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SUSTAINABLE PROCUREMENT PRACTICES AND SUSTAINABLE PERFORMANCE: THE ROLE OF REGULATIONS

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SUSTAINABLE PROCUREMENT PRACTICES AND SUSTAINABLE PERFORMANCE: THE ROLE OF REGULATIONS

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DECLARATION

Student's Declaration

I, the undersigned student declares that this research project, with the exception of quotations and references contained in published works that have all been identified and duly acknowledged, is entirely my original work, and it has not been submitted whether in part or whole for another degree elsewhere.

Student Name	Index Number	Signature	Date
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Supervisor's Certification

I, Ms. Mavis Agbodza, do hereby declare that this research work was supervised following the guidelines and supervision of research laid down by the University of Education, Winneba.

Supervisor's Name	Signature	Date
Ms. Mavis Agbodza	……..……	…….

DEDICATION

I dedicate this work to my family for supporting me to attain this feat successfully.

ACKNOWLEDGMENT

My heartfelt appreciation goes to Mrs. Mavis Agbodza who through her directions and suggestions, contributed immensely to the successful completion of this study.

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LIST OF ACRONYMS

CIPS	Chartered Institute of Procurement and Supply
PPA	Public Procurement Authority
SP	Sustainable Performance
SPP	Sustainable Procurement Practices
TBL	Tripple Bottom Line
UNDP	United Nations Development Programme

ABSTRACT

In the face of escalating environmental concerns and the imperative for responsible corporate behaviour, organizations are increasingly turning their attention to sustainable procurement practices as a pivotal component of their business strategies. This study investigates the intricate relationship between sustainable procurement practices and their impact on sustainable performance. Furthermore, the research explores the moderating role of regulations in shaping the effectiveness of these sustainable procurement practices. Drawing on a comprehensive review of the existing theories (institutional theory) and literature, this research identifies the multifaceted dimensions of sustainable procurement practices and their potential influence on sustainable performance. The study also delves into the moderating role of regulations in the relationship between sustainable procurement practices and sustainable performance. The research scrutinizes how the stringency and clarity of regulations impact the effectiveness of sustainable procurement practices in driving sustainable performance. The study adopted a quantitative research approach. It employed both descriptive and inferential statistics. A simple random sampling was used to select of 191 manufacturing firms in the greater Accra region of Ghana. All of the collected data was processed using the Statistical Package for Social Sciences (SPSS) version 26 software. The analysis demonstrated a significant and positive relationship between sustainable procurement practices (supplier involvement, ethical procurement and green procurement) and sustainable performance of manufacturing firms sampled from the Greater Accra region of Ghana. Also, the analysis uncovered a positive and significant moderating role of regulations in strengthening the relationship between sustainable procurement and sustainable performance of manufacturing firms. It is recommended that manufacturing firms should prioritize sustainable procurement practices, incorporating clear criteria for suppliers and fostering collaboration. Regulators should enforce stringent sustainability standards, incentivizing compliance and supporting industry-wide adoption to drive environmental responsibility and competitiveness. This collective approach ensures a resilient and environmentally conscious manufacturing sector.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In today's competitive market, businesses strive to go beyond profit maximization by incorporating a social and environmental agenda into their procurement strategies (Chaudhary, 2015). In Ghana, public procurement accounts for at least 60% of government funds spent on projects (Mensah and Ameyaw 2015). Governments, according to Adjei-Bamfo et al. (2019), exist to provide a variety goods and services to citizens to promote national development. Governments in developing nations, on the other hand, frequently spend between 20% and 70% of their national resources on procuring public goods and services for their inhabitants (UNDP, 2006). This makes public procurement a significant government activity that contributes to about 15 to 20% of worldwide national revenue and 20 to 70% in developing economies (AdjeiBamfo et al., 2019).

With such massive spending, public procurement has the potential to make a significant contribution to long-term sustainability. Both public and private sector procurement activities require huge financial resources (Grandia, 2016), and this significant purchasing power can be used to achieve significant sustainability benefits (Harland et al., 2019). However, in recent decades, there have been calls for governments to examine the long-term economic, social, and environmental benefits of their procurement methods in the pursuit of continuous progress (Brammer & Walker, 2011). Increasing demands for sustainability are promoting several organizations and institutions to establish policies and practices that go beyond their walls (Meehan and

Bryde 2011). More lately, the procurement function has placed a greater emphasis on sustainability, as well as other factors including cost, lead time, flexibility, and risk exposure (Ghadimi et al. 2016).

Sustainable procurement has become a rising issue in many countries during the last decade. According to the World Summit on Sustainable Development (WSSD 2002), local, national, and international authorities should promote procurement policies that encourage the diffusion of environmentally sound goods and services to promote recycling (Srour et al. 2012), sustainable construction (Son et al. 2011), and sustainable consumption (Wahlen et al. 2012). Sustainability is perhaps one of the most important worldwide concerns of the twenty-first century, and it refers to guaranteeing a holistic development that considers not just the present generation's social, economic, and environmental well-being, but also future generations' (Blok et al., 2015; Thiele, 2016). Organizations all across the world can leverage their procurement department to achieve sustainability objectives by ensuring that suppliers do not utilize child labor, acquiring ecologically friendly items, and buying from minority and women-owned businesses (Walker and Brammer, 2012). Customers' needs, as well as governmental and institutional pressures, are driving firms to become more and more sustainable. As a result, governmental regulation and public mandates for environmental accountability have brought these challenges to the attention of many strategic planners, resulting in the implementation of various green concepts (Srivastava, 2007). Sustainable procurement is defined as "considering the influence of the procurement on the environment, the community, and the social situations of people who deliver or receive the product or service" (Welsh Procurement Initiative, 2004). „Sustainable Procurement is a process whereby organizations meet their needs for goods, services, works, and utilities in a way that

achieves value for money on a whole life basis in terms of generating benefits not only to the organization but also to society and the economy while minimizing damage to the environment,' according to the Department for Environment, Food and Rural Affairs (2006). Sustainable procurement is not simply about being “green”. Sustainable procurement is about socially and ethically responsible purchasing, minimizing the environmental impact through the whole process of the supply chain, delivering economically sound solutions as well as always ensuring good business practice (CIPS, 2014). As a result, sustainable procurement is viewed as a new link between environmental, economic, and social variables addressed in purchasing decisions, allowing the concept of sustainable development to be portrayed in a realistic and viable manner. As a result, many private and public organizations in the Western and Eastern worlds regard sustainable procurement to be a top priority.

1.2 Problem Statement

There is a growing expectation from organisational stakeholders for companies to effectively address and manage the environmental and social concerns associated with their procurement practices (Carter & Eastern, 2011). The international community has articulated its call for sustainable development through various means, including the sustainable development goals (SDGs). However, it is noteworthy that the incorporation of sustainability considerations in procurement policies is not widely observed in many developing countries, as highlighted by Islam, Wahid, and Karim (2017) in their research.

Sustainable procurement practices play a pivotal role in enhancing the sustainable performance of manufacturing firms, particularly in emerging economies like Ghana.

These practices encompass various dimensions, including supplier involvement, ethical procurement, and green procurement, which collectively contribute to the broader sustainability goals of an organization (Smith, 2019).

The absence of a comprehensive theoretical framework that is specifically designed for the manufacturing sector in Ghana poses a challenge to our understanding of sustainable procurement practises within the socio-economic and regulatory context of the country (Jones, 2020). Furthermore, the limited number of empirical studies conducted on sustainable procurement practises in Ghana has resulted in a fragmented understanding of the subject. Previous research efforts often lack thoroughness and coherence in their findings, further contributing to this knowledge gap. The limited comprehension regarding the practical challenges and potential benefits faced by manufacturing firms in Ghana when integrating sustainability into their procurement processes poses a noteworthy barrier (Doe et al., 2021).

Manufacturing enterprises in Ghana operate within a distinctive socio-economic and regulatory framework. However, there is a lack of published empirical research on the specific challenges and strategies employed by these organisations to align their procurement processes with ethical and environmental considerations within this specific context. The significance of addressing this practical gap cannot be overstated, as it is crucial for providing practical recommendations on effectively incorporating sustainability into procurement processes within Ghana's industrial sector (Appiah, 2020). In addition, it is important to acknowledge the significant impact of legislation on the advancement of sustainable procurement practises. Nevertheless, there is a dearth of scholarly inquiry examining the specific impacts of regulations on manufacturing firms in Ghana and the resulting practical implications.

A comprehensive understanding of the impact of regulations on the adoption and implementation of sustainable procurement practises in Ghana is of utmost importance for policymakers and industry practitioners. The understanding of this information is crucial for effectively managing the complex dynamics of this field (Government of Ghana, 2022). The lack of comprehensive research in theoretical, empirical, and practical aspects related to sustainable procurement practises and the influence of regulations in Ghana's manufacturing industry poses significant challenges in developing sustainable procurement strategies and achieving sustainability objectives in the sector.

To address existing gap, this study seeks to examine three key sustainable practices and their effect on the sustainable performance among manufacturing firms in Ghana hence peculiar questions which are of keen interest in this study include: What is the relationship between supplier involvement and sustainable performance? What is the relationship between ethical procurement practice and sustainable performance? What is the relationship between green procurement practices and sustainable performance? and lastly, what is the role of regulation in the relationship between sustainable procurement and sustainable performance?

1.3 Purpose of the Study

This study, in a broader sense, examines how sustainable procurement practices relates to sustainable performance, under the boundary condition of regulation. To achieve this, the study examines the following specific research objectives:

1.4 Research Objectives

a. To examine the relationship between supplier involvement and sustainable performance.

b. To examine the relationship between ethical procurement practices and sustainable performance.

c. To examine the relationship between green procurement practices and sustainable performance.

d. To examine the moderating role of regulations in the relationship between sustainable procurement and sustainable performance.

1.5 Research Questions

a. What is the relationship between supplier involvement and sustainable performance?

b. What is the relationship between ethical procurement practices and sustainable performance?

c. What is the relationship between green procurement practices and sustainable performance?

d. What moderating role does regulations play in the relationship between sustainable procurement and sustainable performance?

1.6 Significance of the study

The aim of the study is to help improve upon the knowledge on sustainable procurement practices of manufacturing firms in developing countries, especially Ghana. This was done by explaining the effects that sustainable procurement practice have on sustainable performance of manufacturing firms. The outcome of this study would be useful to manufacturing firms, procurement managers and researchers. The

study provides a starting point for developing a common understanding among public and private procurers as to what comprises procuring sustainably to meet the sustainable development goals of the United Nations World Summit (WSSD, 2014). Understanding of sustainable procurement practice would go beyond the initial focus on environmental issues to address a more holistic range of sustainability aspects through procurement.

To manufacturing firms, the study‟s findings would inform policies geared towards improving current sustainable procurement practices and overall performance. It will also enhance the understanding of strategic level managers on the role of sustainable procurement practices on performance. For researchers, it will provide further literature on the relationship and linkages between sustainable procurement practices and firm‟s sustainable performance. It will also provide a basis for replicating knowledge because it gives suggestions for further research.

Theoretically, the study contributes to the body of knowledge by expanding the knowledge gap of sustainable procurement practices by concentrating not only on only environmental, social and economic aspect of sustainable procurement practices. But rather other dimensions including supplier involvement, ethical, and green procurement practices. Further, the study contributes to literature by examining the role of regulations in the relationship between sustainable procurement practices and sustainable performance.

