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KUMASI
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DEPARTMENT OF SUPPLY CHAIN AND INFORMATION SYSTEMS**

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**GREEN PURCHASING AND ENVIRONMENTAL PERFORMANCE: THE
MODERATING EFFECT OF TOP MANAGEMENT SUPPORT IN GREATER
ACCRA METROPOLITAN ASSEMBLY**

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**A THESIS SUBMITTED TO THE DEPARTMENT OF SUPPLY CHAIN AND
INFORMATION SYSTEMS, INSTITUTE OF DISTANCE LEARNING, IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF SCIENCE**

(PROCUREMENT AND SUPPLY CHAIN MANAGEMENT OPTION)

NOVEMBER, 2023

DECLARATION

I hereby declare that this submission is my own work towards the **Master of Science in Procurement and Supply Chain Management** and that, to the best of my knowledge, it contains no material previously published by another researcher nor material which has been accepted for the award of any other degree of the University, except where due acknowledgements have been made in the text.

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DEDICATION

I dedicate this thesis to the almighty Allah through whose undeserved kindness I have been able to complete this work. It is also dedicated to my uncle whose effort and patience has brought me this far.

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ACKNOWLEDGEMENT

First of all, I want to express my profound gratitude to our supervisor, Dr. Emmanuel K. Anin; Lecturer, Department of Supply Chain and Information System for his guidance, suggestions and constructive criticisms which have enable me to produce this final work. I owe him a million thanks for sharing his busy schedule to read my manuscript and offered suggestions that shape this work. I am indeed most grateful.

I wish to appreciate the support of the staff of the Accra Metropolitan Assembly especially the procurement department, stores and sanitation department of the Metropolis.

Finally, I wish to thank my family, friends and colleagues for their support and cooperation from the beginning to the completion of this work.



ABSTRACT

The higher levels of global warming caused by environmental degradation and climate change have increased stakeholders' concern about the existence of environmental challenges. Strategic choices are being taken on various levels to resolve the tension between environmental issues and sustainable growth. The purpose of this study is to examine the contribution of green purchasing on environmental performance and offer some suggestions to improve the current situations. The research specifically identified the degree to which environmental performance is impacted by green purchasing under differing levels of top management support. The study used quantitative method with cross-sectional survey strategy. The study relied on primary data collected through questionnaire instrument. A total of 157 people were sampled purposively for the study. Data was analysed using descriptive and inferential statistics. The study found that green purchasing impacts positively on environmental performance. Additional findings indicate that top management support moderates the green purchasing-environmental performance relationship. It is recommended that managers should provide adequate support for in the pursuit of environmental management initiative. Also, although the study only looked at sustainability from the perspective of the environment, future research on related topics is encouraged to take a more holistic approach, especially in the organizational setting and other dependent variables like competitive advantage, which can be measured using reduced risk and vulnerability, decreased time to market, improved quality, reduced cost and price, and product and service differentiation.

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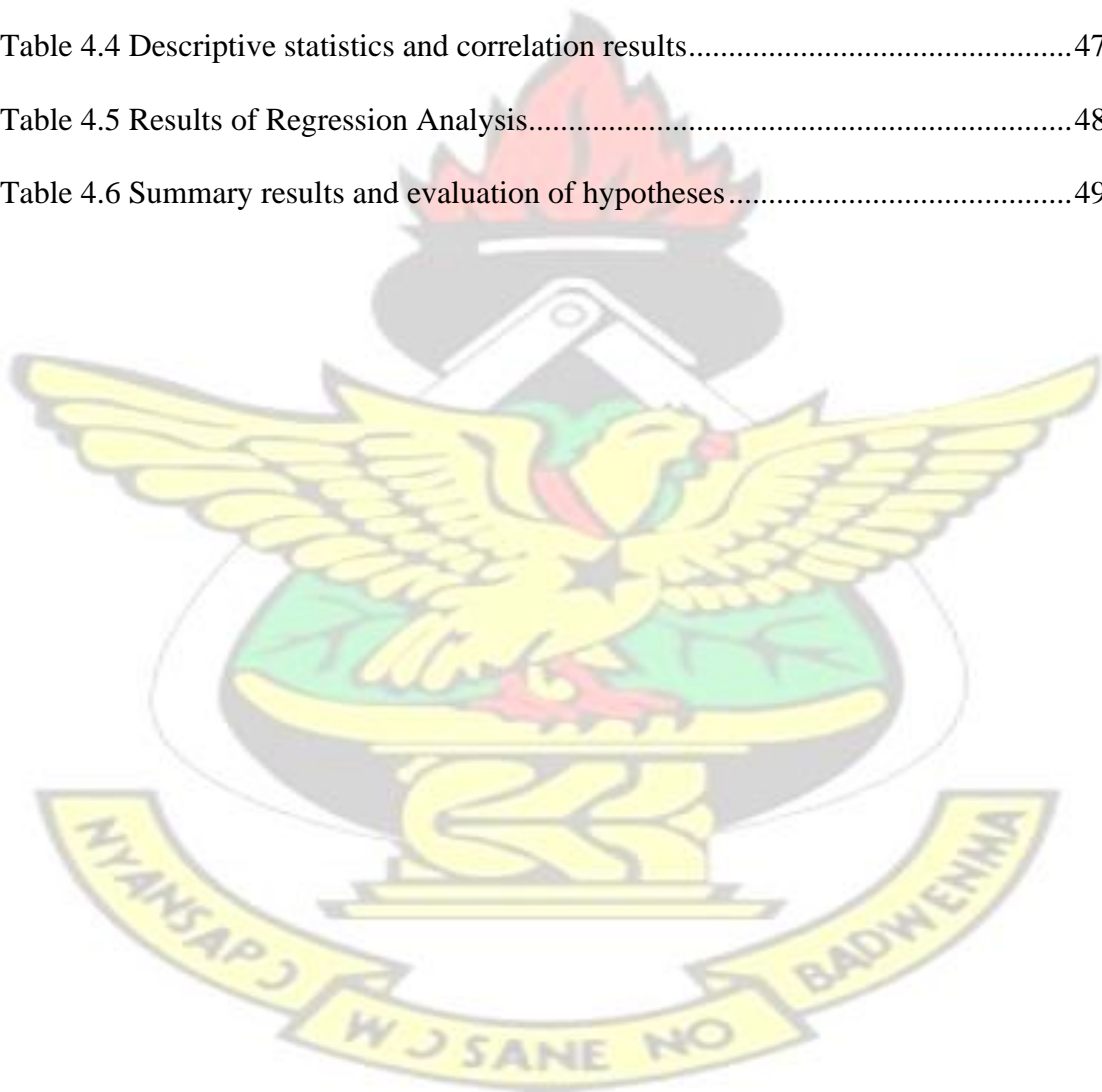
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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Environmental concerns are now more of a worry to stakeholders due to the greater levels of global warming brought on by environmental degradation and climate change. To overcome the conflict between environmental concerns and sustainable growth, strategic decisions are being made at many levels. Since the year 2000, the relevance of ecosystem restoration has increased. (2002) (Saeed et al. As a result, businesses are working very hard to reduce the adverse effects of environmental issues. Businesses are currently under pressure to create proactive plans for environmental sustainability due to the rising responsibility for the environmental impact of their actions (Shafaei et al., 2020). According to Jabbour and de Sousa Jabbour (2016), the issue of carbon secretion, which ruins nature, has also inspired more people to think about and work to protect the environment.. Every industry makes an effort to lessen the damage it has done to the environment (Saeed et al., 2022). Without integrating its environmental efforts with its purchasing processes, a company would struggle to achieve environmental performance (Wang et al., 2021). Policymakers have enacted stricter rules in response to growing environmental issues and concerns over the depletion of resources. At the same time, environmental awareness among the general people has increased. These changes have forced manufacturers to launch environmental initiatives to enhance their environmental performance (EP) (Al-Ghwayeen and Abdallah, 2018).

EP is the result of a company's strategic operations that control (or do not control) its environmental impact, according to its definition (Walls et al., 2012). Environmental

management systems are deployed by the organization to handle environmental concerns in accordance with its environmental policies and objectives, as defined by ISO 14001, which defines environmental performance as quantifiable results (Gupta et al., 1998). The biggest worry is decreased concentrations of environmental pollutants (Green et al., 2012). Businesses can save costs and enhance performance by employing environmental performance methods that effectively reduce waste and consume less energy (Sánchez-Medina et al., 2015). Although adhering to environmental regulations results in higher costs, doing so also reduces the likelihood that more costs will emerge in the future (Chuang and Huang, 2018). For instance, boosting a business' overall operational efficiency through investments in energy, trash recovery, and paper reductions would lessen the likelihood of recurring identical costs (Saxena and Khandelwal, 2012). Improved environmental performance provides companies the green light to operate and even increases profit margins by setting new industry standards (Hart, 1995). Environmental improvements lead to better marketing benefits, an improvement in a company's reputation and brand, and an increase in market share (Zhu et al., 2013).

The amount of packaging trash produced by purchases, on the other hand, poses a significant environmental problem. Businesses are becoming increasingly concerned about "greening" their purchases as public awareness of global warming and other environmental issues has grown. Green purchasing considers obligations to society and the environment while making purchases (Yuanqiaq and Mullai, 2008). Green buying can be defined as the responsibility to advance sustainability, which is believed to have a strong relationship between product emphasis and the environment (Miemczyk et al., 2012). In order to demonstrate social responsibility and ethics, green purchasing, as defined by the International Green Purchasing Network (IGPN) (2010), is the act of

making a purchase of a good or service that has a minimal negative impact on the environment at a comparable price. Green buying is defined by Min and Galle (2001) as reducing waste sources and promoting product recycling. According to study by Carter et al. (2000), implementing green purchasing practices not only lowers the cost of pollution control and increases an organization's marketability (financial performance), but also enhances environmental performance. According to Kleindorfer et al. (2005), larger organizations purchase greener products than smaller ones, and these decisions advance organizational development by applying knowledge of environmental preservation. Green purchasing gives companies a competitive edge, protects resources, and improves performance immediately (Zhu and Geng, 2001). According to Zailani et al., green purchasing has a favorable direct and indirect effect on corporate performance (2015). By protecting the environment from dangerous and poisonous pollutants, it improves environmental performance (Kalyar et al., 2019). The results of the Chin et al. (2020) study shown a strong and favorable link between environmental performance and green purchasing methods, including green suppliers, green processes, and green products.

