenge. Effectively communicating the tangible

advantages of green procurement can help address this challenge and foster broader acceptance. In terms of internal competence and training, a mean score of 4.91 indicates a strong agreement that insufficient internal training and competence are major challenges. Comprehensive training programs are crucial for developing internal expertise and ensuring effective implementation of green procurement practices.

The above analysis suggest that the company deepens communication on the importance of the implementation of green procurement. The challenges though not so harsh, in the long term, it could degenerate and hence steps must be taking eradicate or reduce to barest minimum these challenges.

The mean score of 3.34 shows a neutral perspective on the lack of metrics (KPIs) to measure and monitor green procurement performance. Establishing clear KPIs is needed to better monitor and improve performance. The mean score of 2.42 indicates that respondents generally disagree that the lack of government incentives is a significant challenge. Government incentives could still play a supportive role in advancing green procurement practices.

The mean score of 4.11 suggests that the unavailability of green materials in the market is a notable challenge. Improved sourcing strategies and better market availability of green materials are necessary to support effective green procurement. Lastly, the mean score of 4.79 indicates that the high cost of green products is seen as a significant challenge. Addressing this challenge through cost management strategies, financial support, or finding more affordable alternatives can help promote the adoption of green products. The implementation of green procurement practices faces several challenges that can hinder their effectiveness. Key obstacles include a lack of appropriate technology, which complicates the adoption of sustainable practices, and

resistance from suppliers who may be unwilling or unprepared to meet green standards, as identified by Lee et al. (2021). Financial constraints also pose a significant barrier, with limited budgets making it difficult for companies to invest in green technologies and practices (Smith & Williams, 2022). Additionally, insufficient internal competence and training can impede the effective execution of green procurement strategies (Choi et al., 2023). The absence of clear metrics for performance measurement and the high cost of green products further complicate implementation efforts, making it challenging to track progress and justify the investments required (Johnson et al., 2024).

The study concludes that management of company under study should take serious steps on these identified challenges and procure lasting solutions to for store same both in the short and long term.

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This section provides a concise overview of the outcomes resulting from analyzing the administered questionnaire. It encompasses the conclusions drawn from these findings, along with the vital recommendations

5.1 Summary of Findings

The study was guided by specific objectives aimed at examining green procurement practices within manufacturing companies, focusing on a case study of Wilmar Africa Ghana Limited. The objectives were to assess the extent of green procurement practices at Wilmar Africa Ghana Limited, to evaluate the significance of implementing these practices, and to identify the challenges faced in their implementation. A descriptive research design was employed for the

study, targeting a sample size of 50 respondents selected through purposive sampling. Data was collected using a questionnaire, and the results were analyzed using SPSS version 26, with findings presented in tables and percentages.

5.1.1 Green Procurement Practiced at Wilmar Africa Ghana Limited

The study revealed that under supplier selection, the highest agreement is on using green materials that focus on recycling, reusing, reducing, and refurbishing, as well as selecting products with green designs. These practices receive strong support, reflecting a commitment to sustainability in the products sourced. Regarding e-procurement, the use of electronic tools is notably well-received. The highest agreement is on e-evaluation of bids, reflecting a robust process for assessing supplier proposals. Electronic supplier databases and e-bidding are also important, though e-sourcing and e-payment are somewhat less emphasized, suggesting that while electronic processes are integral, there is room for further development in some areas. The study shows that in the lean supply category, practices aimed at improving efficiency are highly valued. Eliminating delivery delays and avoiding overstocking are priorities, demonstrating a focus on optimizing the supply chain. The appropriate use of transport modes and avoiding over-processing are also crucial, as is decreasing defects, all of which contribute to streamlined operations and reduced waste. For supplier development, frequent communication on green procurement KPIs and providing rewards or awards for improvements receive the highest agreement, indicating a strong emphasis on recognizing and encouraging progress in green practices.

5.1.2 Importance of the implementation of green procurement practices in Wilmar Africa Ghana Limited

The study reveals that Wilmar Africa Ghana Limited places high importance on various aspects of green procurement. Reducing emissions and waste are top priorities, reflecting a strong commitment to minimizing environmental impact. Cost reduction and maximizing profitability are also significant, indicating that green procurement is seen as beneficial for financial efficiency as well. Improving sustainability and reducing environmental damage are key goals, while conserving resources is considered moderately important. Additionally, customer satisfaction is highly valued, underscoring the importance of aligning green practices with consumer expectations.

5.1.3 Challenges in the implementation of green procurement practices in Wilmar Africa Ghana Limited

The study revealed that the challenges faced by Wilmar Africa Ghana Limited in implementing green procurement practices are multifaceted. Key issues include the lack of appropriate technology and supplier resistance, both of which are seen as significant obstacles. Financial constraints and unclear benefits from green procurement also present challenges, though they are perceived less critically. Additionally, insufficient internal competence and training, and the absence of clear performance metrics, further complicate implementation efforts. While government incentives are not considered a major barrier, the unavailability of green materials and the high cost of green products are notable concerns.

5.2 Conclusion

In conclusion, the study on green procurement practices at Wilmar Africa Ghana Limited has highlighted several key findings. The research underscores a strong commitment to sustainability, with a particular emphasis on using green materials, efficient e-procurement processes, and lean supply practices to enhance operational efficiency. The company values reducing emissions and waste, cost reduction, and maximizing profitability, while also prioritizing customer satisfaction and sustainability. Despite these positive practices, the study identifies several challenges, including the lack of appropriate technology, supplier resistance, financial constraints, and insufficient internal training. Additionally, the high cost of green products and limited availability of green materials pose significant barriers. Overall, while Wilmar Africa Ghana Limited demonstrates a strong commitment to green procurement, addressing these challenges will be crucial for further advancing their sustainability goals.