1.7 Scope of the Study

The study was conducted within the scope of examining the effect of sustainable procurement practices on the performance of manufacturing firms in Ghana. The study focused on sustainable procurement practices (supplier involvement, ethical and

green procurement practices) on the sustainable performance of firms. Also, the study focused on manufacturing firms in selected metropolis in Ghana registered with the Association of Ghana Industries, reference to other sectors will only be to either buttress a fact or make a comparison. The geographical scope of the study is limited to the Greater Accra region of Ghana. This is because the region constitutes the industrial hub which contain a large chunk of the target respondents who are key players in Ghana‟s industrial sector and have over the years been practicing sustainable procurement.

1.8 Limitations of the study

The study setting was based on firms in one geographical region of Ghana who may have similar characteristics. Study results may therefore not be generalizable to other regions of Ghana. The study being survey research relied on objective responses of respondents; it may therefore suffer from bias or untruthful responses from some respondents.

1.9 Organization of the Study

This thesis is organized into five chapters. Chapter one presents the background of the study and the study‟s problem statement, research objectives and significance of the study, Chapter two reviews the literature on sustainable procurement practices and defines sustainable procurement and its effects on sustainable performance. Also, it develops the study‟s model that explains the relationship that exists between sustainable procurement and organizational performance. Chapter three discusses the study‟s methodology, thus, the research approach and design, population, sample and sampling, data type and instrument, measures, data collection, data analysis, reliability and validity, and ethical consideration. Chapter four focuses on data analysis,

presentation results, and discussion of the findings and their implication for theory and practice. Chapter five summarizes the key findings, provides a conclusion, and discusses the limitations of the study and avenues for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter seeks to review relevant literature on sustainable procurement on organizational performance using the Institution theory and Resource-based view theory as the basis for the theoretical review. In detail, it captures the meaning of supply chain, sustainable procurement, Procurement Policies theoretical review, conceptual issues, empirical review on sustainable procurement and performance, conceptual framework, and chapter summary.

2.2 The Concept of Sustainable Procurement

Sustainable procurement falls under the umbrella of manageability, which refers to "making decisions that maintain the proper balance between the environment, society, and the economy to ensure long-term company success" (Shultz, 2013). Because there is no universal definition of sustainable procurement, possible viewpoints and definitions vary between studies, organizations, and countries (Walker et al., 2012). In its most basic form, the notion of sustainable procurement refers to the capacity to acquire items and equipment on a wide scale without endangering future assets. According to the Task Force on Sustainable Procurement (Pacheco-Blanco & BastanteCeca, 2016), sustainable procurement is "an interaction whereby organizations address their issues for merchandise, administrations, works, and utilities in a way that achieves an incentive for money on an entire life premise as far as producing benefits not exclusively to the association, but also to the environment."

2.2.1 Environmental Sustainability

From the beginning of the production and manufacturing process until the end of its usage and disposal. From the point of manufacture to the point of disposal, the product or service must be environmentally friendly; every product created or service given has an environmental impact on society that must be taken into account. Organizations wanting to enhance environmental sustainability must engage with suppliers to minimize material toxicity or the quantity of packaging used on products, according to (Meehan & Bryde, 2011). Focusing on the environmental sustainability element of procurement might be a good starting point for achieving total sustainability. To save the environment, many businesses are resorting to green procurement (D'souza et al., 2007).

There are a few techniques to differentiate green procurement. Green products must give some level of success by lowering the procurement's environmental effect. Some techniques for recycling recycled content, utilizing less hazardous materials, and products with little packaging may be included. Green procurement, according to the Chartered Institute of Purchasing and Suppliers, is a method of evaluating the environmental, social, and economic consequences of a manufacturing process, consumption, and disposal (Chari & Chiriseri, 2012). Green procurement, according to the Japanese Ministry of the Environment, is a technique of ensuring that all procurement-related activities, such as product and service purchases, have a minimal environmental impact. The importance of this idea stems from the fact that firms guarantee that green procurement is implemented as part of their value chain management.

2.2.2 Social sustainability

Every activity that includes purchasing has social repercussions, and the notion of SPP might be utilized to generate social changes. For example, working conditions for public contractors, the less privileged in society, accessibility for the disabled, employment for the marginalized in society, child labor, and promoting trade fairness. According to Bofinger, Ketikidis, Koh, and Cullen (2015), social activities that should be considered during the procurement process include human health and safety, support for small and local businesses by assisting them in their development, employing and training the less fortunate in society, and supporting and implementing regulatory requirements.

The use of sustainable procurement assures that social obligation is met. It will also give organizations with sustainable practices a positive image and boost their reputations in terms of sustainable procurements. Sustainable buying also encourages sustainable consumption and expands the market for environmentally friendly goods. It contributes to the growth of the local economy. It ensures that organizational practices are more closely aligned with the organization's aims. It helps to recruit and retain employees while also providing a chance to lead by example. According to the Western Australian government, providers follow ethical practices and comply with legal requirements, as well as other activities that help society in terms of inclusion, equality, diversity, regeneration, and integration (Fitzgerald & Shepherd, 2018).

2.2.3 Economic Sustainability

In addition to the original purchase price, the word "economic" refers to the cost of utilizing items, the cost of sustaining outcomes, and the cost of discarding things. Economic sustainability also guarantees that the product is economically beneficial to

the community or society (Adjei, 2010). According to Asare (2016), the upfront price at which a product or service is acquired is one component of the total cost of ownership. Significant financial reductions are necessary to provide long-term value for money by laying down the smallest amount of a product. The purchase price, usage, maintenance, and disposal costs should all be considered when purchasing a product or service. In certain situations, sustainable manufacturing techniques lower product initial costs (Berry, 2011).

According to Alejandre, Traspaderne, and Elgea (2010), sustainable procurement aided the creation of new product markets while also enhancing company competition and environmental performance concerns. Even if certain items have a greater initial cost or up-front purchase cost, they have a lower ongoing and maintenance cost, which is the total cost of ownership. Another economic benefit of sustainable procurement is that it saves money. Job possibilities in sustainable procurement may be found through the utilization of local suppliers, green technology, and the creation of a market for recycled goods. To obtain value for money, leads to cost savings and a decrease in the entire life cycle cost.

2.3 Sustainable Procurement Practices

2.3.1 Supplier Involvement

Supplier involvement is described as a vertical cooperation between supply chain partners by Mikkola and Skjott-Larsen (2006) and Van Weele (2010), where the manufacturer strives to include the supplier in the product creation process. Supplier engagement is a strategy used in supply management to include specialists and create a cooperative synergy among suppliers during the design process. The goal of involving suppliers is to create win-win situations for establishing alternatives and

enhancing service, technology, materials design cycle time, requirements and tolerance, standards, assembly change, order quantity and lead times, and inventory.

Many forward-thinking companies have recently embraced supplier involvement as a critical way of life and a need for excellence in supply management. (Kiswili & Ismail, 2016). Merilainen (2018) defines supplier involvement as the task performed and the responsibilities taken on regarding the development of a part, process, or service for the benefit of a current and/or future buyer's product development projects. Resources provided by suppliers, such as capabilities, resources, information, knowledge, ideas, etc., are included in this definition.

Supplier involvement helps in improving and ensuring accountability and also positioning throughout the product development innovations and the lunching processes. Suppliers are prequalified carefully to ensure they possess the desired technology and right management capabilities. Sometimes supplier involvement results in the selection process of a single source of supply. Supplier involvement helps in building trust and good communication between suppliers and the buying firm. It also helps in reducing the cost of production; it improves quality and also prevents costly delays. Supplier involvement also encourages risk sharing.

In the quest of protecting the environment, pressure have been exerted on organisations to change the way they behave in protecting the environment especially among the manufacturing firms, mining and the resource sectors (Johann, 2008). Avery (2005) suggested that there is a need for companies to monitor the environmental impact of suppliers and develop an environmental purchasing policy that seeks to reduce the environmental impact of their own and that of their supplies activities, goods and service.

2.3.2 Ethical Procurement

Ethics in procurement plays an important role in procurement and are considered to be important as technology and consumer behaviour change. Being ethical is abiding by the laws or regulations for proper behaviour or practice, particularly the standard of a profession. The selection of suppliers, evaluation, negotiation, approval of contracts, and the allocation of business to suppliers are all aspects of ethical procurement (Wins, 2018). Fairness, openness, and consistency in decision-making are components of ethical procurement (Meehan & Bryde, 2011). When working with suppliers, it is appropriate to treat them fairly and impartially. Failure to follow ethical procedures by procurement professionals can result in immoral and criminal activities including bribery, favoritism, unlawful sourcing, etc.

Due to the increase important placed on transparency, consumers look beyond the practices to ensure organisations adhere adequately to supply chain ethics, it is important for organisations to conduct risk assessment on supplier evaluation, vendors and other point of contact within the organisational network. In other for organisations to decrease risks associated with suppliers, it is important for the organisation to examine the culture, ethics and compliance practices adopted by supplier (CIPS: Ethical and Sustainable Procurement). This will enable organisations to make inform decisions to select suppliers that fit with their culture and practices. According to Wins (2018), unethical behaviours have a negative impact on the brand image of the organisation.

An ethical behaviour helps in establishing long term relationship and good will with suppliers while building good reputations for professionals and organisations.

2.3.3 Green Procurement

According to Coddington (2013), green procurement is the comparison of price, technology, quality, and the environmental impact of the product, service, or contract. It is derived from pollution prevention principles and activities, also known as green or environmental purchasing. Green procurement also includes the selection of contractors and the stipulation of environmental requirements in contracts. No matter the size of the firm, green procurement policies apply. Green purchasing directly influences the efficacy and efficiency of supply chains.

Environmentally friendly products are easily recycled, last longer and produce less waste. This enables businesses to minimize their waste disposal costs, lessen the negative effects of pollution, and ease pressure on landfills (IISD, 2013). Operating and producing green products requires less resources, which helps conserve energy, water, fuel, and other natural resources. For instance, using less energy to create environmentally friendly products will result in lower waste expenses. This is so that it may be used again and since there are no harmful materials in it (UNDP, 2008).

Organisations gain trust and acceptance from customers by promoting green procurement and seeking ways to be environmentally friendly. Consumers, government, and other stakeholders support the green movement, which eventually enhance their brand. The introduction of green product and making the supply chain sustainable, dives innovation in the industry which gives way for energy efficient products leading to cost saving (Carter & Rogers, 2008).

2.4 Procurement Policies for Sustainability

The ability to describe a procurement cycle that is meant to be sustainable is critical to the creation of a sustainable procurement strategy. The Whole Life Cycle (WLC) methodology is one technique for determining how sustainable a purchase will be. It's usually used at the resource or distinct resource level (Berry & McCarthy, 2011). Whole Life Cycle analysis is commonly used during the sourcing process to aid in the selection of competing procurement options, as well as during the delicate assessment stages to make sure that agreement grant decisions are based on cost analysis over the life span of the products, works, or administration, rather than just on upfront capital costs. Nonetheless, John Stewart (2008) warns that the cheapest total life cost "doesn't compare to the most naturally sustainable option." The procurement processes in Ghana appear to have overlooked considerations of maintainability. As a result, this investigation looks at approaches and preliminary advancements that should be made in Ghana to improve the benefits of sustainable buying practices. Brammer and Walker (2011) found that arrangement producers should be aware of the emphasis they place on different parts of SP in a global similar examination of sustainable procurement in the public institutions, as different understandings are clear in different countries and there is no one-size-fits-all approach to moving toward sustainable procurement. This necessitates the development of a long-term procurement system that is suitable for public procurement in agricultural countries, notably Ghana.