Additionally, supplying an operational process with the necessary support and serving in the capacity of providing clear instructions for how to run a business are instances of top management support (Rosenbloom, 2000; Rodriguez et al., 2008; Swink, 2000). Top management support also shows that top management served as the project's executive sponsors and maintained their commitment (Yang, 2008). It is well-known that top management support is essential for performance, especially to the extent that top management develops an environment of trust, support, and helpfulness (Ernst, 2002). To improve organizational environmental performance, businesses are proactively employing novel management strategies (Obeidat, Al Bakri, and Elbanna

2020). In terms of their organizational settings, companies with strong top management support (TMS) perform better, according to Paillé et al. (2014) and Guerçi, Longoni, and Luzzini (2016). The successful implementation of new management practices requires top management. Prior studies have examined the connections between environmental performance and support from top management as well as the link between environmentally friendly supply chain management and environmental performance. However, there is little study on the link between environmental performance and green purchasing. To better understand this relationship and the moderating effect of top management support, this study will also look at how environmental performance and green purchasing are related.

1.2 Statement of the Problem

Business corporate social responsibility places a strong emphasis on environmental sustainability, which calls for adjustments to the operational structure of businesses to reflect environmental protection (Saeed et al., 2022). In order to achieve organizational performance, senior management support for green purchasing is essential, according to recent research. To assist staff in problem-solving, encourage positive interactions and collaboration between various job functions, encourage bottom-up idea development and incentives, and teach unit managers to support innovation by giving out clear and consistent signals that establish a clear basis (Rodriguez et al., 2008). Without integrating its environmental efforts with its purchasing processes, a company would struggle to achieve environmental performance (Wang et al., 2021). Adopting and implementing green practices in firms' supply chains is thus a difficult task (Hanson, 2014). Prior until now, the majority of procurement bodies didn't take into account how environmentally friendly their buying process was. Businesses have recently been encouraged to embrace sustainable practices and pursue green purchasing

due to competition and government pressures (Srivastava, 2011). Green purchasing is the gatekeeper activity within an organization, protecting the company's green policies and environmental practices from potential threats (Preuss, 2002; Yen and Yen, 2012; Li et al., 2016; Foo et al., 2019).

Green purchasing is prioritized in the plan to assure social and environmental responsibility, which is crucial for attaining organizational performance (Arlow, 2018). Therefore, higher management support is necessary, and it must be demonstrated by the allocation of both financial and nonfunctional resources. Carter and his associates were among the first to identify green purchasing as a topic that the purchasing research community would find particularly interesting (Carter and Carter, 1998; Carter et al., 2000; Carter and Dresner, 2001). Studies that sought to find more environmentally friendly purchase options include those by Leire (2006), Yen (2012), Jiet al. (2015), and Foo et al. (2019), to name just a few. Carter et al. (2000) carried out research on the impact of green purchasing on business performance. Gonzalez-Benito et al. recently conducted a study on how green shopping affects purchasing performance (2016). According to Yook et al. (2018), purchasing environmentally friendly products has advantageous economic and ecological effects. The advantages of green supply chain management on environmental performance have been examined in recent studies (Chuang and Huang, 2018; Saeed et al., 2018).

The advantages of green supply chain management for companies and the environment have been assessed by existing research. Despite recent efforts to promote green purchasing in Ghana's business environment, full implementation remains challenging due to significant obstacles organizations within Ghana's fiercely competitive business community face when it comes to the country's procurement practice. One difficulty is that there aren't any policy documents outlining the requirements for enacting green

purchasing policies. Another issue with policy that hinders green purchasing is that many organizations, especially those involved in public sector procurement, lack the discretion to pursue such methods without approval from a higher authority.

Despite the significance of green purchasing in encouraging and achieving environmental performance, the extent to which the variable link appears to have gotten little attention in the early studies. In the currently available literature, the connection between top management support for environmental performance and green purchasing is also underemphasized. If a company's green purchasing initiatives aren't supported by higher management and aren't subject to competitive pressure from other companies, they'll fail. This research aims to address that void by drawing on applicable frameworks to show that green purchasing is associated with improved organizational performance, and that the strength of that relationship depends on the level of buy-in from upper management. Therefore, the purpose of this research was to investigate the link between environmentally responsible purchasing and environmental performance, as well as the mediating role played by assistance from upper management.

1.3 Objectives of the Study

The main objective of the study is to examine the contribution of green purchasing on environmental performance.

1.3.1 Specific Objectives

The study seeks to address the following specific objectives:

1. To determine the degree to which environmental performance is impacted by green purchasing.
2. To evaluate how top management support affects environmental performance.

3. To investigate how top management support moderates the connections between environmental performance and green purchasing.

1.4 Research Question

In attempting to address the objectives of the study, the researcher seeks to ask the following question:

1. Does green purchasing affect environmental performance?
2. To what extent does top management support impact environmental performance?
3. Does top management support moderate the link between green purchasing and performance relationships?

1.5 Significance of the Study

The study adds to the study in three ways by meeting the objectives. According to the study, environmental performance is influenced by green purchasing, theoretically extending the field of sustainable research to performance. The study will again add to the body of knowledge by highlighting the moderating effects of top management support in order to demonstrate that the positive association between green purchasing and environmental performance depends on the various levels of support offered by top management. The study's main goal is to inform management of the importance of environmentally friendly purchasing in terms of sustainability and environmental performance. The analysis will also aid top management in providing the necessary assistance because green purchasing has a high resource need. The study also directs policy direction in terms of lawmaking to make a green purchasing practice a requirement within the dynamic organizational business environment because environmental preservation is a form of human rights protection and at the same time,

maintaining economic activity is now a crucial factor in the modern business environment.

1.6 Methodology

The researcher adopted a quantitative approach for this study, specifically the deductive approach, where hypotheses were developed based on the study's objectives. The research design for the study was a survey as the study used organizations operating within the manufacturing industry as the target population. In pursuit of the study's objectives, a sample of hundred were drawn from the target population using probability sampling. Purposive Sampling technique was used for the study because it is unbiased as every respondent in the population stands a chance of being selected. The primary source of data was obtained through questionnaires administered by the researcher. To derive meaningful information from the gathered data, the researcher utilized IBM SPSS version 26 to conduct both descriptive and inferential analysis.

1.7 Scope of the Study

The goal of the study was to show how environmental performance is impacted by green purchasing in various contexts with top management support. The researcher then concentrated on the manufacturing sector inside the Greater Accra Metropolis. Geographically, the study area was Greater Accra Region of Ghana. The geographic scope was chosen because it is known as the most developed region in Ghana and respondents are well represented because of its population.

1. 8 Limitation of the study

This study was limited to 157 firms, most of which were SMEs. Such a limited sample size and scope may limit the generalisability of the findings. Future studies may therefore extend the scope to cover more firms across multiple industries and

geographical areas to improve the generalisability of the findings. Also, future studies may include additional constructs into the model, e.g., green innovation and green purchasing capabilities to ascertain if new insight may emerge.

1.9 Organization of the Study

This thesis was grouped into five major chapters for the purpose of ensuring a fair presentation of the research work. The background of the analysis, the problem statement, the goals, the research issues, the importance, the drawbacks and the organization of the study are set out in Chapter one. The literature review of the research, some concepts and what different authors claim about the research subject in question is discussed in Chapter two. The research methodology was found in chapter three; the population and sampling system used, data collection practices, protocols for data processing and ethical concern. The data interpretation and reporting and the discussions of the analyses were dealt with in Chapter four. The overview of the study results, inference, and recommendations is addressed in chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews pertinent literature (conceptual, theoretical and empirical) for the study. The chapter seeks to address the following objectives (1) to explain and define the concepts of green purchasing; environmental performance; top management support (2) to empirically review the relationship between green purchasing and environmental performance; top management and environmental performance (3) to develop a conceptual framework for the study, which will eventually depict the hypotheses for the study.

2.2 Conceptual review

2.2.1 Green purchasing

Several scholars and writers have already examined green purchasing and associated themes (Carter, 1998; Bowen, Lamming, and Faruk, 2001; Carter, Ellram, and Ready, 1998; Gupta and Ogden, 2009; Handfield, Walton et al., 1997; Mostafa, 2007; Klassen and Vachon, 2003).

The term "green procurement" (sometimes "green purchasing") has several different meanings depending on the source. There appears to be a strong convergence between these definitions, notwithstanding their discrepancies. According to Carter et al., "green and environmental purchasing" in the context of supply chain management includes actions like life-cycle analysis and environmental design (1998). However, "green buying" (Min and 9 Galle, 2001) is distinct in that it promotes waste reduction and recycling and reuse of products. The term "green purchase," coined by Lee (2008),

refers to the practice of selecting products that meet one's needs while also being kind to the planet. Historically, "green procurement" meant only buying things that didn't harm the environment (Klassen and Vachon, 2003). Proponents of green procurement argue that it is possible to prioritize public and environmental health alongside economic efficiency and product excellence. According to the Chartered Institute of Procurement and Supplies (CIPS, 2009), green procurement also involves thinking about the effects of design, resource use (renewable and nonrenewable), production processes, logistics, and disposal on environmental, social, and economic results. The selection of environmentally friendly goods and services is at the heart of all the aforementioned concepts and reasons for green procurement. Though the terms are sometimes used interchangeably, "green procurement" refers to a far larger notion than "sustainable procurement." However, in order to accomplish the aims of this inquiry, both terms will be used interchangeably.

Making ecologically responsible decisions at each stage of the purchasing cycle, from the conception of the product through its eventual disposal, is referred to as "green purchasing" and was first used by Wang et al. in 2021. Carter and his colleagues were the ones who first alerted the purchasing research community to green purchasing (Carter and Carter, 1998; Carter et al., 2000; Carter and Dresner, 2001). The majority of studies have focused on developing guidelines for choosing, managing, and assessing a supplier's environmental management capabilities (e.g., Leire, 2006; Yen and Yen, 2012; Jiet al., 2015; Foo et al., 2019); figuring out when and how much suppliers should be involved in environmental issues (e.g., Lee and Kim, 2011; Du et al., 2018; Cheng, 2020); and establishing green purchasing strategies. As part of supply chain management, changes are made to how supply chain operations affect the environment (SCM). Green et al. (2012) contend that if all supply chain actors collaborate to develop

environmentally friendly processes, products, and services, sub-optimization at the partner level can be avoided. Businesses have begun using GSCM strategies to cater to the increasing number of consumers who only want "green," "sustainable," and "legal" goods and services (Testa and Iraldo, 2010). Green supply chain management (GSCM) is being adopted by more companies to ensure compliance with current environmental laws and regulations (Zhu et al., 2012). For this reason, many companies are implementing GSCM procedures as a way to abide with environmental standards. Green supply chain management (GSCM) is a more general term that includes green production, distribution, marketing, purchasing, and reverse logistics as well as green information systems (Chien and Shih, 2007). Sustainable supply chain management (SSCM) and environmental supply chain management (ESCM) are further names for GSCM (Seuring, 2004). Businesses can benefit from GSCM techniques in a variety of areas, including environmental performance, financial success, and regulatory compliance (Saeed et al., 2018; Zhang and Yang, 2016).