5.3 Recommendations

Based on the findings from the study, the study recommends the following;

1. Wilmar Africa Ghana Limited should invest in advanced green technologies and provide comprehensive training for employees to enhance their competence in green procurement. This will help address the lack of appropriate technology and internal competence issues.
2. To overcome resistance from suppliers, the company should develop stronger partnerships and communicate the long-term benefits of green procurement. Incentives or support programs could be introduced to encourage suppliers to adopt sustainable practices.
3. Implementing clear metrics and key performance indicators (KPIs) will allow Wilmar Africa Ghana Limited to better measure and monitor the effectiveness of their green

procurement practices. This will help in tracking progress and identifying areas for improvement.

4. The company should seek external financial support or incentives to offset the costs associated with green procurement. This could include applying for grants, subsidies, or working with financial institutions to secure favorable terms for green investments.
5. Addressing the challenge of green material availability, Wilmar Africa Ghana Limited should explore new suppliers and markets to increase the availability of sustainable materials. Building relationships with green material suppliers can help mitigate issues related to unavailability.
6. Although government incentives are not currently seen as a major barrier, the company should actively engage with policymakers to advocate for more robust support and incentives for green procurement practices. This could include participating in industry forums or working groups focused on environmental sustainability.

5.4 Future Studies

The current study looked at green procurement in the area of practices, implementation and challenges. Future researchers may consider looking at the sustainability aspect of green procurement implementation with focus on manufacturing, service industries etc.

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APPENDIX

KOFORIDUA TECHNICAL UNIVERSITY

EFFECT OF GREEN PROCUREMENT PRACTICE ON ENVIRONMENTAL WASTE REDUCTION. A CASE STUDY OF WILMAR AFRICA GHANA LIMITED

The questionnaire is designed to solicit information on the ***"Effect of Green Procurement Practice on Environmental Waste Reduction. A case study of Wilmar Africa Ghana Limited"*** The research is strictly for academic purposes, hence information volunteered would be held in high confidentiality. We shall be grateful if you could take a few minutes of your time to answer the following questions.

Please tick (√) the appropriate response that best answers each question and comment where necessary

SECTION A: Background Information

a) What is your gender? Male [ ] Female [ ]

b) What is your age range? 18-25 [ ] 26-35 [ ] 36-45 [ ] More than 45 [ ]

c) What is your Marital Status? Single [ ] Married [ ]

d) What is your current educational qualification? Diploma [ ] First Degree [ ] Master's Degree [ ]

Other (s) please specify ……

e) How long have you been working in this company? Less than 1 year [ ] 1-2years [ ] 3-5years [ ] More than 5years [ ]

f) What is your employment status? Permanent [ ] Temporary [ ] Contract [ ] Casual [ ]

SECTION B

GREEN PROCUREMENT PRACTICES WILMAR AFRICA GHANA LIMITED

Listed below are some of the attributes of the Green Procurement practices adopted by firms. Please rank by a tick in the appropriate box the extent to which they are practiced using the following rating; 5 = to a very large extent, 4 = Large extent, 3 = Moderate extent, 2 = Small extent, 1 = Very small extent

Supplier Selection	5	4	3	2	1
Green designed products					
Green Materials (recycle, re-use, reduce, re-furbish)					
Green packaging material					

Energy conservation					
Suppliers to have ISO 14001certification					
E-Procurement					
Electronic supplier database					
e-sourcing (soliciting of bids)					
e-bidding (reverse auction)					
e-evaluation of bids					
e-payment					
Lean supply					
Eliminating delays in delivery					
Avoiding overstocking					
Appropriate use of transport mode					
Avoiding over processing					
Decreasing defects					
Supplier Development					
Supplier relationship management					
Supplier visits					
Supplier trainings					
Frequent communication on green procurement KPI's					
Rewards/Awards for improvements					

Any other ……...

……....

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SECTION B

IMPORTANCE OF THE IMPLEMENTATION OF GREEN PROCUREMENT PRACTICES

Listed below are some of the benefits / importance which accrue to firms from adopting Green Procurement practices. On a scale of 1 to 5, with 5 being strongly disagree to strongly agree, how would you rate the following statements?

Importance of Implementing Green Procurement.	5	4	3	2	1
Reducing emissions					
Conserve resources					
Improving sustainability					
Cost reduction					
Reduce waste					
Maximize profitability					
Customer satisfaction					
Reduce environmental damage					

Any other ……...

……....

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SECTION C

CHALLENGES IN THE IMPLEMENTATION OF GREEN PROCUREMENT

Listed below are some of the challenges/ barriers which prevent firms from adopting Green Procurement practices. Please rank by a tick in the appropriate box the extent to which you agree with these challenges using the following rating; 5 = strongly agree, 4 = Agree, 3 = Undecided 2 = Disagree, 1 = Strongly Disagree.

Challenges in Implementing Green Procurement.	5	4	3	2	1
Lack of appropriate technology					
Resistance from suppliers					

Lack of enough finances to support the implementation					
Lack of top management support					
Lack of clear benefits from implementing Green Procurement					
Lack of internal competence and training on green procurement					
Lack of metrics (KPI) to measure and monitor performance					
Lack of government incentives in implementing green procurement					
Unavailability of green materials in the market					
High cost of green products					

Any other ……...

……....

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……