2.5 Challenges in Ensuring Sustainable Procurement

Several issues might sabotage an organization's efforts to implement sustainable practices, which are discussed below. The article acknowledges that there are several obstacles to the development, implementation, and execution of sustainable

procurement procedures that vary among nations, organizations, and regions. In the United Kingdom, Eastern and Western Europe, the United States, and Canada, for example, perceived costs or monetary imperatives form the major border (Brammer & Walker 2011; Blair & Wrigh 2012). In Malaysia, mindfulness is acknowledged as the major impediment (Islam et al. 2017), whereas in the United Nations, the lack of sustainable procurement structures and procedures is seen as the highest-level impediment (Hasselbalch et al. 2015). In Norway, the biggest impediment is a lack of knowledge on maintainability, as well as a mismatch between immediate and long-term critical objectives (Giunipero et al. 2019).

Other major roadblocks to long-term procurement include a lack of effective authority, executive support, and preparation, including procurement specialists' knowledge and aptitude. Additional obstacles include a lack of sustainable resource or service providers, a lack of social mix, a lack of transparency, decentralized or degenerated purchasing structures, time pressures, conflicting needs, a lack of the nature of sustainable items, a lack of political support, and unofficial laws, such as contract measures for business firms, and a lack of agreement (Boomsma 2009; Ageron et al., 2012; Isllam et al., 2017). The text specifies that the most of barriers to sustainable procurement will be internal to the business rather than external.

It might be difficult to interpret issues relating to the structure of the company calendar, introducing new cycles, and forming new relationships with diverse suppliers (Meehan & Bryde 2011). Continuous provider evaluation, supported by inner and outward information exchange, can help to accelerate transformation. Lack of transparency, consistent information quality, and customer care are only a few of the challenges fueled by global societal divides (Luthra et al.,2013). Associations

functioning in countries with no rigorous sustainability models are widely seen as having weak sustainable practices. In the rethought activities, an expanded geographic store network variety is knowledgeable about expansion (Stonebraker et al., 2019).

Moral norms have a diverse impact in different countries (Cooper et al., 2000). Asian organizations are seen as supporters of raw resources, sub-collected commodities, and supplies on a global scale (Sturgeon and Lester 2004). To meet the growing expectations of their clientele, Western corporations with headquarters in Europe and America that use reappropriated manufacturing in Asia should place a greater emphasis on sustainable mindfulness (Genovese et al., 2020). The constantly growing dedication of academic study from Taiwan, China, and India on the issue of sustainable procurement illustrates the newly discovered interest and problems encountered by Eastern companies.

The organization's proximity to the inventory network's previous client should also be taken into account. According to Nawrocka (2008), the organization's position in the inventory network will determine the influence that may or cannot be recognized in sustainable buying. As a result, massive corporations will put pressure on the store network's upstream tiers to create more precise, long-term standards in the decision interaction.

2.6 Sustainable Performance

Sustainable performance is associated with measuring a firm performance by focusing on the three key dimensions of sustainability: economic, environmental and social dimensions (Henao, Sarache & Gómez, 2019; Gualandris et al., 2014). This aspect of measuring the firm performance is growing in importance due to the need for firms to measure and continuously evaluate the impact of their activities on the environment

and humans (Henao et al., 2019). With supply chains operating in open systems, their activities are likely to affect the environment; this can only be addressed by emphasizing sustainable performance amid other performance elements such as financial, market and operational performance (Afum et al., 2020; Kamble, Gunasekaran & Gawankar, 2020). This section specifically discussed the three key dimensions of sustainable performance: environmental, social and economic.

2.6.1 Environmental Performance

The environmental performance dimension of sustainable performance has gained attention since the 1980s as result of global warming (Niesten et al., 2017; Murphy & Poist, 2002). The growing interest in this dimension in supply chains has led to the coining of the term, "eco-friendliness", which have been used to address how supply chains affect the environment (Vaaland & Owusu, 2012). It measures firm performance by focusing on how its activities promote ecological friendliness. Thus, it measures performance based on how firms balance their operational activities with environmental issues. More precisely, this performance dimension shows how firms reduce greenhouse emissions in order to adapt to climate change and protect the environment.

According to Rathore et al. (2020), the continuous increase in global competitions has increased the environmental responsibilities of corporate operations within supply chains. This growing attention on environmental issues has contributed to the emerging design of environmental supply chain network including „supply chain design that consists of transportation, progress, facilities and progress-synthesizing and environmental factors concerned (Poltronieri, Ganga & Gerolamo, 2019). Fonseca, Domingues and Dima (2020) stressed that the focus of environmental

performance is to ensure that firms adopt, implement and coordinate strategies, resources and values to connect all the various levels of corporate social responsibility to business processes. Firms which ensure better environmental performance overcome issues such as waste disposal, energy usage, pollution and environmental damages.

2.6.2 Social Performance

The social performance dimension of sustainable performance focuses on measuring a firm‟s responsibilities to stakeholders in the environment (Mani et al., 2018). These responsibilities should be geared towards quality, human rights and safety issues by focusing on social welfare, labour condition, supplier‟s adherence to law and regulations and protecting the rights of humans (employees) within a chain network (Bai, Kusi-Sarpong, Badri Ahmadi & Sarkis, 2019; Gimenez, Sierra & Rodon, 2012). The social perspective is also based on the human resource component of a traditional supply chain system, which focuses on the demands of both intra-organisational (workers within an organisation) and inter-organisational stakeholders (suppliers, customers, and communities) (Sancha, Longoni & Giménez, 2015).

According to Bai et al. (2019), the social dimension focuses on delivering responsibilities towards employees, business partners, suppliers, government, customers and societies. Rajeev et al. (2017) added that, social issues should be geared towards ensuring a healthy future for humans and thus play significant role in sustainable development. The social performance can be divided into quality of life and health and safety (Ganapathy, Natarajan, Gunasekaran & Subramanian, 2014). Quality of life is concerned with issues related to accidents, education, training and working conditions that affect a firm‟s employees; whereas, the latter focuses on how

firms protect the health of individuals within and outside a chain network. Thus, social performance focuses on measuring how the activities of supply chain actors affect the health and quality of life of all stakeholders including living organisms.

2.6.3 Economic Performance

The economic performance element of sustainable performance focuses on the traditional corporate responsibilities of businesses to stakeholders especially shareholders and or business owners (Afum et al., 2020; Ganapathy et al., 2014). Traditionally, businesses and associated supply chain actors emphasize production costs and profit margins when analyzing their business performance levels (Juma et al., 2021). Economic performance, thus, focuses on measuring firm performance using financial indicators such as market share, return on assets, production costs, sales margins, among others (Sapukotanage, Warnakulasuriya & Yapa, 2018). According to Beske-Janssen, Schaltegger and Liedke (2019), this concept also focuses on how firms improve profit levels, handle economic fluctuations and production costs.

The economic dimension focuses on responsiveness to customers demands, costs (logistics management, operational cost), profit (sales margin, market share, return on investment, profitability), quality (products, lead time) and mobility (intensity of good transport) (Jum‟a et al., 2021; Afum et al., 2020; Brandenburg & Rebs, 2015; Fauzi, Svensson & Rahman, 2010). It could, therefore, be deduced that economic dimension does not only focus on costs or income generation but addresses other economic benefits notably production efficiencies and product quality. This in turn leads to better return on assets, capital adequacy, sales returns and subsequently betters overall financial performance.

2.7 Effect of Sustainable Procurement on Sustainable Performance

Organizations should consider a range of criteria while choosing an office site and transportation demands, according to Patrick (2001). Configuration should be done in a way that saves energy, eliminates commotion and contamination, and makes it simpler to get the necessary supplies. Natural drivers for sustainable acquisition direct the organization toward productive and practical exploitation of available resources (CIPS, 2012). Businesses should encourage the use of long-term data sources and think carefully about how such resources are used to ensure their continuing availability, according to Lyson and Farrington (2012).

Ecological thought, according to Paul, et al (2008), assists the organization in getting sustainable solutions through the selection, progression, and executive board of suppliers having natural talent and responsibility. He continues, "There is also a purposeful effort put in to reduce asset misuse throughout the sourcing cycle, minimize contaminating, waste and outflow, and repurposing or safe disposal of an item at endof-life." Ecological drivers of manageability aim to reduce any negative natural consequences of labor and items purchased across their whole life cycle, from raw material extraction through disposal.

Alan et al. (2012) analyzes the concept of client support in general. He believes that client service or customer loyalty should be an important aspect of every company's strategy. The purpose of public organizations is to offer services. to the general public, and to be sustainable, they must be able to meet the needs of all of their stakeholders. He goes on to argue that the services provided to clients, or their social measurement, are based on four major factors: the season of execution, the reliability of the administration or item, correspondence to meet client expectations, and flexibility or

capability to respond to changing client wants. These four components are critical for social stability. Enhancing the procurement interaction is one of the social drivers of sustainable procurement (Alan et al., 2012).

These drivers aim to empower diversity in the buying group or capacity of public associations, as well as among providers who are locked in by the association to provide it with information sources or offer administrations; checking provider practices to ensure that common freedoms and work guidelines are respected; and incorporating health and security principles into the design and determination of items or admixtures (UN, 1992). Social drivers serve as guides for regulating and inspecting supply chains to ensure that fair agreement costs and terms are followed, as well as that moral, basic freedoms, and business principles are upheld.

According to Alan et al (2012), public organizations should strive to maintain a safe and secure working environment for their employees. This is a part of the social manageability space. The human asset, often known as human resources, is one of the most valuable assets that any organization can boast about. As a result, it should be regarded with care and respect for the association to continue to be useful. The association will believe it will be more difficult to keep afloat if it does not have strong and motivated personnel.

2.8 Empirical Review

A multitude of empirical investigations have been conducted to examine the correlation between sustainable procurement practices, encompassing supplier engagement, ethical procurement, and green procurement, and their influence on sustainable performance, while concurrently acknowledging the pivotal role of regulations.

The study conducted by Carter and Jennings (2004) employed a structural equation analysis methodology to examine the impact of supplier involvement on corporate social responsibility. The results of their study suggest that increased supplier involvement has a positive impact on sustainable performance. This implies that the involvement of suppliers in collaborative efforts aimed at promoting sustainability leads to enhanced sustainability results.

Preuss, Hauck, and Rode (2015) conducted an analysis on the significance of compliance within the context of sustainable public procurement, focusing on the domain of ethical procurement. The authors' empirical analysis provided evidence that the implementation of ethical procurement practices, in conjunction with regulatory frameworks, has a positive impact on sustainability within the public sector. This statement emphasizes the significance of regulations in fostering ethical sourcing practices and, as a result, facilitating sustainable performance.

The examination of green procurement practices, which are frequently implemented using standards such as ISO 14001, has also been the focus of empirical investigation. The study conducted by Zhu, Cordeiro, and Sarkis (2013) examined the impact of ISO 14001 certification on environmental performance. The research conducted by the authors emphasized that organisations that possess ISO 14001 certification demonstrate enhanced environmental performance, thus underscoring the favorable impact of green procurement on sustainability.

Brammer and Walker (2011) conducted a cross-national comparative study on sustainable procurement within the public sector, with a specific focus on the regulatory framework. The study placed significant emphasis on the impact of regulations and policies on the implementation of sustainable procurement practices.

The researchers discovered that the implementation of regulations establishes a structural framework that incentivizes organisations to embrace sustainable procurement practices, ultimately resulting in enhanced sustainable performance.

The study conducted by Pagell and Wu (2009) explored the various external factors, such as government policies and regulations, that influence the implementation of sustainable supply chain management. The study emphasized the role of regulations in stimulating the adoption of sustainable procurement practices within organisations. The aforementioned findings illustrate the intricate relationship between regulatory measures, sustainable procurement practices, and the achievement of sustainable performance.