According to Seuring (2004), "green supply chain management" refers to the process by which managers coordinate content and information flows along the supply chain to satisfy consumer demand for environmentally friendly goods and services. According to China et al., "green supply chain management" (SCM) is the practice of integrating environmental issues into the SCM procedure (2015).

Table 2.1 provides a concise overview of several terminology and their associated indicators and measurements, including "green purchasing," "sustainable procurement," and "green supply chain management." Table 2.1 provides definitions for the terms "sustainable procurement," "green supply chain management," and "green purchasing."

Table 2.1

Authors	Construct	Definition	Indicators
Min and Gall (2001)	Green purchasing	An environmentally friendly procurement activity that eliminates waste sources and facilitates the recycling and reuse of products bought.	<ul style="list-style-type: none">• Waste reduction• Reclamation• Recycling
Wang et al. (2021)	Green purchasing	Green purchasing is the practice of making environmentally beneficial decisions at every step of the purchasing process, from the design of products and processes to their eventual disposal.	Purchasing process Product design Product process Product Disposal
NIH (2011)	Green purchasing	"Green purchasing" is defined as "the deliberate choice and acquisition of goods and services that most efficiently minimize adverse environmental effects over their life cycle of manufacture, transportation, use, and recycling or disposal."	Affirmation selection Acquisition of products and services Minimize environmental impact.
Miemczyk et al. (2012)	Green purchasing	Green purchasing can be characterized as a duty to promote sustainability, which is thought to have a strong connection between product emphasis and the environment.	<ul style="list-style-type: none">• Sustainability• Product Focus• Natural environment
Seuring (2004)	Green supply chain management	The supply chain integrates expertise and stock to meet consumer demand for products and services made using environmentally friendly processes..	Green processes Green goods Green services
Kennard (2006)	Sustainable procurement	The mechanism by which economic growth, social development, and conservation of the environment is balanced against the needs of industry.	<ul style="list-style-type: none">• Social development• Economic development• Environmental protection
CIPS (2009)	Green procurement	Taking into account the natural, social, and economic ramifications of construction, products used (renewable and non-renewable) by way of processing, logistics, and disposal methods	<ul style="list-style-type: none">• Social• Environmental• Economic

Source: Researcher's own construct (2023)

2.2.2 Environmental Performance (EP)

Environmental degradation and climate change have increased global warming to dangerous levels, causing widespread concern among stakeholders. Strategic decisions are taken on multiple fronts to try and find common ground between addressing environmental issues and fostering long-term economic growth (Saeed et al., 2022). Businesses must combine their EP with their strategy, activities, quality, employee relations, and company image in today's environmentally conscious society to handle environmental rules and concerns (Kung et al., 2012).

To emphasize how corporations are responding to social expectations for an environmentally sustainable society, the term "the EP" is employed (Chan et al., 2012). Walls et al. (2012) state that EP arises from the way a company chooses to (or does not choose to) implement its environmental strategy. Ecological impact of corporate manufacturing is demonstrated by meeting official environment requirements for resource usage (Dubey and Gupta, 2018). An organization's ability to lessen pollution, standardize waste disposal, manage recycling, revitalize processes, and introduce environmental management systems like ISO 14001 is tied to its eco-friendly performance (Oliva et al., 2019). Management of human resources is essential for these maintainability projects if they are to effectively implement the strategies and meet the goals set to boost EP (Collins and Clark, 2003).

The quantifiable results of a company's environmental management systems in regard to how they handle environmental challenges in line with their environmental aims and objectives are referred to as environmental performance, per ISO 14001, (Gupta et al., 1998). Reducing pollution is the aim (Green et al., 2012). Reduced consumption of hazardous materials, wastewater generation, creation of solid waste, and environmental accidents are just a few ways that a business might improve its environmental

performance (Ninlawan et al., 2010). Environmental performance can be enhanced, among other ways, by providing general managers with environmental duties and having them teach both non-environmental workers and environmental specialists (Dasgupta, 1997). The triple-bottom-line (3PL) philosophy (Green et al., 2012), which measures performance using three metrics—economic, environmental, and social—is the foundation for the concept of a friendly SC. This viewpoint holds that management should put the company's profit line above concerns for the environment or the wider community. By concentrating on the environmental side of sustainability, this study highlights the potential significance of GSCM techniques for environmental performance.

Table 2.2 below summarizes these definitions and lists the corresponding measurements used to evaluate each component.

Table 2.2

Authors	Construct	Definition	Indicators
Walls et al. (2012)	Environmental performance	EP is the result of a company's strategic actions that control (or do not control) its impact on the environment.	<ul style="list-style-type: none"> • Firm strategies • Natural environment
Gupta et al. (1998)	Environmental performance	According to ISO 14001, environmental performance refers to quantifiable outcomes of environmental management systems relating to the organization's management of environmental issues as carried out in accordance with its environmental policies and objectives.	<ul style="list-style-type: none"> • Measurable results • Environmental policies and objectives • Management of environmental aspects
Chan et al. (2012)	Environmental performance	The EP is a phrase used to highlight how businesses are responding to societal demands for an environmentally sustainable world.	<ul style="list-style-type: none"> • Corporate activities • Society's expectations • Eco-friendly environment

Source: Researcher's own construct (2023)

2.2.3 Top Management Support

According to Swink (2000), Rodriguez et al. (2008), and Rosenbloom (2000), top management support comprises acting as a source of explicit guidance for a company's management as well as supplying an operational process with the necessary help. The success of every project or policy that an individual wants to launch depends heavily on the management's backing. Therefore, engagement and support from top management could help drive projects to produce favorable results. Ahmed et al. (2019) went on to define top management participation as high-level officials' participation in the business' quality assurance operations. They stated that a crucial prerequisite is the enterprise's efficient implementation of quality enhancement. Engagement of top management also gives the business a good plan and useful resources to improve productivity in terms of outcomes. And finally, top management's affirmation of its faith in the advantages of green purchasing is compatible with the notion of top management participation advanced by Millman and Wilson (1999).

Table 2.3 Summarises the various definitions of top management from various authors.

Table 2.3

Authors	Construct	Definition	Indicator
Rosenbloom (2000) Rodríguez et al. (2008) Swink (2000).	Top management support	Top management support refers to giving an operating process the necessary assistance and playing the role of giving clear instructions for managing a company.	<ul style="list-style-type: none">• Explicit directions• Providing required support• Operating process
Bagozzi (1992)	Top management engagement	Top management engagement is an emotional commitment, a belief, a purpose, or a strong attitude toward reaching a goal.	<ul style="list-style-type: none">• Emotional commitment• Belief and purpose• Strong attitude• Obtaining a certain goal

2.3 Empirical Review of Previous Studies

Several researches have analyzed this "green" investment strategy. Numerous scholars had previously investigated the relationship between green shopping, GSCM, and environmental outcomes. This phase of the analysis attempts to provide guidance by doing an empirical analysis of the results of the prior investigations.

"Green purchasing" (GP) helps lessen the negative effects of buying products and services on the environment by promoting recycling and product renewal without compromising quality standards. Making purchases with consideration for the environment is known as "green purchasing" (Balasubramanian & Shukla, 2017). A product needs to be non-toxic and able to be recycled in order to be deemed sustainable (Hsu et al., 2013). Communication with vendors is essential for sustainable procurement, claim Gonzalez-Benito et al. (2016). Setting environmental goals with suppliers and conducting environmental audits of their internal management are important to assess the EP of suppliers with environmental standards that assure environmental quality in their operating systems (Awad et al., 2016). In line with the research team's results (Shi et al., 2012). Companies may ensure that their suppliers deliver ecologically friendly items by implementing the "green" concept into their product buying (Hu and Hsu, 2010).

The environmental performance of a corporation may suffer from a lack of coordination between its purchasing practices and its environmental initiatives (Wang et al., 2021). But the definition of "green purchasing" is "the gatekeeper behavior within an organization that safeguards the flow of incoming resources to support the green products and environmental policies of an organization" (Preuss, 2002; Yen and Yen, 2012; Li et al., 2016; Foo et al., 2019). According to research (Faruk, 2002; Wong et al., 2012), however, 87 percent of customers would accuse a company of environmental

carelessness if they learned that their supplier had adopted an unsustainable operating or management model. Despite the importance of the matter, the literature gives two divergent views on whether green purchasing has a positive effect on a company's bottom line.

Environmentally friendly products are gathered, environmental consequences are evaluated at the level of parts and components, and waste reduction goals are established at the beginning of the operational production process using green purchasing techniques (Curcio and Wolf, 1996; Green et al., 1998; Carter, 2005; Montabon et al., 2006; Chiou et al., 2011; Foo et al., 2019). One strategy to guarantee that sustainable standards are followed by all vendors is to incorporate environmental factors into the purchasing process. As previously mentioned (Williamson, 1979, 1985; Stump and Heide, 1996; Huang et al., 2014), the possibility of increased costs, additional work, and greater uncertainty may have a detrimental impact on the performance of the entire firm.

Institutionalists also maintain that theories of competing pressures require the inclusion of interrelated activities and material resources. Organizations must prioritize activities that originate, reproduce, and accomplish sustainability if they are to meet the cognitive and coercive needs of sustainable development. Companies rarely do enough to mitigate their effects on the environment. There has been a rise in the practice of outsourcing operations and/or production to external organizations, with the latter making use of the former's already-purchased materials and resources (Tate et al., 2012). When it comes to supply management, green purchasing encompasses all environmentally conscious decisions made by organizations using conventional purchasing methods including price negotiation and supplier selection (Yook et al.,

2018). From production to disposal, GSCM seeks to minimize environmental impact (Zhu et al., 2005; Hendricks and Singhal, 2005; Navarro-García et al., 2016).

In order to be more "green," supply chain management might change activities that have an adverse effect on the environment. All links in the supply chain can avoid partner level sub-optimization by collaborating to create environmentally friendly processes, products, and services (Green et al., 2012). In response to growing consumer demand for items produced in accordance with all applicable environmental rules, businesses have started using GSCM principles (Testa and Iraldo, 2010). Many different environmental SCM strategies are used by businesses to reduce their ecological footprint (Hasan, 2013). According to Mirhedayatian et al. (2014), GSCM procedures enable the reduction of waste and emissions, hence evaluating these processes is crucial for any company's EP.

Greening a firm's supply chain can have numerous positive effects, such as financial savings and improved environmental innovation thanks to supplier involvement in company decision-making (Rao and Holt, 2005). A study published in 2013 by Dubey et al. found that environmentally conscious purchasing could reduce the negative effects of manufacturing, consumption, and recycling. Reduced health care expenditures, increased environmental sustainability, and enhanced community health are all outcomes of environmental cleanliness (Winds, 2007; Green and Morton, 1998). Furthermore, green purchasing improves dynamic and operational capacities and has a beneficial impact on the economy and the environment (Yook et al., 2018); this contributes to the attainment of the global sustainable development goals (Al Amosh and Khatib, 2021) and increases stakeholder confidence. Reducing waste in general, replacing nonrenewable raw materials with renewable ones, and minimizing waste from hazardous products are all green procurement aims. Suppliers' participation and advice

are essential to the achievement of such goals. More and more companies are keeping a close eye on their suppliers' environmental performance to guarantee that the products and equipment they provide are safe for the environment and were manufactured in a sustainable manner. Min and Galle (1997) researched "green purchasing" to identify the most significant barriers and problems connected with implementing green purchasing policies, as well as the most essential aspects that affect a company's decision regarding its suppliers. It was also looked into how green purchasing affected the environmental aims of the company. A methodology for assessing suppliers, including key performance indicators and metrics, is outlined by Sroufe (2003). The development of green projects and strategic environmental sourcing are just two examples of environmental activities that have been shown to boost a company's competitiveness and reduce market risks. Disagreements between customers and organization stakeholders can harm regional and international collaboration when environmental issues are top of mind, increasing the chance of disputes in a range of scenarios. To improve environmental performance without sacrificing sustainable development, a number of initiatives have been created and put into action (Dubey et al., 2013).

Green purchasing encompasses tasks including sourcing, choosing materials, outsourcing, setting prices, negotiating, scheduling, and managing inventories (Toke et al., 2010). According to Amemba et al. (2013), "green purchasing" is defined as spending that prioritizes the 3Rs and is environmentally responsible (reduce, reuse, and recycle). Toke et al. (2010) created a list of the steps that can be taken throughout the procurement process to improve environmental sustainability.. There is some evidence to suggest that using environmental supplier questionnaires might help businesses better gauge how their suppliers feel about issues like Climate Change and other

environmental threats. Company compliance with environmental norms and criteria can be monitored in part through supplier environmental audits and evaluations. Companies can take additional steps toward sustainability by adopting a collaborative green purchasing strategy with their suppliers to develop more environmentally friendly products and methods (Ninlawan et al., 2010).

EP (Gupta et al., 1998), or environmental performance, is attained when an organization uses environmental management systems to address environmental concerns in a way that is consistent with its environmental policies and goals. The objective is cleaner air (Green et al., 2012). One way for a company to improve its environmental performance is to reduce the amount of hazardous materials it uses, the amount of wastewater it produces, the amount of solid waste it generates, and the number of environmental accidents that occur at the company (Ninlawan et al., 2010). One strategy to improve environmental performance is to give general managers environmental responsibilities and have them train both regular employees and specialists in the field (Dasgupta, 1997). In contrast to earlier research, Chien (2007) evaluated a company's environmental performance by looking at things including how well it ran its operations, how much pollution it produced, and how well it dealt with its waste. Otago's (2009) research confirms that GSCM improves environmental performance by reducing the negative ecological effects of industrial processes.

Since EP offers a great possibility to increase organizational efficiency, it is also viewed favorably in Porter's win-win scenario. The incorporation of environmental concerns into green initiatives and corporate strategy is on the rise (Dangelico and Pujari, 2010). Businesses are increasingly utilizing sustainability initiatives as a means of differentiating themselves from the competition (Yang and Yang, 2020; Aragon-Correa and Sharma, 2003). Businesses can and often do contribute to reducing pollution by

implementing ecologically friendly procedures (Daily et al., 2012). Starr-Glass (2021) argues that the best environmental management and human resources practices are impossible to achieve without close collaboration. The success of EP programs depends on selecting a leader with outstanding qualities and skills (Daily and Huang, 2001). In order for businesses to effectively encourage the growth and evaluation of employees' aptitude, behavior, and attitude toward the fulfillment of organizational goals, human resource procedures must be matched with corporate strategic goals (Collins and Clark, 2003). Furthermore, green performance plans require enthusiastic participation from staff. Workers who are employed by companies that care about the environment are happier with their jobs, according to research by Harvey et al. (2013).

In addition, Jääskeläinen and Heikkilä (2019) state that SCs have become the foundation of company competition and value propositions. There may be both short- and long-term effects of SC actions on the natural world. When a business's storage, transportation, processing, use, and disposal processes generate unnecessary waste, the company's bottom line takes an instant hit. The widespread use of chemicals in the textile industry is a well-known contributor to environmental degradation. Collateral damage is the responsibility of the upstream service providers. On the other hand, the outcomes of GSCM procedures improve businesses' ability to deal with sustainability difficulties brought on by both direct and indirect consequences. Reduced production activities, costs, and waste might all contribute to greater environmental sustainability if eco-design and green manufacturing were used. Using green purchasing criteria to make sourcing decisions would put positive pressure on both direct and indirect suppliers. By maximizing the "green effect" throughout the whole product lifecycle, from manufacture to consumption to disposal, GSCM methods boost the potential for environmental benefits (Kalyar et al., 2019).

A repatriation of practices from the organizational level to the SCs of firms has occurred as a result of the heightened understanding of the relevance of sustainability (Green et al., 2012). GSCM is a management strategy implemented during SC to coordinate the flow of resources and data in response to growing consumer demand for eco-friendly goods and services. Businesses are introducing self-correcting systems to encourage socially and ecologically responsible activities to raise their profile with the public and ensure they remain in conformity with regulations. In order to increase public awareness of their SCs, meet customer needs, and have minimal or no negative impact on the environment, businesses need to build trusting relationships with all stakeholders. Manufacturers may, for instance, request new product development and (re)design from their suppliers as a means to cut costs and take advantage of developing technologies. It's typical practice for manufacturers to rely on their suppliers to offer them with services that the manufacturers themselves cannot. As a result, the success of a company's pledge to lessen its environmental effect is highly dependent on the sophistication with which it handles SC relationships. These inter-SC tier connections are built through coordinated efforts and seamless incorporation. Businesses can't accomplish the green multiplier effect, which benefits both their bottom line and the environment, without integration and cooperation. Generally speaking, companies that prioritize sustainability often demand the same of their suppliers (Kalyar et al., 2019). Zhu et al. (2013) suggest that a company's principal operations could benefit from better environmental performance. Most notably, you can save money on your energy costs, qualify for free money from the government, and pay less in taxes (Evangelista, 2014; Evangelista et al., 2017; Lieb and Lieb, 2010). Neglecting sustainability considerations, on the other hand, may have dire and immediate repercussions (Hofmann et al., 2014). A 2017 study by Yadav et al., (2017) found that companies who follow environmental

regulations save money on waste disposal and have less risk of being sued or boycotted by customers. There are also less obvious benefits, such as increased brand awareness and consumer satisfaction, as well as increased support from the company's stakeholders on environmental issues (Marchet et al., 2014). This has the potential to boost revenue and earnings over time (De Giovanni & Esposito Vinzi, 2012). The company should be constantly scanning the horizon for new opportunities and emerging dangers. The next step is for it to set aside funds to put these changes into effect (Perez-Valls et al., 2016).

The importance of top-level management in any organization cannot be overstated. This is due to the fact that top-level management is accountable for defining and demonstrating best practices, in addition to formulating, assessing, and enforcing strategies and policies. Therefore, many academics have focused on the impact of top executives' dedication on financial performance. Multiple studies, including Ahmed et al. (2019), Tzempelikos (2015), Yen and Yen (2012), and Constantin et al. (2014, to name a few, among many others), have investigated this correlation.

2.4 Theoretical Review

2.4.1 Natural Resource Based View (NRBV)

According to the resource-based approach, a resource must be valued, uncommon, unmatched, and supported by tacit skills or socially complex organizational processes in order to establish a lasting competitive advantage (Barney, 1991). An asset's worth rises in proportion to the amount by which it raises the propensity of customers to pay or lowers the cost to serve them. Because of their scarcity, your products might command higher prices than usual. Because of the resource's special qualities, such as its social complexity, it may provide long-term benefits. Internal assets and skills may

only be used if specific enabling behaviors and supplementary assets are also in place. Christmann (2000) concludes that the resources and skills of an organization are "inherently intertwined."

Hart (1995) argues that the widely held resource-based paradigm has a significant flaw. Its rationale is more compelling and extensive than earlier attempts to explain competitive advantage, and it takes into account a wide range of possible resources; nonetheless, it does not account for the connection between an organization and its natural environment. Once considered unimportant, environmental concerns have since been shown to have serious consequences for a business' ability to maintain a competitive edge in the market (Hart & Dowell, 2011). In a more cheerful vein, it is predicted that strategy and competitive advantage in the coming years would be founded on abilities that support environmentally sustainable economic activity—a perspective of the world based on natural resources.

The NRBV identifies environmental responsibility, product stewardship, and pollution prevention as its three key strategic strengths. They all respond differently to the external environment, make use of distinctive components, and excel thanks to unique qualities. Reducing pollution can help save money and help the environment in the long run (Hart and Dowell, 2011). The costs of running a business can be lowered by cutting down on or getting rid of the waste and pollution that is generated on the premises (Aragon-Correa & Sharma, 2003). Several authors have made this assertion (Russo and Fouts 1997; Christmann 2000).

It's worth repeating that it's much more cost-effective to prevent pollution from happening in the first place than it is to clean it up "at the end of the pipe." By minimizing or eliminating waste and inefficiencies, removing pollutants from the

production process can boost efficiency in addition to decreasing compliance and liability costs. By considering the full "life cycle" of a company's product systems, product stewardship goes beyond traditional pollution avoidance. Stakeholder contact can help ensure that the "voice of the environment" is heard and considered during the product development process. Product stewardship, which considers the entire product's lifecycle, promotes environmental sustainability by reducing waste, removing dangerous materials, and recycling (Hart, 1995). To obtain a competitive edge through the efficient use of finite resources and the development of environmentally friendly products (Ashby et al., 2012; Golobic & Smith, 2013), environmental and economic benefits take a back seat.

Strategic preemption is another benefit of product stewardship that can provide a company an advantage in the market by giving it exclusive control over a valuable resource (like eco-friendly raw materials). Finally, a sustainable development plan differs in two ways from initiatives to lessen pollution or increase product durability. To begin, the goal of a sustainable development strategy goes beyond merely minimizing negative effects on the environment. Second, social and economic problems are also at the forefront of sustainable development. Given the correlation between economic growth in developed nations and poverty and environmental degradation in developing nations (Hart & Dowell, 2011), a sustainable development strategy must account for this link and work to reduce negative environmental impacts and maximize positive economic outcomes for developing-world markets impacted by the company's operations. In addition, sustainable development encourages a global perspective on the interconnectedness of social, environmental, and economic issues (Hart 1995; Srivastava & Hart 1995). Socially and environmentally beneficial actions

are encouraged by the emergence of new commercial markets and the adoption of environmentally friendly production techniques (Hart 1997; Song et al. 2015).