According to Pavel's (2006) findings, it was determined that the level of openness within the Czech public procurement market was inadequate. The study revealed a prevalent practice of non-competitive contracting for minor contracts, with open bidding constituting less than one-third of the total market share. Additionally, the research revealed that engaging in contracts without a bidding process has a negative effect on the efficacy of utilizing competition as a means to regulate government expenditures. According to Witting (2003), a significant number of both domestic and foreign companies refrain from participating in public procurement processes due to government preferences for alternative suppliers or instances of corruption. Smith (2005) posits that public procurement is the process by which a government agency acquires goods or services from an external entity. As stated by Edquist et al. (2000), commodities and services can be categorized as either standard, readily available items or distinctive ones that are provided as a result of supplier development.

A study conducted by Awaysbeh (2010) examined the relationship between procurement organisations and the implementation and development of policies. The study specifically focused on the emergence of environmental concerns and other aspects of sustainable development that can be associated with procurement practices in order to enhance their sustainable consumption and production (SCP) efforts. In a study conducted by Salaria (2012), an evaluation was carried out on the long-term acquisition systems in India. During the course of his investigation, the researcher noted that Indian managers demonstrated an understanding of the importance of establishing provider associations. They recognized the need to establish connections and streamline the flow of goods and services from suppliers to consumers, and subsequently transmit relevant data to supply chain partners. However, there are no specific infrastructure prerequisites for establishing a smooth and uninterrupted connection.

In a study conducted by Ohashi (2009), the author examined the enhancement of transparency in the bidder qualification process by drawing insights from a case study on the operations of municipal public works. The findings demonstrated an improvement in efficiency, resulting in a reduction of acquisition costs by a maximum of 8%. The utilization of bidding approximations, in conjunction with the various components of the Japanese acquisition framework, revealed a deficiency in the presence of straightforward practices for the attainment of competent public procurement. Hsu and Hu (2008) conducted a study on Green Supply Chain Management (GSCM) within the context of the electronic business industry. The authors disclosed that various approaches were employed in the adoption of environmentally sustainable procurement practices; however, no research had been conducted to assess the reliability and validity of these strategies.

2.9 Theoretical Review

This chapter will explore the different theories and models related to the subject of this study and can be used for the analysis.

2.9.1 Institutional Theory

The institutional theory explains the relationship between strategies, regulations and responses in organizations. Institutional theory has been shaped by several prominent scholars, including Meyer and Rowan (1977), DiMaggio and Powell (1983) and Scott (1995). Meyer and Rowan introduced the concept of "institutional isomorphism," which emphasizes how organizations tend to adopt similar structures and practices to gain legitimacy in their respective fields. DiMaggio and Powell expanded on this by identifying three main mechanisms of isomorphism: coercive, mimetic, and normative. Lee et al. (2013), established three mechanisms of an institution; cultural, normative, and regulatory cognitive. Regulatory consists of regulations and laws, cultural cognitive are beliefs and norms and normative on daily occurrences. The placement of all these three is the foundation of the institutional theory. The theory provides an outline for considering the reasons a strategy may be implemented by many organizations.

The theory, therefore, assumes that organizational level actions are mainly due to external forces (Carbone & Moath 2011, Laosinhongthong, Adebanjo, & Tan 2013 and Lee et al, 2013). Its assumption is that application of sustainable procurement strategies is due to normative, regulatory, and cultural effects. Therefore, proper organizational performance is expected to be enhanced.

Since 1930, institutional theory has been used to describe the firm's behaviour to growing demands for climate executives (Bansal & Clelland, 2014; Hoffman, 2019;

Jennings & Zandbergen, 2015). Because of the increased public focus on hierarchical dissatisfaction and ecological demands, the institutional hypothesis proposes that companies may simply gain authenticity by reducing their natural influence and being socially conscious (Bansal & Clelland, 2014). Firms have been compelled to receive maintainable acquisition procedures as a result of institutional pressure. They can be conformity to ecological systems that follow standards and receiving industry norms, or reducing the natural influence of operations that go beyond administrative requirements (Sharma & Erramilli, 2014). Firms can form strong relationships with controllers by participating in a government-sponsored purposeful program that develops intentional understanding between government offices and firms, therefore enabling mechanical development and reducing contamination (Delmas & Toffel, 2018).

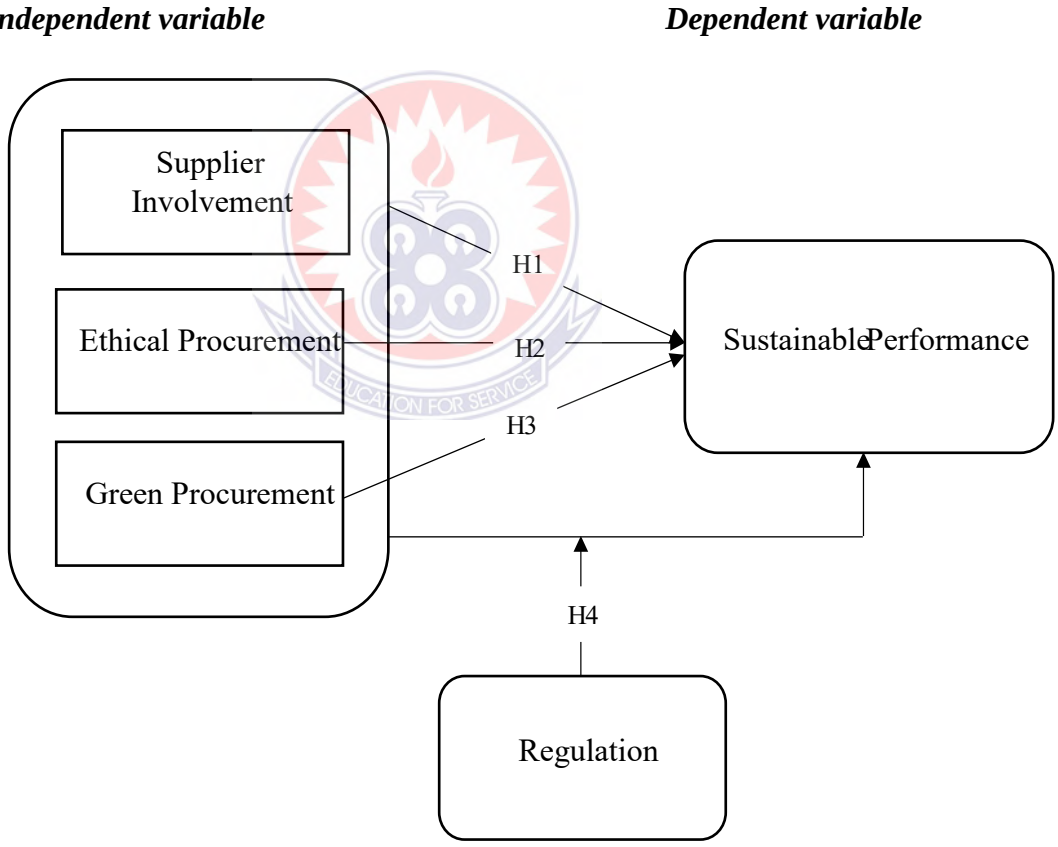
Organizations may collaborate with their clients as well as their suppliers to improve their natural exposition through the exchange of thoughts/data, ideas, and solutions (Nelson and Winter, 2012). Meyer and Rowan (2016) argue in Institutional Theory that the institutional environment has a greater influence on the progress of formal structures in an organization than market forces. Creative designs are being legitimized to boost efficiency in organizations. Eventually, these innovations gain legitimacy to the point that failure to accept them is regarded as "silly and irresponsible." In this case, both new and current organizations will accept the fundamental structure, even if it does not encourage effectiveness. This indicates that "institutional theories" are ceremoniously acknowledged for associations to maintain authenticity in the institutional environment with construction vocabularies such as work titles, systems, and occupations.

2.10 Conceptual review

The researcher discovered and analyzed relevant articles based on an exhaustive search of the available literature, and built a conceptual framework outlining the expected linkages and significant constructs. The conceptual model depicts the effect pathways that connect sustainable procurement practices to local and global business success, as well as sustainable performance.

These propositions are presented in Figure 2.1.

Figure 2. 1: Conceptual Framework



Source: Researcher, (2022)

2.11 Chapter Summary

This chapter has provided information relating to the theories underpinning the study, the key concepts that were investigated, empirical review, and conceptual framework.

These reviews were done in line with the overall theme of the study. This also provides grounds for solid discussion to be carried out in the next chapter with a focus on claims

in the extant literature.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section deals with the general approach the researcher took in carrying out the research project. The study design, population, research strategy, research area, sampling technique, data collection instrument, data collection procedure, and data processing and analysis are all covered in this chapter. The ethical concerns that motivate this work are explored in further depth.

3.2 Research Design

Every successful researcher must select a research design that is appropriate for the research being conducted. A set of rules and instructions to be followed in tackling the research challenge has been termed as research design (Potwarka et al., 2020; Leedy & Omrod, 2010). It is the program that assists the researcher in gathering, evaluating, and interpreting data from an observation. It also specifies the generalization domain, indicating whether or not the resulting interpretation may be applied to a new circumstance (Amoani, 2005). Three basic research designs employed in conducting research and it includes; descriptive research design, exploratory research design and explanatory research design.

According to Leedy and Ormrod (2010), the descriptive design aids in identifying, describing, and appreciating the characteristics of a group of respondents for further investigation in a given context. Researchers utilize descriptive design to organize and summarize study data more efficiently by reducing data to an accessible form and providing tools to understand statistical compilations. Also, Exploratory research design on the other hand serves as a critical approach for researchers to uncover novel insights and delve into domains of knowledge that lack comprehensive understanding (Johnson, 2014). This design serves as an initial foray into a subject, assisting researchers in generating hypotheses, identifying potential research trajectories, and gaining preliminary insights that can guide subsequent studies (Neuman, 2014). Whilst explanatory design according to Zikmund, Babin, Carr, and Griffin (2012), is used to determine the type and strength of cause-and-effect relationships. Explanatory studies look at a certain area or problem to try to explain how various variables interact (Creswell 2014).

Due to the extreme nature of the scientific inquiry that underpins this study, an explanatory research design was used. Cartwright (Tacq 2010) argues for causal studies if things and events have causal capacities and have the potential to cause other events or situations according to the traits they possess. In this case, assessing the effects of sustainable procurement practices on sustainable performance. Explanatory research's main goal is to explain why things happen and to anticipate what will happen next (Viotti & Kauppi, 2019). The assumption that the data is quantitative, which nearly always necessitates the use of a statistical test to establish the validity of the correlations, also influences the decision to approach the issue quantitatively (Spirtes, Glymour & Scheines, 2000).

3.3 Research Approach

The study employed the quantitative research approach. This is because the constructs were numerically measured through recognized measurement scales such as nominal, the quantitative approach entails gathering numerical data and analyzing it using mathematically based approaches, particularly statistics, to explain phenomena (Shiau, Sarstedt & Hair, 2019; Sarstedt & Cheah, 2019; Chapman & Feit, 2019; Carr et al., 2019). This procedure generally starts with data collecting based on a hypothesis or theory, and then uses descriptive or inferential statistics to analyze the results (Tashakkori & Teddlie, 2003). Quantitative techniques are usually described as presuming the existence of a single "truth" that is independent of human experience (George, 2019).

The quantitative research approach is based primarily on a hypothesis that is deductively formed from theory; the goal is to test the theory through observation and data gathering, with the findings either confirming or rejecting the theory after analysis (Zyphur & Pierides, 2019; Tong, 2019). The epistemological underpinning of quantitative research is that the world, in a scientific endeavour, can be represented through numbers in developmental science especially in social sciences (Yoshikawa, Weisner, Kalil & Way, 2008).