Even though it has received generally favorable reviews in the academic literature, sustainable development has received less attention than product stewardship and pollution control (Russo & Fouts 1997; Aragon-Correa & Sharma 2003; Shi et al. 2012; Miemczyk et al., 2016). Sustainable development is defined as "meeting the demands of the present without compromising the capacity of future generations to satisfy their needs" by the World Commission on Environment and Development in its widely cited Brundtland report (1987). The idea of corporate social responsibility and the NRBV have a lot in common (Menguc & Ozanne 2005; Markley & Davis 2007; Matopolous et al., 2015). Hart's (1995) theory of sustainable development, according to Berger-Walliser and Shrivasta (2015), has little impact on the expanding academic and business interest in these problems. The sustainability movement, according to Marshall et al. (2015), ignores the "fundamental disparities" between environmental and social sustainability.

2.5 Hypothesis Development

2.5.1 Green purchasing and Environmental Performance

Sustainability initiatives between companies and their major suppliers are becoming increasingly common. Green supply chain initiatives have the potential to offer a number of benefits, such as cost savings, increased productivity, improved quality, and the maintenance of a competitive edge (Agan et al., 2016; Lintukangas et al., 2016). Numerous studies have looked at the relationship between green supply chain management strategies and corporate financial results (e.g., Hollos et al., 2012; Mafini and Louri-Okoumba, 2018). Important components of "green" purchasing include reusing and repurposing resources and purchasing from ethical suppliers (Carter et al.,

2000). In a similar vein, "green purchasing" is defined by Min and Galle (2001) as a method of consuming that reduces trash and maximizes product reuse. A company's environmental performance, as well as its financial performance and marketability, can benefit by making environmentally conscious purchasing decisions, according to research by Carter et al. (2000). According to a study by Kleindorfer et al. (2005), major corporations are much more likely than small ones to make environmentally conscious purchases, which is good for both their bottom lines and the public's awareness of the significance of environmental protection. Environmental and economic consequences have been examined across a variety of firm performance variables (Famiyeh et al., 2018; Choudhary and Sangwan, 2019; Younis and Sundarakani, 2019; Baliga et al., 2020). An excessive concern with procedures has environmental consequences, according to Tundys and Wisniewski (2018). Successful environmental risk mitigation can be achieved by "green supply chain management" (Green et al., 2012).

To reduce their environmental impact, many companies are turning to "green" purchasing as well as other green supply chain strategies including "reverse logistics," "supplier collaboration," and "green manufacturing." Environmental performance can be improved by green alliances and green supplier evaluation by purchasing units (Large and Thomsen, 2011). According to the literature, corporations can work with their suppliers to enhance their environmental performance and obtain a competitive advantage (Barney, 2012; Wang et al., 2020a, b). Suppliers who work hard to protect the environment are also seen positively. An extensive green evaluation of a company's suppliers forms the basis of its external environmental management (Chiou et al., 2011; Zhu et al., 2013; Yook et al., 2018). "Green purchasing," which emphasizes their significance in achieving long-term environmental goals including resource conservation and pollution reduction, focuses on manufacturers' efforts to create

purchasing criteria for choosing eco-friendly suppliers who deliver safe and secure raw materials and components. Therefore, it was hypothesized by the research participants that

H1: Green purchasing has a positive impact on environmental performance.

2.5.2 Top Management Support and Environmental Performance

TMS is regarded as being crucial to the success of environmental efforts. According to research, TMS might directly affect how well environmental projects turn out. Gadenne, Kennedy, and McKeiver, for instance, found a positive relationship between management support for environmental management systems and employees' perceptions of the company's environmental performance in 2009. According to Yen and Yen (2012), TMS and devotion had an effect on the green supplier partnerships and green purchasing of both businesses. Senior management commitment was one of the three criteria that influenced whether ISO 14,001 was successfully accepted by the Italian construction industry, according to recent research by Chiarini (2019). Hao et al. discovered a direct correlation between the efficiency of green innovation in Chinese manufacturing businesses (such as green patent applications, decreased energy and material usage, green innovation concepts, and environmental information sharing) (2019). Given that this is the case, it is logical to assume that TMS will have a favorable effect on an organization's environmental performance. It is therefore anticipated that:

H2. TMS will have a positive effect on environmental performance.

2.5.3 Moderating role of Top Management Support on the Link between Green Purchasing and Environmental Performance

Although the relationship between green purchasing and environmental performance is merely tangential, prior research, such as this one, demonstrates that green purchasing

can have an impact with the proper managerial support. Scholars are just one of many groups who care deeply about protecting the planet's natural resources. Businesses and other organizations are widely acknowledged as the primary source of environmental risks due to the fact that their day-to-day operations result in the emission of dangerous gases. Accordingly, businesses have adopted a variety of environmental practices (also known as GHRM practices) in an effort to improve the EP. The vast majority of factories today take some sort of environmental precautions to cut down on waste. They get there through advocating green practices (such green product management and green training and development) that benefit the environment. This was found to be the case by (Bohdanowicz et al., 2011). By providing incentives for employees to take part in green initiatives, these programs boost EP (Wang et al., 2018). Singh et al. (2020) state that GHRM strategies, such as green purchasing, affect TMS and benefit the EP. Consequently, it is assumed:

***H3:** Top management support would moderate the nexus between green purchasing and environmental performance.*

2.6 Conceptual Framework Development

Figure 2.1 depicts the proposed model that links the relationship between green purchasing, top management support, and environmental performance. The independent variable or predictor is green purchasing. Environmental performance is the study's dependent variable, and top management's support modifies the nexus. The approach is deeply ingrained in the perspective based on natural resources (RBV). According to the survey, using green purchasing practices could benefit an organization more than usual. In addition to environmental preservation, as suggested by the NRBV, knowledge, skills, and competencies in green purchasing may also be viewed as a distinctive resource or talent that sets a firm apart from its rivals.

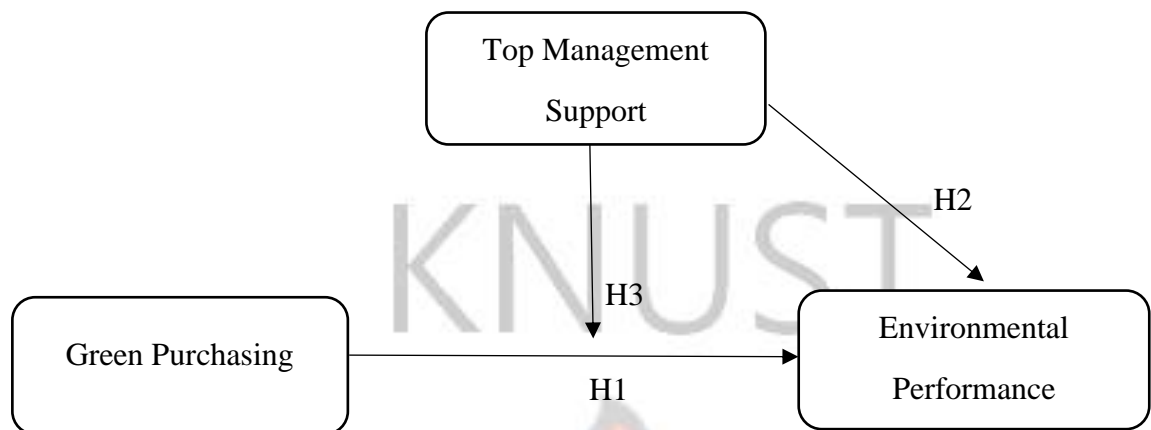
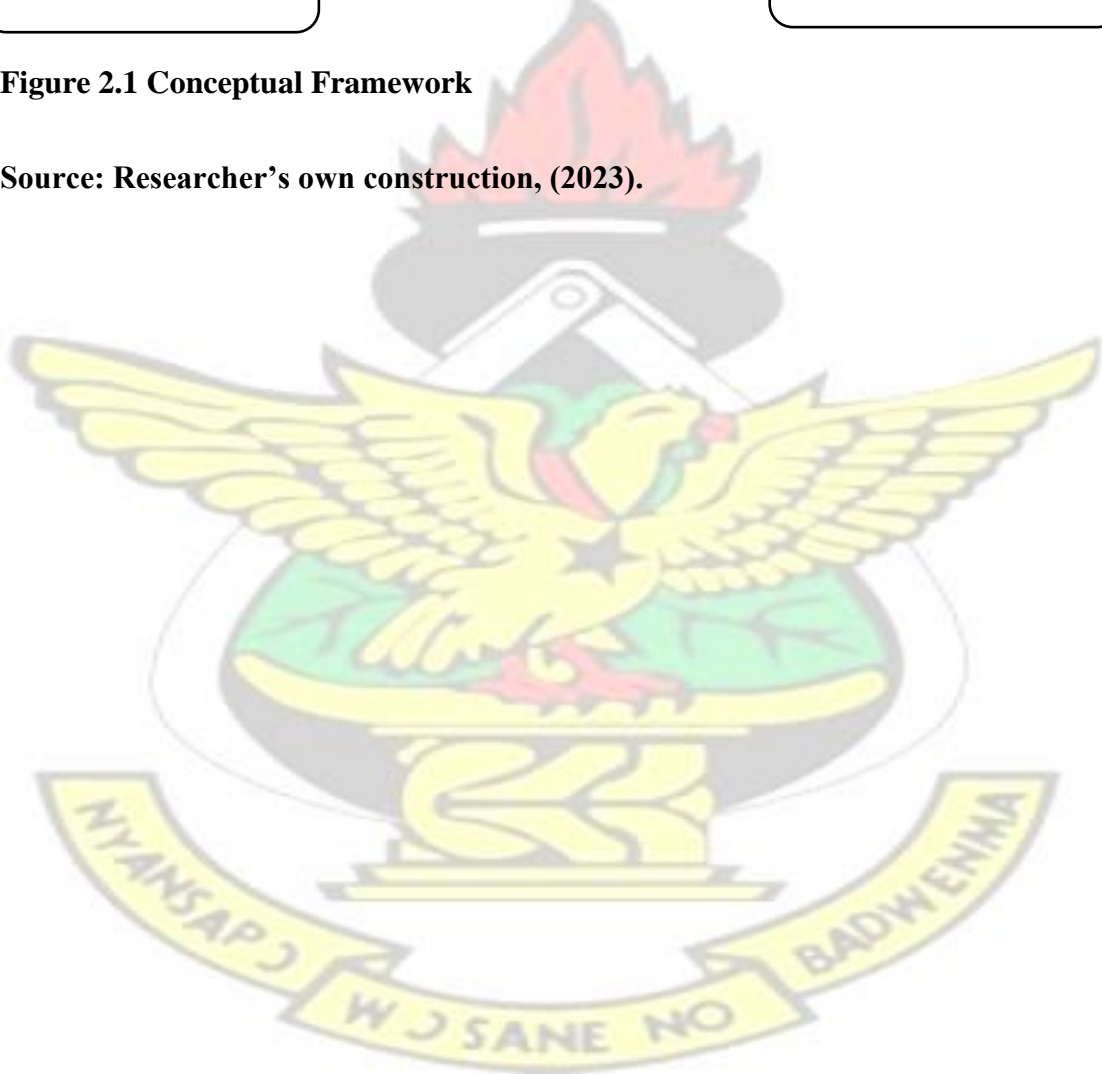


Figure 2.1 Conceptual Framework

Source: Researcher's own construction, (2023).