3.4 Population

According to Creswell (2012), population is a complete group of entities sharing particular features or characteristics. The population of the study comprised all procurement managers of manufacturing firms. The population comprised both private and publicly-owned manufacturing companies in Ghana with focus on one selected region (Greater Accra). The study used the Greater Accra region because it is

reported to be the most populated manufacturing sector in the country. According to the Association of Ghana Industries (AGI) (2017) report, the target population consisted of three hundred and eighty-two (382) manufacturing firms registered with the AGI.

3.5 Sample and Sampling Procedure

According to Malhotra, Birks and Wills (2013), sampling is the process of selecting a representative few or unit from a larger group or population, which is used as a basis for estimating certain characteristics or elements about the group or population. Sekaran and Bougie (2016) advanced that sampling can broadly be categorised into two main designs, namely, probability sampling and non-probability sampling. Whereas probability sampling design permits each element of the population to have a known and non-zero chance of being selected to be included in the sample. Creswel (2017), advanced simple random sampling, systematic sampling, cluster sampling as well as stratified sampling as the various types of sampling under probability sampling category. Also, Non-probability sampling design does not allow each of the elements of the population to have a known chance of being selected (Sekaran & Bougie, 2016).

This includes but not limited to convenient sampling, purposive sampling. A total of 191 manufacturing firms in the Greater Accra was sampled for the study using Krejcie and Morgan (1970) sample size table.

3.5.1 Sampling Technique

Sampling is a key component of any investigation and involves several considerations. The aim of most investigations is to obtain information about a population. The choice and use of simple random sampling as a sampling technique in

a quantitative study is grounded in its fundamental principles and advantages. Simple random sampling is selected to ensure that every element in the population has an equal and independent chance of being included in the sample (Creswell, 2014). This random and unbiased selection method helps minimize selection bias and promotes the representativeness of the sample, thereby enhancing the external validity of the study (Trochim & Donnelly, 2008). By providing an equal opportunity for each element to be part of the sample, simple random sampling ensures that the findings can be generalized back to the broader population with confidence.

Furthermore, the use of simple random sampling aligns with the principles of statistical inference in quantitative research. Babbie (2010) underscores that the random selection of samples supports the application of various statistical tests and measures. This is crucial for drawing valid and reliable inferences about the population based on the characteristics observed in the sample. The simplicity and transparency of simple random sampling make it a practical and widely accepted choice in quantitative studies, allowing researchers to employ statistical analyses with confidence and make generalizable claims about the larger population under investigation. In summary, the rationale for choosing and employing simple random sampling in a quantitative study lies in its ability to provide a fair and unbiased representation of the population, supporting the robustness and generalizability of the research findings.

3.6 Sources of Data

There are basically two types of data reliability namely: primary and secondary. The researchers intend to use both primary and secondary data to collect information. Primary data is firsthand information obtained by the researcher on variables of

interest for a specific purpose of study (Asumadu & Osei-Owusu, 2011). Primary data refers to the data that the researchers gathered themselves to solve the problem at hand or answer the research question. Examples of primary data include; survey administered by the author; data received from conference etc. The researcher intended to use the primary data (questionnaire) to collect information since it is the first-hand information that would help in the area of study. The researchers used questionnaire (personally administered) in the data collection from sampled manufacturing firms.

Secondary source of information are textbooks, published journals, dissertation of past students, government publications, industry analysis offered by media and websites etc.

The secondary data constituted the core of the literature review of the entire research work.

3.7 Data Processing and Analysis

According to Vonrhein et al. (2011) data analysis entails simplifying data and explaining it in a manner that seeks to answer the research questions posed. Data analysis was also defined by Yan, Wang, Zuo and Zang, (2016) "as the process of bringing order, structure and meaning to the mass of information collected" as stated in Mertens (2005). Analysis of data is a process of editing, cleaning, transforming, and modelling data with the goal of highlighting useful information, suggestion, conclusions, and supporting decision making (Adèr & Adèr, 2008). The use of analytics requires reducing complex data into meaningful and actionable information (Johnson et al., 2010). Brink, Van der Walt and Rensburg (2012) indicated that the

main aim of data analysis is to organize, give structure to and derive meaning from data.

The data were cross-checked first after collection. The data were to identify mistakes in any form that could affect the quality of the analysis. The data will thereafter be coded and feed into computer software packages for analysing quantitative data. Hence, IBM SPSS Statistics version 24 was used to process and analyse the quantitative data, and using descriptive statistics, frequency and percentage were used to analyze the demographic information of the respondents based on the nature of these objectives (Johnson & Bhattacharyya, 2019; Reiczigel, Marozzi, Fábián & Rózsa, 2019).

Multiple regression was used to analyse research objective 1 – 3. Sustainable performance was treated as dependent variable whilst sustainable procurement practices (including supplier involvement, ethical procurement practices and green procurement practices) and regulation were treated as independent variables and moderating variable respectively in the regression model. The SPSS process macro will be configured on the main SPSS application. This will make it easier for the moderation analysis to be performed on objective 4. This statistical software is recommended for use in studies in social sciences (Zickmund, 2009). The findings would be presented in figures and Tables for easy understanding and discussion. The model configuration was based on these parameters. 95% confidence interval, 5% margin of error, 50% pollution variance, 5% significance level and 2-tailed mode of testing. The findings were presented on Tables for easy understanding and clarity of presentation.

3.8 Operationalization of Construct

This section provides an overview of the measurement of the variables in the study, which were designed to fulfil the research objectives. The measurement items utilized in this study were derived from a comprehensive analysis of relevant literature pertaining to manufacturing firms. The independent variables in this study encompassed sustainable procurement practices, namely Supplier Involvement, Ethical Procurement, and Green Procurement Practice. Additionally, regulation was implemented as the moderating variable. Conversely, the dependent variable was centered on the concept of sustainable performance. Table 3.1 displays the measurement items associated with each of the variables being examined. Additionally, the table included pertinent sources for the items.

According to Table 3.1, the indicators (measurement items) for all variables were derived from comprehensive reviews of relevant literature. The reason for this is that the table presented the various sources from which the indicators were obtained. Nevertheless, the degree to which these measurement items accurately assess each of the constructs within the study domain remains uncertain. Consequently, a pretesting procedure was conducted on a sample of manufacturing firms located in the Greater Accra region of Ghana. This study was conducted to evaluate the extent to which the indicators of the constructs serve as reliable measures within the specific context of manufacturing firms. The findings were presented in the subsequent section.

Table 3. 1: Measurement of Variables and Sources

Variable	Measurement Items	Sources

Supplier Involvement	Collaborating with suppliers, direct involvement of suppliers, complete exchange of information, training of key suppliers, dealing with certified sustainable suppliers	Baker, Croucher & Rushton, (2017), Lega, Marsilio & Villa, (2013), Hughes, (2010), Cao & Zhang, (2011)
Ethical Procurement Practices	Adhering to laws, holding staffs accountable, establishment of ethical units/departments, setting sustainable standards, developing sustainability policies	Mustow, (2006), Sengbeh, (2015), Meehan and Bryde, (2011), Kangogo and Kiptoo, (2013)
Green Procurement Practices	Reduced consumption, efficient utilization, innovation of environmentally friendly products, sustainable materials, renewable raw materials	Mosgaard, (2015), Blome, Hollos and Paulraj, (2014), Adham and Siwar, (2012), Ghosh, (2019)
Sustainable Performance	Recyclable materials, equity, Cost reduction, value for money, avoiding waste	Mensah and Ameyaw, (2012), Opoku-Mensah, (2023), Ayarkwa, Agyekum and Opoku, (2023), Muniru, (2013)
Regulations	Policies on sustainable procurement, policies on environmentally sustainable procurement, policies on economically sustainable procurement, regulatory agency requirments	Onyinkwa, (2014), Mrope and Namusonge, (2017), Chingudu, (2014)

3.9 Reliability and Validity Test

In assessing a specific instrument, it is crucial to take into account the elements of reliability and validity. When conducting surveys, it is important for researchers to carefully consider the objectives of the study, the target population, and the available resources in order to optimise the validity and reliability of the research (Liamputtong, 2019). The concept of reliability pertains to the degree of consistency exhibited by an

instrument. An instrument is considered to possess high reliability when it can be relied upon to provide a precise and consistent measurement of a value that remains constant over time (Vitiello, Whittaker, Mulcahy, Kinzie & Helferstay, 2019; Gerlach, Arslan, Schultze, Reinchard & Penke, 2019).

The findings of the reliability assessment for the variables, as depicted in Table 3.2, indicate that all the constructs exhibit a high level of reliability. Specifically, the obtained results surpass the minimum threshold of 0.7, which is recommended by Creswell and Clark (2017) as well as Creswell and Creswell (2017). The findings additionally demonstrated that all of the items exhibited high levels of reliability. The provided information consists of the following data: supplier involvement (Cronbach's Alpha = 0.873; Items = 5), ethical procurement (Cronbach's Alpha = 0.865; Items = 5), green procurement (Cronbach's Alpha = 0.822; Items = 5), regulation (Cronbach's Alpha = 0.853; Items = 5), and sustainable performance (Cronbach's Alpha = 0.938; Items = 5).

Table 3. 2: Reliability Results

Construct	Number of Items	Number of Items
Supplier Involvement	5	0.873
Ethical Procurement	5	0.865
Green Procurement	5	0.822
Regulation	5	0.853
Sustainable Performance	5	0.938

3.10 Response Rate

As a result of the challenges encountered in identifying certain selected firms within the chosen region under investigation, a total of 191 survey questionnaires were effectively distributed. One hundred and sixty-four (164) responses were obtained from the participants, of which fourteen (14) were subsequently excluded. The reason for excluding these data points from the analysis is due to their significant incompleteness and lack of meaningful responses, rendering them irrelevant for further examination. The study ultimately obtained one hundred and fifty (150) data points that were deemed effective and reliable, allowing for the continuation of the analysis process. In essence, the investigation was predicated upon a total of 150 datasets, with a response rate of 78.5%. The response rate of the pertinent data collected for analysis was presented in

table 3.3.

Table 3. 3: Response Rate

Categories	Number of responses	Percentage (%)
Target population	191	100.0
Accessible population	164	85.9
Total responses	164	85.9
Incomplete responses	14	9.8
Total usable responses	**150**	**78.5**

3.11 Ethical Consideration

The study considered and treated some key ethical issues in social sciences research because social science research is tainted with numerous ethical confrontations that must be handled professionally (Green, 2019; Wax, 2019). To summarize, the researchers sought formal permission from the appropriate organizations for this

exercise. The benefits, as well as the purpose of the study, were fully explained to all stakeholders particularly participants (Bell, Bryman & Harley, 2018; Iphofen & Tolich, 2018). Again, informed verbal consent of participants was sought and no respondents were coerced into participating in the study. Where respondents had, issues concerning responding to some of the items, active steps were taken to resolve such misunderstanding. Issues such as confidentially, privacy and unanimity were carefully treated through the design of a robust structured questionnaire (Chambers & Nimon,

2019; Chiauzzi & Wicks, 2019; Lo, Grotevant & McRoy, 2019; Das, Ester & Kaczmirek, 2018). No data manipulation was carried out during the data processing and analysis stage of the study. The findings were duly reported as generated.