CHAPTER THREE

RESEARCH METHODOLOGY AND PROFILE OF ORGANISATION

3.1 Introduction

The approach used to achieve the goals of the research is covered in detail in this chapter. According to Sakaran & Bougie (2016), research methodology is a structured, methodical, critical, scientific inquiry or investigation into a particular subject that is carried out with the aim of coming up with answers or solutions. This chapter is divided into sections on the population and sampling, data collection methods, measures, data processing, reliability and validity, and ethical issues.

3.2 Research Paradigm

This study follows the positivism approach as regards philosophy which adopts deductive reasoning. This research is done in a systematic and scientific way where situations or events that affect people's behaviours and services are measured. This is the point in thinking where one moves from the specific to the general, giving researchers in this study the chance to explain the links between variables, quantify ideas, and to some extent generalize research findings. Quantitative research generates objective facts that may be presented clearly with the aid of statistics and figures (Salter, 2019). This paradigm is used to determine the relationship between the independent and dependent variables.

3.3 Research Approach and Design

The term "research design" describes the overall method used to do research and establishes a rational and cogent strategy to respond to predetermined research questions through the gathering, presentation, analysis, and discussion of data. Research designs can be defined in a plethora of ways, but they often fall into one of

three major categories: experimental, quasi-experimental, and non-experimental. An experimental design is one in which study participants are divided into experimental and control groups at random. An observational interventional analysis done without randomization to gauge the causal impact of an activity on the subject population is known as a quasi-experiment. In non-experimental designs, the classes are already present, and an independent variable is not or is not intended to be manipulated by the experimenter. The experimenter plainly compares the current classes based on a quality that she has not altered. The only thing the investigator does is contrast what has previously been found. Case studies, naturalistic observation, surveys, and focus groups are a few different methods for non-experimental designs. A thorough examination of a single or a small number of individuals is necessary for case studies. The case study's goal is to give the case a complete and precise definition. Naturalistic observation investigations include watching animals in their natural settings. Surveys inquire about the customs, convictions, and opinions of enormous populations. Focus groups are professionally planned gatherings of people who are brought together for a specific amount of time to discuss a topic or themes. The survey is the most ideal research design for this topic.

Plans and research techniques are the research approaches. The measures range from broad generalizations to in-depth procedures for data collection, analysis, and interpretation. Inductive, deductive, and abductive research methodologies are the three broad categories that research methods fall under. An existing theory-based hypothesis (or hypotheses) are developed using a deductive technique, and a research plan is then created to test the hypothesis. A deductive method that depends on extracting conclusions from a survey is the use of objective statistics and mathematical methods. On the other hand, an inductive approach continues with the conclusions and theories

put out as a result of observations at the conclusion of the research process: patterns, correlations, and consistency in experience are discovered in order to draw inferences. In an abductive manner, the analysis method is devoted to describing the "incomplete conclusions," "startling facts," or "puzzles" that are mentioned at the outset of the thesis. This study used a quantitative, cross-sectional survey approach to evaluate a theory or model about the nature of the relationship between green purchasing, top management support, and environmental performance.

3.4 Population of the Study

Babbie (1998) defined population as the entire group of people, things, or scores that a researcher is interested in examining. Additionally, it is described as a group of persons or people with similar traits in which the researcher is interested (McCormick et al., 2017). Organizations functioning in the manufacturing sector in the Greater Accra Metropolis made up the study's population. The population was picked since Greater Accra is home to the vast bulk of Ghana's manufacturing businesses.

3.5 Sampling Technique and Sample Size

Sampling is the process through which we select cases from a population (Sarstedt et al., 2018). The population's representation of the selected sample is the most important aspect of sampling. Representative refers to how closely the survey's characteristics match those of the population. Designing a sample strategy requires making three essential decisions: survey, probability sampling, and non-probability sampling (Sarstedt et al., 2018). This study used a non-probability sampling strategy. The right number of respondents was mostly chosen using a purposive sampling technique.. Having determined the sampling procedure, the researcher then decided on the sample size. Purposeful sampling has been described as a process in which the study selects

samples from respondents who provide candid information about the subject of the analysis (Merriam & Grenier, 2019). Purposive sampling was chosen to ensure a rich distribution of perspectives so as to allow the researcher to obtain relevant responses from individuals within the interest category (Creswell and Clark, 2017). Larger sample sizes boost the accuracy of the research but are also significantly more expensive to gather, according to (Levy and Lemeshow, 2013). In order to balance the consideration of both cost and precision, the researcher utilized a sample size of 157, which was established using Krejcie and Morgan's (1970) table.

3.6 Data Type and Instrument

The researcher largely used a Google Forms-created online questionnaire to collect data in support of the study's objectives. Four primary elements of the online survey questionnaire were dedicated to green purchasing, top management support, environmental performance, and respondent demographics. Green purchasing, the independent variable was measured using five (5) items, while environmental performance, the dependent variable was measured using five (5) items. Top management support, the moderator variable was measured using four (4) items.

3.7 Measures

The various variables for the study: predictor, predicted, and moderator are discussed in detail in this section.

3.7.1 Predictor Variable

The practice of incorporating ecologically responsible choices into the purchase process, from product and process design through product disposal, is known as "green purchasing" (Wang et al., 2021). The items for these variables were adopted from (Zhu et al., 2013). Five items were used to measure green purchasing: (1) Our firm cooperates

with suppliers to meet environmental objectives; (2) Our firm emphasizes purchasing eco-friendly materials; (3) Our firm evaluates suppliers based on specific environmental criteria; (4) Our firm cooperates with suppliers who have environmental certifications such as ISO 14001; (5) Our firm has partnerships with suppliers that aim for environmental solutions and/or the development of environmentally friendly products. A 5-point Likert-type scale that ranged from 1 = strongly disagree to 5 = strongly agree was used to measure each item within the predictor variable.

3.7.2 Predicted Variable

Green purchasing is the practice of include environmentally friendly options in the decision-making process for purchases, beginning with the design of products and processes and concluding with product disposal (Wang et al., 2021). Overall Cronbach's alpha for the scale was 0.88. Five (5) items were used to measure environmental performance: (1) Our company reduced waste and emissions from operations; (2) Our company reduced the environmental impact of its products/services; (3) Our company reduced environmental impact by establishing partnership; (4) Our company reduced the risk of environmental impact and the risk of harming the environment; (5) Our firm reduced purchases of non-renewable materials and components. A 5-point Likert-type scale that ranged from 1 = strongly disagree to 5 = strongly agree was used to measure each item within the predicted variable.

3.7.3 Moderator variable

The study's moderator is Top management support which as defined by Ahmed et al. (2019) is the involvement of the highest-level officials in the organization's quality improvement efforts. The Daily, Bishop, and Steiner scale that was developed to gauge senior management support (2007). In our investigation, this measure's Cronbach's

alpha was 0.88. Four (4) items were used to measure the extent of top management support: (1) Top management treats green and environmental management as an important issue; (2) Top management allocates adequate resources to green and environmental management efforts; (3) Top management allows employees to spend time on green and environmental management efforts; (4) Top management follows up on suggestions for improvement in green and environmental management. A 5-point Likert-type scale that ranged from 1 = strongly disagree to 5 = strongly agree was used to measure each item within the moderator variable.

3.8 Data Collection

A structured online questionnaire was used to collect data for the study, which was designed using google forms. Data collection according to Zohrabi (2013) is the exact collection of information which are appropriate to the specific objectives and question of a survey. There are several tools for collecting primary data and these include interviews, questionnaires, observations, documents, records, focus group discussions, and oral histories. This study's questionnaire contained closed-ended questions. The questionnaire was appropriate for the employees because they are literate and can fill out the forms themselves. An online questionnaire was adopted because of its convenience as respondents could complete the questionnaires via their phones or laptops. For the researcher, online questionnaires are cost-effective since there would be no need to travel to distribute the questionnaires.

3.9 Data Analysis

The gathered data were analyzed using quantitative data analysis. The analyses involved both descriptive and inferential analyses. Descriptive statistics involved the use of frequencies, means, standard deviations, range, and skewness to describe the

demographical profile of respondents; the extent of green purchasing within the manufacturing industry; the extent of top management support, and environmental performances. Regression and correlation analyses were used in the inferential analysis to examine the links between the study's moderator, predictor, and predictor variables. IBM SPSS version 26 was used to carry out these analyses.

3.10 Reliability and Validity

To achieve effective research, the study also ensured that all reliability and validity principles were considered. The degree to which a measuring tool is correct and truly measures what it is intended to measure is referred to as validity (Garver & Mentzer, 1999). A comprehensive literature review was carried out by the researcher and the questionnaire was constructed from previously used instruments. The questionnaire is presented to the study supervisor, for comment on content and suitability, this ensures validity. Reliability was ensured by developing the questionnaire from previously used tools. The reliability investigates the extent to which the questionnaire measuring is devoid of errors yielding consistent results. The supervisor for this research has scrutinized the questionnaire used and has given the green light. The topic of whether the outcomes of the analysis are consistent is concerned with reliability, that is, whether the measurements that are constructed for each construct are reliable. Cronbach's alpha was used to assess the study's reliability. The alpha of Cronbach is constructed as a test of internal consistency; that is, does the same thing measure all things inside the instrument? Cronbach's alpha can be assessed using the scale: (1) $\alpha > .9$ —excellent; (2) $\alpha > .8$ —good; (3) $\alpha > .7$ —acceptable; (4) $\alpha > .6$ —questionable; (5) $\alpha > .5$ —poor; (6) $\alpha < .5$ —unacceptable (Fitzpatrick, 1983). Each item measured on the Cronbach's alpha value was greater than the acceptable threshold of .70, indicating that the items had strong internal consistency, and thus were reliable.

On the other hand, validity refers to the question of whether the definition is actually measured by an indicator (or group of indicators) that is intended to quantify a concept. The key goal is to improve the precision and usefulness of studies by removing or manipulating as many confounding variables as possible, which enables the results of a particular study to be more trusted. There are four different forms of validity (internal validity, external validity, validity of the model, and validity of the mathematical conclusion) that interact to monitor and mitigate the influence of a wide range of global variables that may complicate a study and decrease the consistency of its conclusions. An exploratory factor analysis (EFA) was performed to evaluate validity. The majority of the items in each construct loaded greater than 0.50 on the constructs they were anticipated to measure, according to the results of the exploratory factor analysis (EFA) (see table 4.6), suggesting that they have both convergent validity and discriminant validity. The EFA also showed a KMO of 0.773, which indicates that the sample size was appropriate for the study (34). The results of Bartlett's Test of Sphericity were likewise significant ($p < 0.01$), showing that the items taken together had a high degree of correlation.

3.11 Ethical Considerations

The researcher thought about the following to make sure all ethical standards for the research were followed: First and foremost, the researcher made certain that consent was given voluntarily: Participants are able to give their consent, are not subject to outside pressure, understand the risks and advantages involved, and are free from coercion. Second, anonymity and confidentiality of the data submitted were guaranteed to all responders. This was highlighted by making sure the survey instrument didn't ask for respondents' names and identities.

3.12 PROFILE OF GREATER ACCRA METROPOLITAN ASSEMBLY

The Accra Metropolitan Assembly (AMA) is one of the Two Hundred and Sixty-One (261) Metropolitan, Municipal and District Assemblies (MMDAs) in Ghana and among the Twenty-Nine (29) MMDAs in the Greater Accra Region. It was established in 1898 but has gone through several changes in terms of name, size and number of Sub-Metros. When Ghana returned to constitutional rule in 1993, it derived its legal basis from Local Government Act, 1993, (Act 462) which currently has been amended as the Local Governance Act, 2016 (ACT 936), and under Legislative Instrument (L.I) 2034.

3.12.1 Population

According to the 2010 Population and Housing Census, the total population of the Metropolis was 1,665,086 with females constituting 51.9 percent while males formed 48.1 percent. Using the Greater Accra Population growth rate of 3.1%, the 2018 population of Accra is estimated at 2,036,889. Accra has a daily influx of more than 2 million people who commute to the City for various socio-economic activities. It is therefore estimated that Accra has a daily population of about 4 million comprised of both residents and visitors.

3.12.2 Administrative Structure

The Assembly has sixteen (16) Departments and other Units with Heads of Departments who all report directly to the Metro Coordinating Director (MCD) and ultimately to the Metro Chief Executive (Mayor). The General Assembly meetings are presided over by the Presiding Member (PM). The General Assembly has a Membership of 34 comprising 20 Elected Members, 10 Government Appointees, 3 Members of Parliament and the Metro Chief Executive who also chairs the Executive Committee.

In the performance of its functions, the Accra Metropolitan Assembly works through 14 Sub-Committees. These Sub-Committees perform deliberative functions and submit recommendations to the Executive committee for further deliberation and then to the General Assembly for final decisions and implementation. The Fourteen (14) Sub-Committees include; Social Services, Finance & Administration, Development Planning, Revenue Mobilization, Justice & Security, Education, Works, Environment, Youth & Sports, Culture & Trade Tourism and Industry, Disaster Management, Food & Agriculture, Health, Women & Children.

3.12.3 Mission

To improve the Quality of Life of People Living within the City of Accra by Providing Leadership and Opportunities for Social and Economic Development Whilst Maintaining a Clean, Attractive and Secured Environment.

3.12.4 Vision

A Fair and Resilient City with Equal Soci-economic Opportunities for all.

3.12.5 Core Functions

Section 12 (3) of Local Governance Act, 2016 (ACT 936) which establishes the Assembly also mandates it to perform among other functions;

Be responsible for the overall development of the district;

Formulate and execute plans, programmes and strategies for the effective mobilization of the resources necessary for the overall development of the district;

Promote and support productive activity and social development in the district and remove any obstacles to initiative and development;

Sponsor the education of students from the district to fill particular manpower needs of the district, especially in the social sectors of education and health, making sure that the sponsorship is fairly and equitably balanced between male and female students;

Initiate programmes for the development of basic infrastructure and provide municipal works and services in the district;

Be responsible for the development, improvement and management of human settlements and the environment in the district;

In cooperation with the appropriate national and local security agencies, be responsible for the maintenance of security and public safety in the district;

Ensure ready access to courts in the district for the promotion of justice;

Act to preserve and promote the cultural heritage within the district

Initiate, sponsor or carry out studies that may be necessary for the discharge of any of the duties conferred by this Act or any other enactment; and

Perform any other functions that may be provided under another enactment.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis of the data collected from the survey, with the topic of 'Green purchasing and environmental performance; the role of top management support (A survey of the manufacturing industry). It also discusses the findings after the data has been analysed. The chapter has been structured into seven: respondent demographics, results of green purchasing, results of top management support, environmental performance, model testing, hypotheses evaluation, discussion of findings, and chapter summary. The data analyzed were gathered from hundred (100) respondents within the manufacturing industry in Ghana. Out of the 157 questionnaires sent, 100 were returned, representing a 63.7% response rate.

4.2 Profile of respondents

Table 4.1 Profile of respondents

Variables		Frequency	Percentage (%)
Gender	Male	59	59.0
	Female	41	41.0
Age	20 to 29	5	5.0
	30 to 39	34	34.0
	40 to 49	46	46.0
	50 or more	15	15.0
Work duration	0-5 years	12	12.0
	6-10 years	38	38.0
	11-15 years	37	37.0
	Above 15 years	13	13.0
Highest qualification	HND	12	12.0
	Degree	56	56.0
	2 nd Degree or more	32	32.0

Table 4.1 provides information on the demographics of the respondents. Out of the hundred respondents, fifty-nine are males and the remaining forty-one are females. This indicates that the respondents were well-represented. Demographic information also revealed that 5% of the respondents were between the ages of 20-29, 34% between the ages of 30-39, 46% between the ages of 40-49, and 15% above 50 years. This distribution indicates 95% of the total respondents are relatively matured and there highly mature to provide responses to the questions. This helps to increase the reliability of the responses. Regarding work experience, twelve of the respondents have worked for not more than five years, thirty-eight between 6-10 years, thirty-seven between 11-

15 years, and thirteen respondents over fifteen years. The work duration distribution indicates a majority of the respondents are very experienced and qualified to provide accurate responses needed to achieve the study's objectives. This also enhances the reliability and validity of the responses obtained. The study's respondents could also be said to be highly qualified with the right certification as 88% of these respondents have at least a degree in their respective study area. This also shows that the study chose respondents who had the right qualifications to engage in the studies. This further supports the reliability of the data gathered.

4.3 Model estimation and testing of hypotheses

This section of the chapter focuses on providing details on the reliability and validity results, as well as testing the hypotheses of the study: the relationship between green purchasing and environmental performance – H1; the relationship between top management support and environmental performance – H2; the moderating role of top management support on green purchasing – environmental performance nexus – H3.

4.3.1 Results of Validity and reliability tests

Table 4.2 Reliability Results (Cronbach's alpha)

Construct	Number of items	Cronbach's Alpha
Green purchasing	5	0.83
Top management support	4	0.88
Environmental performance	5	0.88

Test results from Cronbach's alpha indicate that all the items measuring the predictor, predicted and moderator variable demonstrates high internal consistency. This is because the alpha values for the three variables scored above the minimum threshold of 0.70 (see table 4.2).

Table 4.3 Validity Test Results (Exploratory Factor Analysis)

Metrics	Construct		
	Green purchasing	Top management support	Environmental performance
Our firm cooperates with suppliers to meet environmental objectives	0.856		
Our firm emphasizes purchasing eco-friendly materials	0.857		
Our firm evaluates suppliers based on specific environmental criteria	0.655		
Our firm cooperates with suppliers who have environmental certifications such as ISO 14001	0.821		
Our firm has partnerships with suppliers that aim to environmental solutions and/or development environmentally friendly products	0.859		
Top management treats green and environmental management as important issues.		0.712	
Top management allocates adequate resources to green and environmental management efforts.		0.811	
Top management allows employees to spend time on green and environmental management efforts		0.814	
Top management follows up on suggestions for improvement in green and environmental management		0.871	
Our company reduced waste and emissions from operations			0.751
Our company reduced the environmental impact of its products/services			0.822
Our company reduced environmental impact by establishing partnerships			0.833
Our company reduced the risk of environmental impact and the risk of harming the environment			0.711
Our firm reduced purchases of non-renewable materials and components.			0.812
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.773 Bartlett's Test of Sphericity: $\chi^2 = 2111.789$, $df = 231$, $p < .01^{**}$ Extraction Method: Principal Component Analysis. Rotation			

Notes: $^{**}p < .01$

The validity analysis conducted using exploratory factor analysis (EFA) indicated high levels of convergent and discriminant validity as they load high above the minimum threshold of 0.50 (see Table 4.6). The KMO value obtained from the EFA analysis was 0.773, which is significantly higher than the minimal requirement of 0.5, which is a sign that the sample size is sufficient for factor analysis. (Cohen, 1968). Given $p < 0.01$, Bartlett's measure, which investigates whether the original correlation matrix is an identity matrix, was likewise significant. This suggests that there is a strong correlation between all the variables taken into account collectively.

4.3.2 Descriptive statistics and correlation analysis results

Table 4.4 Descriptive statistics and correlation results

Variables	GP	TMS	EP
Green purchasing	1	.764**	.781**
Top management support	.764**	1	.679**
Environmental performance	.781**	.679**	1
Mean	4.799	4.960	4.802
Standard deviation	0.550	0.455	0.647
Skewness	0.534	0.267	0.199
Kurtosis	-0.009	0.531	-0.740

Notes: * $p < .05$ (2-tailed), ** $p < .01$ (2-tailed)

The correlation analysis results in table 4.4 indicate that green purchasing (predictor) correlates positively with top management support (moderator) and environmental performance (predicted), given that $r > 0.50$ and also significant ($p < .01$).