3.12 Chapter Summary

This section has provided information regarding the methodological approaches that will be employed to obtain the primary data, how data will be processed and analyzed given cognizance to the statistical tools and specific research objectives as well as how findings of the study were summarized and presented for easy interpretation and understanding.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

The research aimed to investigate sustainable procurement practices and their impact on sustainable performance within some selected manufacturing companies in the Greater Accra region. This section presents and thoroughly discusses the research findings, with a chronological alignment to the study's specific objectives. The discussion provides an in-depth analysis that takes into account prior empirical studies regarding the relationships between the variables under investigation in this research.

4.2 Demographic Information

This section provides information about the demographic information of the respondents that participated in the study. The characteristics of these respondents were descriptively measured with frequency and percentage. The findings are presented in Table 4.1. Table 4.1 presents information about the demographic characteristics of the respondents that were surveyed.

Table 4. 1: Descriptive statistics of the Respondents

Categories	Frequency	Percent (%)
Sex		
Male	91	60.7
Female	59	39.3
Total	**150**	**100**
Age		
21-30	28	18.7
31-40	78	52.0

41-50	21	14.0
51-60	23	15.3
Total	**150**	**100**
Years of work		
Less than 1 year	14	30.0
1-5 years	62	40.0
6-10 years	20	10.0
More than 10 years	54	20.0
Total	**150**	**100**
Educational Level		
Diploma	2	1.3
First Degree	93	62.0
Postgraduate Degree	55	36.7
Total	**150**	**100**
Position in the Firm		
Manager	35	23.3
Operations Manager	53	35.3
Supply Chain Manager	32	21.4
Administrative Officer	30	20.0
Total	**150**	**100**

Source: Field Survey, (2023)

According to the data presented in Table 4.1, it was observed that the majority of the survey participants (60.7%) were males, with the remaining 39.3% being females.

Although there was a predominant male presence among the respondents, females were still reasonably well-represented. This suggests that a comparative analysis based on gender is feasible.

Additionally, concerning the age distribution of the respondents, it was noted that a significant proportion (52.0%) fell within the 31-40 years age bracket, while 18.7% belonged to the 20-30 years category. The remaining 15.3% and 14.0% were aged above 50 years and between 41 to 50 years, respectively. The age demographics of the respondents indicate a relatively youthful workforce, which implies that their respective organizations could engage them for extended periods by implementing effective succession planning and talent management practices.

Examining the educational qualifications of the respondents, the data revealed that the majority had completed a first-degree program (62.0%), followed by those holding postgraduate degrees (36.7%). Only two respondents possessed diploma certificates. This educational background signifies that all the respondents had received some form of formal higher education, justifying the use of structured questionnaires for primary data collection through the drop-and-pick method employed.

Regarding the occupational positions of the respondents, the largest group consisted of operational managers, constituting 35.3% of the total respondents, followed by general managers, who made up 23.3% of the sample. Supply chain managers comprised 21.4% of the total, while administrative officers accounted for 20.0%. These statistics indicate a relatively fair representation of various administrative positions within the surveyed organizations.

4.3 Descriptive Statistics of Variables

The attitude of the respondents was measured on a 5-point Likert Scale rated as follows: 1=Strongly agree, 2=Agree, 3=Neutral, 4=Agreed and 5=Strongly Agree. The

interpretation of the findings was assigned with artificial range of precision of response as follows: 0-0.9=strongly disagree, 1.0-2.3= disagree, 2.4-2.6= neutral, 2.7-3.5= agree and 3.6-5.0= strongly agree. Descriptive statistics (Mean and Standard deviation) were.

The findings were presented in Table

4.3 Descriptive Statistics of Variables

Table 4. 2: Supplier Involvement of Manufacturing Firms

Statements	N	Min.	Max.	Mean	Std. Dev.
Our firm collaborates with its suppliers to develop policies, processes and products which are environmentally friendly.	150	1.00	5.00	4.52	.587
Our firm ensures direct involvement of suppliers during planning and forecasting decisions	150	1.00	5.00	4.40	.792
Our firm ensures complete exchange of information with its suppliers to improve sustainable practices	150	1.00	5.00	4.18	.791
Our firm trains its key suppliers on its core values and rules of conduct	150	1.00	5.00	4.24	.784
Our firm establishes contracts with only suppliers who are sustainability certified and compliant	150	1.00	5.00	4.17	.731
Weighted Mean and Standard Deviation				**4.30**	**0.737**

Source: Field Survey, (2023)

Supplier involvement was measured on a 5-point likert scale where 1 represent strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. From the results presented in table 4.2 above, the mean score ranges from 4.17 to 4.52. The highest recorded mean of (4.52) was associated with the item (our firm collaborates with its suppliers to develop policies, processes and products which are environmentally friendly) while the lowest recorded mean of (4.17) was recorded on the item (our firm establishes contract with only suppliers who are sustainability certified and compliant). The mean of (4.52) shows that the respondents strongly agree that their firm collaborates with suppliers on sustainable procurement practices. Again, the lowest mean of (4.17) which corresponds to agreement on the scales shows that respondents further agreed to the assertion that their firm establishes contract with only who are sustainably certified.

The overall weighted mean of (4.30) which corresponds to agree on the scale shows that on average, the respondents confirmed their involvement with suppliers on sustainable practices in their firm.

Table 4. 3: Green Procurement Practices of Manufacturing Firms

Statements	N	Min.	Max.	Mean	Std. Dev.
Our firm ensures decreased consumption of harmful/toxic materials during production	150	1.00	5.00	4.43	.809
Our firm ensures efficient utilization of energy	150	1.00	5.00	4.48	.802
Our firm innovate more environmentally friendly products and processes in recent years	150	1.00	5.00	4.11	1.005
Our firm deal with suppliers who provide sustainable materials	150	1.00	5.00	3.94	.805

Our firm uses renewable raw materials for packaging its products	150	1.00	5.00	4.17	.920
Weighted Mean and Standard Deviation				**4.23**	**0.868**

Source: Field Survey, (2023)

Results in table 4.3 above indicate respondents‟ extent of agreement in the practice of green procurement practices in their respective firms. Measured on a 5-point likert scale where 1 represent strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Figures from the table above reports that the mean score ranges from 3.94 to 4.48. The highest recorded mean of (4.48) was reported for the item (our firm ensures efficient utilization of energy) while the lowest recorded mean of (3.94) was recorded for the item (our firm deals with suppliers who provide sustainable materials). The high mean of 4.48 shows that the respondents strongly agree that their firm ensures efficient utilization of energy whilst the lowest mean of (3.94) which corresponds to agreement on the scales shows that respondents further agreed to the assertion that their firm deals with suppliers who provide sustainable materials.

The overall weighted mean of (4.23) which corresponds to agree on the scale shows that on average, the respondents confirmed green procurement as a sustainable practice in their firm.

Table 4. 4: Ethical Procurement Practices of Manufacturing Firms

Statements	**N**	**Min**	**Max**	**Mean**	**Std. Dev**
Our firm has implemented and constantly follows the safety aspects and governmental laws concerning their operations	150	1.00	5.00	4.16	1.760
Our staff are held accountable for their procurement activities in my firm	150	1.00	5.00	4.08	1.025
Our firm has established a unit/department which handles all ethical issues	150	1.00	5.00	4.18	1.452

Our firm ensures that sustainable standards are met in every order	150	1.00	5.00	4.11	0.718
Our firms have developed a sustainability policy with the suppliers	150	1.00	5.00	4.06	1.087
Weighted Mean and Standard Deviation				**4.12**	**1.208**

Source: Field Survey, (2023)

Results from table 4.4 above indicate the extent to which ethical procurement practices are performed by selected manufacturing firms in Accra. Data from the table above was measure on a 5-point likerts scale where 1 represent strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Figures from the table 4.4 above reports that the mean score ranges from 4.06 to 4.18. The highest recorded mean of (4.18) was reported for the item (our firm has established a unit or department which handles ethical issues) while the lowest recorded mean of (4.06) was recorded for the item (our firm has developed sustainability policy with suppliers). The high mean of 4.18 shows that the respondents strongly agree that their firm established a unit or department which handles ethical issues whilst the lowest mean of 4.06 which corresponds to agreement on the scales shows that respondents further agreed to the assertion that their firm has developed sustainability policy with suppliers.

The weighted mean of (4.12) which corresponds to agree on the scale shows that on average, the respondents confirmed ethical procurement as a sustainable practice in their firm.

Table 4. 5: Descriptive Statistics on Regulation

Statements	**N**	**Min.**	**Max.**	**Mean**	**Std. Dev.**
Our firm have policies on sustainable procurement	150	1.00	5.00	4.43	.741
Our firm is guided by strict policies on environmentally sustainable procurement	150	1.00	5.00	4.52	.811

Our firm is guided by strict policies on economically sustainable procurement	150	1.00	5.00	4.31	.804
Our firm is guided by strict policies on socially sustainable procurement	150	1.00	5.00	4.27	.950
Our firm meets the regulatory agencies requirements	150	1.00	5.00	4.20	1.019
Weighted Mean and Standard Deviation				**4.35**	**0.865**

Source: Field Survey, (2023)

Reporting on the role of regulations in manufacturing firms towards sustainable performance of selected manufacturing firms, a 5-point likert scale where 1 represent strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree was used in ascertaining respondents‟ perception. From the results presented in table 4.5 above, the mean score ranged from 4.52 to 4.20. The highest recorded mean of (4.52) was associated with the item (our firm is guided by strict policies on environmentally sustainable procurement) while the lowest recorded mean of (4.20) was recorded on the item (our firm meets the regulatory agency‟s requirement). The mean of (4.52) shows that the respondents strongly agree that their firm comply to strict policies on the environment and also, the lowest mean of (4.20) also corresponds to agreement on the scales that respondents further agreed that they meet regulatory agency‟s requirements. The overall weighted mean of (4.35) which corresponds to agree on the scale shows that on average, the respondents confirmed their compliance to regulations on sustainable procurement practices.

4.4 Effect Sustainable Procurement Practices on Sustainable Performance of Manufacturing Firms

The research also explored how sustainable procurement practices impact the sustainable performance of specific manufacturing firms in the Greater Accra region. In order to perform the analysis, a multiple regression analysis was conducted, and

composite variables were generated by means of data transformation using the SPSS software, thereby ensuring the appropriate configuration of the regression model. The Durbin-Watson statistic, with a value of 1.760, suggests the lack of autocorrelation among the variables, as it falls within the recommended range of 1.5 to 2.5 (Pallant, 2014). Furthermore, the absence of multicollinearity was observed, as indicated by the variance inflation factors (VIFs) of the predictors, all of which were below the recommended threshold of 5.

In order to assess the influence of the independent variables on the dependent variable, the R-square value was employed, which is frequently used as a measure of effect size in path models (Garson, 2016). The interpretation process involved the utilization of provisional cutoff points, as suggested by Hock and Ringle (2006) and Garson (2016). The suggested thresholds for interpreting R-square values are as follows: values greater than 0.67 are categorized as "substantial," values above 0.33 are classified as "moderate," and values exceeding 0.19 are considered "weak." The subsequent sections

contain the presentation of the regression analysis findings.

Table 4. 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.745[a]**	**.554**	**.437**	**4.168**

a. Predictors: (Constant), Supplier involvement, ethical procurement practices, green procurement practices.

b. Dependent: Sustainable Performance.

The results presented in Table 4.6 initially indicate a strong positive correlation among the predictors (supplier involvement, ethical procurement practices, and green

procurement practices), regulations, and sustainable performance (r=0.745). The interpretation of the correlation in question was informed by the established thresholds outlined by Cohen (1988). The observed correlation indicates a comprehensive relationship between the predictors and the dependent variable under examination in the model. Hence, it is anticipated that there exists a positive correlation between elevated levels of sustainable procurement practices in specific manufacturing enterprises in Accra and heightened levels of sustainable performance, as evidenced by the descriptive statistics pertaining to the dependent variable. On the other hand, manufacturing firms in Greater Accra that have lower levels of sustainable procurement practices tend to exhibit reduced levels of sustainable performance. It is imperative to acknowledge that this correlation does not establish a causal relationship. It is recommended that manufacturing firms in the Greater Accra region effectively adopt sustainable procurement practices, such as supplier engagement, ethical procurement practices, and green procurement practices, in order to improve their sustainable performance. This observation holds significant importance for procurement entities and other relevant parties, as it underscores the positive correlation between enhanced sustainable procurement practices and elevated levels of sustainable performance. This elucidates the approaches to be utilized in cultivating these factors within their organizational milieu.

In order to evaluate the influence of sustainable procurement practices on the sustainable performance of specific manufacturing firms, it is crucial to take into account the coefficient of determination, commonly referred to as the r-square. The findings of the study reveal that the sustainable performance of manufacturing firms in Greater Accra can be attributed to sustainable procurement practices, specifically supplier involvement, ethical procurement practices, and green procurement practices.

These factors collectively explain 55.4% of the positive variance in sustainable performance (R square=0.554). The aforementioned calculation is conducted with the inclusion of statistical controls to account for the potential impact of various factors present within manufacturing firms in the Greater Accra region that may influence sustainable performance. As a result, the unaccounted factors in the model are able to explain only 44.6% of the positive variance in the sustainable performance of the manufacturing firms, after considering the statistical impact of sustainable procurement practices.

In conclusion, it is apparent that the implementation of sustainable procurement practices plays a substantial role in enhancing the sustainable performance of manufacturing companies located in the Greater Accra region. The aforementioned findings are consistent with prior empirical research, which indicates a favorable impact of sustainable procurement practices on the performance of organizations (Bai et al., 2019; Sancha et al., 2015). Nevertheless, it is yet to be verified whether the alterations in the sustainable performance of the chosen manufacturing companies in Greater Accra can be directly ascribed to modifications in sustainable procurement best practices. An evaluation of the ANOVA outcomes outlined in the Model Summary Report, as depicted in Table 4.7, is imperative.

Table 4. 7: Summary of Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5528.409	4	140.010	81.201	.000[b]
	Residual	4421.584	145	17.325		
	Total	99.49.993	149			

Source: SPSS Analysis Output

a. Dependent Variable: Sustainable Performance

b. Predictors: (Constant), supplier involvement, ethical procurement practices and green procurement practices.

The purpose of the ANOVA analysis, as shown in Table 4.7, is to investigate the extent to which the observed 55.4% positive variance in sustainable performance among manufacturing firms in Greater Accra can be attributed to variations in sustainable procurement practices. These practices are specifically measured by supplier involvement, ethical procurement practices, and green procurement practices. For the outcomes to be deemed statistically significant, it is necessary for the p-value to be less than or equal to 0.05.

After conducting a thorough analysis of the data presented in Table 4.7, it becomes apparent that the implementation of sustainable procurement practices is a substantial and favorable factor in predicting the 55.4% positive variation in sustainable performance among manufacturing companies in the Greater Accra region. To clarify, the observed increase in sustainability performance among these manufacturing firms, which resulted in a 55.4% improvement, can be attributed to the implementation of sustainable procurement practices. This improvement encompasses enhancements in social performance, environmental performance, economic performance, and functional efficiency. The statistical analysis indicates a significant relationship between sustainable procurement practices and the observed improvements in sustainability performance (r-square=55.4%; p=0.000: $p<0.05$).

Therefore, it can be asserted with confidence that the implementation of sustainable procurement practices in manufacturing firms located in Greater Accra makes a

substantial and statistically significant contribution to enhancing sustainable performance. This conclusion is consistent with prior empirical investigations carried out by scholars such as Kipkemoi (2017) and Miuende (2017), whose findings have similarly corroborated the favorable impact of sustainable procurement practices on organizational performance.

The present study has confirmed that alterations in sustainable procurement practices within manufacturing firms located in Greater Accra result in noteworthy and statistically significant enhancements in their sustainability performance. However, the presentation did not include the individual contributions of the constructs. Table 4.8 presents the results pertaining to the distinct contributions of the constructs comprising the predictors within the regression model.

Table 4. 8: Regression Co-efficient Analysis of the Model

Model		**Unstandardized Coefficients**		**Standardized Coefficient**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	10.409	3.120		4.006	.000
	Supplier involvement	.446	0.058	.480	7.703	.000
	Ethical procurement	.546	0.138	.260	4.594	.003

Green procurement	.261	0.033	.462	2.983	.009
Regulation	.108	0.021	.513	1.998	.010
Moderation	.156	0.091	.301	2.366	.004

Dependent Variable: Sustainable Performance.

The data in Table 4.8 provides insights into how the factors assessing the main construct, sustainable procurement practices, contribute to predicting the 55.4% positive variance in the performance of manufacturing firms in Greater Accra. When examining the individual contributions of these predictors while controlling for the effects of other variables in the model, it was evident that supplier involvement emerged as the most robust and statistically significant positive predictor of sustainable performance (Beta=0.480; p=0.000: p<0.05).

Furthermore, it is confirmed that ethical procurement practices also made a statistically significant and positive contribution to predicting the substantial change in the dependent variable, sustainable performance, among manufacturing firms in Greater Accra (Beta=0.260; p=0.003: p<0.05). This finding aligns with prior empirical studies that have similarly shown that ethical procurement practices contribute to performance improvement (Wild & Zhou, 2011; Neu et al., 2015; Zou, Brax, Vuori, & Rajala, 2019). Moreover, green procurement practices were found to make a statistically significant positive contribution to predicting the substantial change in performance in Greater Accra when other variables in the model were taken into account (Beta=0.462; p=0.009: p<0.05). This result is consistent with previous empirical studies that have also demonstrated the positive impact of effective green

manufacturing practices on a firm's sustainable performance (Chan et al., 2018; Ciumara & Lupu, 2020).

In interpreting the regression function (unstandardized beta), the results indicated that a one-unit increase in supplier involvement would lead to a .446 unit increase in sustainable performance among manufacturing firms in Greater Accra. Furthermore, a one-unit increase in ethical procurement would result in a 0.546 unit increase in sustainable performance for firms in Greater Accra, and a one-unit increase in green procurement would contribute to a 0.261 unit increase in sustainable performance. Similarly, a one-unit increase in regulations would lead to a 0.108 unit increase in the sustainable performance of manufacturing firms in Greater Accra.

Mathematically, the estimated regression function is given as follows:

$SP = 10.409 + 0.446*SI + 0.546*EP + 0.261*GP + 0.108*R$

4.5 Discussion of Results

The results of the study reveal a noteworthy positive relationship between sustainable procurement practices, particularly supplier involvement, and the sustainable performance of some selected manufacturing firms in Accra. The analysis reported a

44.6% supplier involvement variation in sustainable performance. This finding is consistent with existing literature that emphasizes the significance of sustainable procurement strategies in enhancing overall corporate sustainability. For instance, Carter and Rogers (2008) argue that involving suppliers in sustainable practices fosters collaboration and creates a shared commitment to environmental and social responsibility. This collaborative approach can lead to improved efficiency, reduced environmental impact, and enhanced social outcomes throughout the supply chain.

Additionally, findings from a study by Pagell and Wu (2009) support the notion that supplier involvement in sustainable procurement positively influences firm performance by promoting resource efficiency and innovation. Moreover, the positive relationship between sustainable procurement practices and the sustainable performance of manufacturing firms aligns with the broader understanding of sustainable business practices. Sarkis (2013) discusses the integral role of sustainable procurement in developing environmentally and socially responsible supply chains. The study's results resonate with Sarkis's argument, suggesting that when manufacturing firms actively engage their suppliers in sustainable practices, they contribute to the creation of a more resilient and responsible business ecosystem. In conclusion, the findings of this study are in harmony with prior research, affirming the positive impact of sustainable procurement practices, particularly supplier involvement, on the overall sustainable performance of manufacturing firms.

Again, the results of the study further unveil a significant and positive relationship between sustainable procurement practice (specifically ethical procurement), and the sustainable performance of manufacturing firms in Accra. This aligns with previous research emphasizing the crucial role of ethical considerations in procurement for overall sustainability performance. For instance, Beske, Seuring, and Mielke (2008) argue that ethical procurement practices contribute to social responsibility and improved stakeholder relationships, ultimately enhancing a firm's sustainable performance. Additionally, findings from a study by Zhu, Sarkis, and Geng (2005) support the idea that ethical procurement positively influences firm performance by fostering a positive corporate image and reducing reputational risks. These insights reinforce the argument that ethical considerations in procurement are integral to

promoting sustainable business practices and enhancing the overall performance of manufacturing firms in a socially responsible manner.

In addition, the study's results further demonstrate a significant and positive relationship between sustainable procurement practices, particularly green procurement, and the sustainable performance of manufacturing firms. This finding resonates with the existing literature, which emphasizes the environmental benefits and positive impact on overall firm performance associated with green procurement practices. For example, Müller (2008) argue that green procurement contributes to environmental sustainability by reducing a firm's ecological footprint and enhancing resource efficiency. Moreover, findings from a study by Pagell and Wu (2009) support the notion that green procurement positively influences firm performance by promoting environmental responsibility and fostering innovation. The study's results align with these perspectives, suggesting that manufacturing firms that actively engage in green procurement practices are more likely to experience enhanced sustainability performance, both environmentally and economically.

4.6 Role of Regulations in the Relationship between Sustainable Procurement Practices and Sustainable Performance

Reporting on the moderating effect of Regulation in the relationship between sustainable procurement practices and sustainable performance of manufacturing firms in Accra, the results from the coefficient table 4.8 indicted a percentage increment of 15.6% in the relationship between the direct effect (sustainable procurement practices and sustainable performance). It was discovered that a unit increase in regulations will cause 0.156 increases in sustainable performance among firms in Greater Accra. With a t-value of 2.366 and a p-value of 0.004, it can be

concluded that regulations play a significant role in the relationship between sustainable procurement practices and sustainable performance of manufacturing firms in Accra. According to several researchers, regulations serve as a catalyst for improved sustainable performance. By mandating specific environmental and social requirements, regulations push organizations to integrate sustainability into their supply chain management processes (Walker et al., 2015). Companies that align their procurement practices with these regulations often experience enhanced reputation, reduced operational risks, and cost savings associated with resource efficiency.

Also, a fundamental aspect of sustainable procurement practices is compliance with various regulations and standards. Government-imposed regulations often act as drivers for companies to adopt sustainable procurement practices (Preuss, 2009). These regulations encompass a wide range of areas, including environmental protection, labor rights, and ethical sourcing. Compliance with these regulations not only ensures legal adherence but also serves as a foundation for organizations to develop more comprehensive sustainability strategies.

In conclusion, regulations play a significant and positive role in the relationship between sustainable procurement practices and sustainable performance. They serve as a foundation for sustainable procurement initiatives, drive compliance, and contribute to the overall sustainability of organizations. The dynamic nature of regulatory frameworks encourages continuous improvement and collaboration among businesses, ultimately leading to better sustainable performance outcomes. By recognizing and embracing the regulatory context, organizations can navigate the complexities of sustainable procurement while reaping the benefits of enhanced environmental, social, and economic sustainability.