4.3.3 Regression analysis results

Ordinary least squares (OLS) regression analysis was used to test H1 and H2, that is analyzing the relationship between green purchasing and environmental performance and top management support and environmental performance respectively. H3 was tested using Hayes' PROCESS procedure for SPSS to analyze the moderating effect of top management support on the green purchasing-environmental performance

relationship. Three regression models were generated for each of the hypotheses. The figure below provides details of these models

Model 1: Main effect 1

Environmental performance = Constant + β_1 (green purchasing)

Model 2: Main effect 2

Environmental performance = Constant + β_1 (Top management support)

Model 3: Interaction effect

Environmental performance = Constant + β_1 (green purchasing \times top management support)

Figure 4.1: Regression Model for H1, H2, and H3

Table 4.5 Results of Regression Analysis

Predictor variable	Dependent variable: Environmental performance		
	Unstandardized coefficients		
	Model 1	Model 2	Model 3
Constant	0.469	0.038	-0.5163
Main effect:			
Green purchasing (GP)	0.920		
Top management support (TMS)	(12.376)**	0.967(9.156)**	
Interaction effect:			
GP*TMS			-0.0092(-0.761)
R ²		46.1%	
ΔR^2	61.0%	.456	62.6%
(Δ) F statistics	.606	83.838**	.000
Degree of freedom	153.176**	99	53.6102**
	99		99

Notes: *p < .05, **p < .01

Table 4.6 Summary results and evaluation of hypotheses

Hypothesis	Path	Expected effect	Results	Conclusion
H1	GP>>>>EP	Positive	.920 (12.376)**	Supported
H2	TMS>>>EP	Positive	.967 (9.156)**	Supported
H3	GP>>TMS>>EP	Positive	-0.0092 (- .0761)	Not supported

Notes: GP = Green purchasing; TMS = Top management support; EP = Environmental performance. * $p < .05$, ** $p < .01$

Given that $F=153.176$, $p .01$, and Model 1, which examined the connection between green purchasing and environmental performance, green purchasing explained 61 percent of the variation in environmental performance. Additionally, the path coefficient results are as follows: $=.920$, $t = 12.376$, $p .01$; they provide strong support for hypothesis H1, which states that environmentally friendly purchasing has a favorable effect on performance.

Given that $F=83.838$, $p .01$, and Model 2, which examined the relationship between top management support and environmental performance, top management support accounted for 46.1 percent of the variation in environmental performance. Additionally, the path coefficient's findings of $=.967$, $t = 9.156$, and $p .01$ provide strong support for H2, which claimed that top management support had a beneficial impact on environmental performance.

Given $F=53.6102$, $p .01$ and Model 3, which examined the interaction between green purchasing and top management support on environmental performance, it was shown that this interaction accounted for 62.6 percent of the variance in environmental

performance. The path coefficient results, which are as follows: $\beta = -.0092$, $t = -.0761$, $p > .05$, show that there is no positive correlation between environmental performance and the interaction term between green purchasing and top management support. H3, which asserted that senior management's support moderates the association between performance and environmentally friendly purchasing, was not supported.

4.4 Discussion of Findings

This section provides a detailed discussions of the findings for the study's objectives: (1) assessing the relationship between green purchasing and environmental performance; (2) assessing the relationship between top management support and environmental performance; (3) assessing the moderating effect of top management support on green procurement-environmental performance relationship. The study gathered data from hundred employees working within the manufacturing industry within the Greater Accra Municipality.

4.4.1 Findings on the Relationship Between Green Purchasing and Environmental Performance

The study first hypothesized that green purchasing impacts positively on the performance of the environment, which is consistent with prior research results (Cater et al., 2000; Kalyar et al., 2019; Chin et al., 2020). The study's path coefficient: $\beta = .920$, $t = 12.376$, $p < .01$; lends significant support for H1, which stated that green purchasing impacts positively on environmental performance. Based on this finding, it can be stated that the more the organization implements green purchasing strategies, the more it increases the performance of the environment in terms of waste recovery, paper saving, mitigating the use of energy and sustainability.

4.4.2 Relationship Between Top Management Support and Environmental Performance

Consistent with prior research (Ahmed et al., 2019; Tzempelikos, 2015; Constantin et al., 2014), the research hypothesized ‘top management support impacted positively on environmental performance’. The path coefficient of the result: $\beta = .967$, $t = 9.156$, $p < .01$; lends significant support for H2. In other words, the more committed top management is, the more likely the environment is to perform well in areas such as friendly ecosystem and sustainability. This finding, therefore draws attention to the fact that within the manufacturing industry, with respect to green purchasing, top management models best practices; approves business case; provides training; participates in green purchasing initiatives; approves resources; develops green purchasing policies.

4.4.3 Moderating Effect of Top Management Support on Green Purchasing-Environmental Performance Relationship.

The final theory proposed that the relationship between environmental performance and green purchasing was mitigated by top management support. The results of the path coefficient: $\beta = -.0092$, $t = -.0761$, $p > .05$; lends no support for H3. This implies that the interaction term of green purchasing and top management support have no significant impact on environmental performance. That is to say, support from top management, being high or low, does not cause companies implementing green purchasing to achieve improve environmental performance and sustainability.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter is divided into three main sections: summary of outcomes, conclusion, and recommendations. The study sought to achieve three main objectives: (1) assessing the relationship between green purchasing and environmental performance; (2) assessing the relationship between top management support and environmental performance; (3) assessing the moderating effect of top management support on green purchasing-environmental performance relationship. The findings for this study were consistent with past research and literature review and therefore supported H1 and H2. However, the findings of the study did not render any support for H3.

5.2 Summary of Findings

Three basic goals were examined in this study: (1) To assess the extent to which green purchasing impacts environmental performance; (2) To assess the impact of top management support on environmental performance; (3) To examine the moderating role of top management support in green purchasing-performance relationship.

5.2.1 The Relationship Between Green Purchasing and Environmental Performance

The report found a strong correlation between green purchasing and environmental performance. In other words, the more sustainability measures are applied by companies, the more sustainable the environment which would assist companies to minimize cost and waste.

5.2.2 The Relationship Between Top Management Support and Environmental Performance

The study also discovered that support from senior management had a positive effect on environmental performance. The results showed a connection between environmental performance and senior management support. As a result, the company and environment will perform better the more dedicated and helpful management is.

5.2.3 The Interaction Effect of Top Management Support on Green Purchasing-Environmental Performance Relationship.

Yet, the analysis revealed that interactions between green purchasing and top management support had little or no impact on environmental performance. This shows that senior management support is not a moderating factor in the relationship between green purchasing and environmental performance.

5.3 Conclusion

Organizations are under more and more pressure to fight unethical business practices globally and lessen the environmental effect of their supply chains. Organizations must comprehend how ethical and sustainability practices affect their supply chain and environment and be aware of the initiatives that can be employed to address these concerns. This study sought to probe further into green purchasing, considering its impact on the performance of the environment and assessing the role of top management support. The study's findings proved that green purchasing has a positive impact on the performance of the environment, thereby providing a good business case for organisations seeking to adopt and implement these within their supply chains.

5.4 Recommendations

Recommendations for the report were split into two sections: recommendations for managers and recommendations for future studies.

5.4.1 Recommendations for Managers

The study's key conclusions were: (1) Organizations in the manufacturing sector implement green purchasing at a high rate; (2) top management support is also very high in this sector; (3) organizations operating in this sector perform exceptionally well; (4) green purchasing has a positive impact on environmental performance; (5) top management support has a positive impact on environmental performance; and (6) These results highlight how crucial green purchasing is for achieving and maintaining the organization's competitive edge as well as for enhancing and maintaining the environmental performance.

These findings emphasize how essential green purchasing is in achieving and sustaining the competitive edge of the organization and improving and sustaining the performance of the environment. Supply chain managers are therefore encouraged to make conscious efforts to adopt and implement green purchasing at every stage of the purchasing cycle. The principles of 'green' should be considered during specification development, supplier selection and award, contracting and performance measurement. Key members of the supply chains should also be trained and developed in green purchasing on an ongoing basis. The development programs could cover areas such as reverse logistics, design for disassembly, life cycle assessment, carbon reduction, waste management, water management, etc.

5.4.2 Recommendations for Future Studies

For researchers, the following recommendations are made based on the limitations identified in this study. First of all, the study's independent variable, green purchasing was measured using 6 items. Green purchasing forms part of a wider theme. Even though this research considers sustainability in the aspect of the environment, future studies in similar themes are therefore encouraged to consider a more holistic approach to sustainability especially in the organizational setting.

Secondly, the study adopted environmental performance as the dependent variable, which was measured using 6 items. Future studies could consider other dependent variables such as competitive advantage which can be measured using reduced risk and vulnerability, reduced time to market, improved quality, reduced cost and price and product and service differentiation.

Last but not least, the moderator variable chose for this study was top management support, to moderate the relationship between green purchasing and environmental performance. However, there are many other variables that could moderate the green purchasing-environmental performance relationship. Environmental collaboration, supplier collaboration, green innovation could all moderate the relationship and future researchers are therefore encouraged to consider these variables.

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APPENDIX

RESEARCH QUESTIONNAIRE

Dear respondent,

Thank you for accepting to participate in this study. The study seeks to probe into the role of top management support in moderating the relationship between green purchasing and environmental performance.

The study is only for academic purposes and your responses will be treated with the utmost confidentiality. For any given scale, please, refer to the descriptions of the anchors (e.g., 1=strongly disagree; to 5= strongly agree) and circle a number that best describes your view on each question/statement.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

The information below asks about your demographic characteristics

1. Gender: ☐ Male ☐ Female
2. Age (years): ☐ 20 to 29 ☐ 30 to 40 ☐ 40 to 49 ☐ 50 or more
3. Education level: ☐ HND ☐ 1st Degree ☐ 2nd Degree or more
4. Number of years working in this firm: ☐ 0-5 years ☐ 6 -10 years ☐ 11-15 years ☐ above 15 years

SECTION B: GREEN PURCHASING

Kindly use a scale of 1= “strongly disagree” to = “strongly agree” to provide responses to the items in the table below.

Green purchasing	Strongly disagree				Strongly agree
Our firm cooperates with suppliers to meet environmental objectives	1	2	3	4	5
Our firm emphasizes purchasing eco-friendly materials	1	2	3	4	5
Our firm evaluates suppliers based on specific environmental criteria	1	2	3	4	5
Our firm cooperates with suppliers who have environmental certifications such as ISO 14001	1	2	3	4	5
Our firm has partnerships with suppliers that aim to environmental solutions and/or development environmentally friendly products	1	2	3	4	5

SECTION C: ENVIRONMENTAL PERFORMANCE

Kindly use a scale of 1= “strongly disagree” to = “strongly agree” to provide responses to the items in the table below.

Environmental performance	Strongly disagree				Strongly agree
Our company reduced waste and emissions from operations	1	2	3	4	5
Our company reduced the environmental impact of its products/services	1	2	3	4	5
Our company reduced environmental impact by establishing partnerships	1	2	3	4	5
Our company reduced the risk of environmental impact and the risk of harming the environment	1	2	3	4	5
Our firm reduced purchases of non-renewable materials and components.	1	2	3	4	5

SECTION D: TOP MANAGEMENT SUPPORT

Kindly use a scale of 1= “strongly disagree” to = “strongly agree” to provide responses to the items in the table below.

Top management support	Strongly disagree				Strongly agree
Top management treats green and environmental management as important issues.	1	2	3	4	5
Top management allocates adequate resources to green and environmental management efforts.	1	2	3	4	5
Top management allows employees to spend time on green and environmental management efforts.	1	2	3	4	5
Top management follows up on suggestions for improvement in green and environmental management	1	2	3	4	5