4.6 Chapter Summary

This chapter provided information about the findings and discussion of the research data of all the research questions of the study. Demographic information was provided as well as the level of sustainable procurement practices, in supplier involvement, ethical procurement and green procurement practices in manufacturing firms in Accra. Also, the effect of sustainable procurement practices on sustainable performance was ascertained and finally the relationship between regulation, sustainable procurement practices and sustainable performance was determined.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study sought to assess the effects of sustainable procurement practices on sustainable performance of manufacturing firms in the Greater Accra Region. Sustainable procurement practices included three major constructs, namely, supplier involvement, ethical procurement practices and green procurement practices. This chapter specifically presents information regarding the summary of the key findings; conclusions drawn in respect of the specific objective as well as recommendations offered. It finally presents information regarding suggestions for further studies given cognizance to the findings obtained from the study.

5.2 Summary of Key Findings

The summary of results is presented chronologically per the specific research objectives considered in this study. The following specific objectives guided the analytical approach to the primary data collected.

a. To examine the relationship between supplier involvement and sustainable performance.
b. To examine the relationship between ethical procurement practices and sustainable performance.
c. To examine the relationship between green procurement practices and sustainable performance.
d. To examine the moderating role of regulations in the relationship between sustainable procurement and sustainable performance.

The summary of the findings in respect of these specific objective are hereby presented. The study revealed that the respondents perceive sustainable procurement practices as excellent given cognizance to the individual mean scores and standard deviation for all the measures of this construct. The results pertaining to the relationship between the predictors and sustainable performance among manufacturing firms in Greater Accra also showed that there was a statistically significant large positive correlation between sustainable procurement practices and sustainable performance.

Reporting on the first objective, the study reveals a significant and positive relationship between supplier involvement and the sustainable performance of manufacturing firms in Accra. The findings underscore the importance of actively engaging suppliers in sustainable practices to enhance overall sustainability

performance of the manufacturing sector in Accra. The positive relationship identified in this study supports the idea that manufacturing firms in Accra can strengthen their sustainable performance by prioritizing and implementing sustainable procurement practices with a particular focus on supplier involvement.

Focusing on the second objective, the study found a positive and significant relationship between ethical procurement practices and sustainable performance of manufacturing firms The identified positive relationship suggests that manufacturing firms in Accra can enhance their overall sustainability by prioritizing and implementing ethical procurement practices, thus contributing to a socially responsible and sustainable business environment.

Furthermore, the third objective revealed a significant positive relationship between green procurement practices of the selected manufacturing firms and the sustainable performance of these manufacturing firms. It was discovered that the decrease in consumption of harmful materials, efficient utilization of materials and the use of innovative environmentally friendly products and processes among others contributes to about 21.6% in the sustainable performance of some selected manufacturing firms in the Greater Accra region of Ghana.

Per the predictive capacity of the model, it is established that sustainable procurement practices in terms of supplier involvement, ethical procurement and green procurement and regulations collectively accounted for 55.7% positive variance in sustainable performance in terms improved financial gains, cost reduction, efficiency in procurement procedure, waste avoidance, procurement of right package, timely delivery of goods, services and works, no breaches of contracts, procurement of needed goods, services and works, improvement in organisational efficiency, timely

response to customer needs and improved functional efficiency. This variance in sustainable performance was statistically significant in the changes in the predictors actually accounted for the moderate positive variance in sustainable performance.

It was further discovered that supplier involvement, ethical procurement, green procurement and regulations all made some statistically significant positive contributions to predicting the significant positive moderate variance in sustainable performance among manufacturing firms in Greater Accra.

The last objective assessed the moderating effect of regulation in the relationship between sustainable procurement practices and sustainable performance of manufacturing firms. It was revealed that though there is a significant and positive relationship between sustainable procurement practices and sustainable performance, it was discovered that regulation played a significant and positive effect in boasting the relationship between sustainable procurement practices and sustainable performance by

15.6% in contribution.

5.3 Conclusions

In conclusion, this comprehensive study has provided compelling evidence that sustainable procurement practices, including supplier involvement, ethical procurement, and green procurement, coupled with effective regulatory frameworks, serve as powerful catalysts for enhancing the sustainability performance of manufacturing firms in Accra.

The findings of this study confirm that sustainable procurement practices have a multifaceted impact on manufacturing firms. Supplier involvement fosters

collaboration and innovation, ethical procurement ensures social responsibility, and green procurement reduces environmental footprints. When integrated into the operations of manufacturing firms and supported by robust regulations, these practices lead to a host of positive outcomes.

Manufacturing firms that embrace sustainable procurement practices not only achieve cost savings through resource efficiency but also strengthen their reputation, increase stakeholder trust, and gain a competitive edge. These firms are better positioned to mitigate risks associated with supply chain disruptions, ethical lapses, and environmental challenges.

Effective regulations further reinforce the commitment to sustainability by providing clear guidelines and incentives for compliance. Policymakers, industry associations, and stakeholders must continue to collaborate and evolve these regulations to ensure that sustainable procurement practices become the norm rather than the exception.

Also, this study highlights the transformative potential of sustainable procurement practices and regulations in Accra's manufacturing sector. These practices are not only essential for individual firm success but also vital for advancing the broader sustainability goals of the region. As sustainability gains increasing prominence, it is imperative for manufacturing firms in Accra to recognize and embrace these practices, thus contributing to a more sustainable, ethical, and environmentally responsible future for all.

5.4 Recommendations

It was discovered that there was a correlation between the independent variables (supplier involvement, ethical procurement and green procurement), the moderating variable (regulations) and the dependent variable (sustainable performance). The

study therefore recommends that management of these manufacturing in Greater Accra should ensure they execute their sustainable procurement practices such as supplier involvement, ethical procurement and green procurement so as to promote improvement of their performance sustainably. Higher levels of sustainable procurement practices are associated with high levels of improved sustainable performance which tells also the kind of strategies to be employed to ensure desirable existence of these factors in their business environment. It was discovered that among the independent variables, supplier involvement made the highest contribution to predicting the positive variance in sustainable performance. The study therefore recommends that management of these manufacturing firms in Accra pay much attention to their supplier partnership and involvement by adopting strategies to maintain them since improvement in supplier involvement has the capacity to improve sustainable performance.

5.5 Suggestions for Future Studies

Since sustainable procurement practices predicted a significant moderate positive variance in sustainable performance in the manufacturing firms in Greater Accra, it is recommended that similar studies should be conducted to include other sectors in Ghana at large. Again, further studies can be conducted to examine the other factors that were not captured in the model considered in this study to ensure optimal efficiency in respect of sustainable performance at the workplace in manufacturing firms in Accra and Ghana at large.

To conclude, it becomes eminent for scholars to continue to investigate the effect of sustainable procurement practices on some specific aspects of sustainable performance such as economic, environmental and social sustainable performance as

well as operational performance so as to know the kind of relationship that exists among these constructs. Firm characteristics such as size, industry type, experience and level of integration of sustainable procurement in functional areas could be controlled in such studies.

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APPENDIX

UNIVERSITY OF EDUCATION, WINNEBA

SCHOOL OF BUSINESS

DEPARTMENT OF PROCUREMENT AND SUPPLY CHAIN MANAGEMENT

TOPIC: Sustainable Procurement Practices and Sustainable Performance: The Role of Regulations

Introduction

Thank you for accepting to participate in this study which ascertain the effect of sustainable procurement and sustainable performance: The role of regulations. I am a

student from UEW (Department of Procurement and Supply Chain Management) conducting this study. The study is purely for academic purposes, and it is expected that findings obtained will shape learning as well as managerial practices. I assure you that your responses will be treated with strictest confidence. Hence, do feel comfortable in providing responses that reflect your company‟s situation. Kindly follow specific instructions and scales provided in the tables indicate your responses. Thank you once again.

PART A: DEMOGRAPHICS

Kindly tell me about yourself and your company in terms of

1. Gender:

   [ ] Male [ ] Female

2. Age (years) of respondent:

   [ ] 21 - 30 [ ] 31 – 40 [ ] 41 –50 [ ] 51 – 60 [ ] Above 60

3. How long have you worked with your organization?

   [ ] less than 1 year [ ] 1-5 years [ ] 6-10 years [ ] More than 10 years

4. Educational Level:

   [ ] SSCE/WASSCE [ ] Diploma [ ] First Degree [ ] Postgraduate Degree

   [ ] Professional Certificate

5. Position in the Organization.

   [ ] Manager [ ] Operations Manager [ ] Supply Chain Manager [ ] Administrative Officer

PART B: SUPPLIER INVOLVEMENT PRACTICES

This section provides a five (5) itemized statement on supplier involvement practice of your firm. How satisfied are you with your business‟s supplier involvement practice over the past three years in terms of the following? Please tick **(√)** appropriately, **from 1 – 5 (Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree).**

		1	2	3	4	5
	Supplier Involvement					

SI1	Our firm collaborates with its suppliers to develop policies, processes and products which are environmentally friendly.					
SI2	Our firm ensures direct involvement of suppliers during planning and forecasting decisions					
SI3	Our firm ensures complete exchange of information with its suppliers to improve sustainable practices					
SI4	Our firm trains its key suppliers on its core values and rules of conduct					
SI5	Our firm establishes contracts with only suppliers who are sustainability certified and compliant					

PART C: GREEN PROCUREMENT PRACTICES

This section provides a five (5) itemized statement on green procurement practice of your firm. How satisfied are you with your business‟s green procurement practices over the past three years in terms of the following? Please tick **(√)** appropriately, **from 1 – 5 (Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree).**

		1	2	3	4	5
	Green Procurement Practices					
GP1	Our firm ensures decreased consumption of harmful/toxic materials during production					
GP2	Our firm ensures efficient utilization of energy					

GP3	Our firm innovate more environmentally friendly products and processes in recent years					
GP4	Our firm deal with suppliers who provide sustainable materials					
GP5	Our firm uses renewable raw materials for packaging its products					

PART D: ETHICAL PROCUREMENT PRACTICES

This section provides a five (5) itemized statement on ethical procurement practice of your firm. How satisfied are you with your business‟s ethical performance over the past three years in terms of the following? Please tick **(√)** appropriately, **from 1 – 5 (Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree).**

		1	2	3	4	5
	Ethical Procurement Practices					

EP1	Our firm has implemented and constantly follows the safety aspects and governmental laws concerning their operations					
EP2	Our staff are held accountable for their procurement activities in my firm					
EP3	Our firm has established a unit/department which handles all ethical issues					
EP4	Our firm ensures that sustainable standards are met in every order					
EP5	Our firms have developed a sustainability policy with the suppliers					

PART E: SUSTAINABLE PERFORMANCE

This section provides a five (5) itemized statement on sustainable performance of your firm. How satisfied are you with your business‟s sustainable performance over the past three years in terms of the following? Please tick **(√)** appropriately, **from 1 – 5 (strongly**

Disagree, Disagree, Neutral, Agree and Strongly Agree).

		1	2	3	4	5
	Sustainable Performance					
SSP 1	Our firm have projects to improve/recover the environment					
SSP 2	Our firm uses recyclable materials during production					
SSP 3	Our firm meets the regulatory agencies requirements					
SSP 4	Our return on equity has improved overtime					
SSP 5	Our firm have adequate information to complete our work roles					

PART F: THE ROLE OF REGULATIONS

This section provides a five (5) itemized statement on regulations of your firm. How satisfied are you with your business"s regulatory policies over the past three years in terms of the following? Please tick **(√)** appropriately, **from 1 – 5 (strongly Disagree, Disagree, Neutral, Agree and Strongly Agree).**

		1	2	3	4	5
	Regulations					

R1	Our firm have policies on sustainable procurement					
R2	Our firm is guided by strict policies on environmentally sustainable procurement					
R3	Our firm is guided by strict policies on economically sustainable procurement					
R4	Our firm is guided by strict policies on socially sustainable procurement					
R5	Our firm meets the regulatory agencies requirements					