**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI**

**COLLEGE OF HUMANITIES AND SOCIAL SCIENCES**

**SCHOOL OF BUSINESS**

# SUSTAINABLE PUBLIC PROCUREMENT IN GHANA: AN EXPLORATORY STUDY

**BY**

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**Kwame Nkrumah University of Science and Technology, Kumasi**

# Sustainable Public Procurement in Ghana: An Exploratory Study



**By**

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**A thesis submitted to the Department of Supply Chain and Information Systems, Institute of Distance Learning, in partial fulfilment of the requirements for the award of the degree of**

**MASTER OF SCIENCE IN**

**LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

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## DECLARATION

'I do hereby declare that this submission is my own work towards the **Master of Science in Logistics and Supply chain management** Degree and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Kwame Nkrumah University of Science and Technology, Kumasi or any other educational institution, except where due acknowledgement is made in the thesis.

All references used in the work have been fully acknowledged. I bear sole responsibility for any shortcomings in the work.

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## ABSTRACT

The objective of this study is to investigate the influence of sustainable procurement practices on the market, environmental, and financial performance of public institutions in Ghana. The study utilizes data gathered from informed sources within the public sector procurement landscape. Quantitative methodologies, including correlation and partial least square structural equation modelling, are employed to assess the statistical link between various factors under scrutiny and organizational performance. The t-statistical testing approach is employed to test the hypotheses put forward in the study. The outcomes of the empirical analysis verify three (3) of the nine (9) hypotheses proposed. The study's results indicate that embracing environmentally sustainable procurement practices has a positive impact on the market, financial, and environmental performance of public agencies. The desire to achieve balance among different performance indicators suggests that environmental SPP can improve the performance of public institutions in Ghana. In addition, economic sustainable procurement practices have a noteworthy effect on the environmental and financial performance of public institutions. However, economic SPP has a negligible impact on the market of public institutions. Based on these outcomes, it can be inferred that sustainable procurement practices offer advantages not only to organizations but also to the environment and society. Therefore, it is advisable for organizations to adopt sustainable procurement practices to boost their performance and make a positive contribution to a sustainable future.



Keywords: Economic Sustainable practices, Social Sustainable practices, Environmental Sustainable practices, environmental performance, market and financial performance

# DEDICATION

This piece of academic work is dedicated to the almighty God for his guidance and protection throughout the undertaken of this project work as well as my supervisor and all those who contributed to a successful completion.

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# CHAPTER ONE

# Introduction

## 1.1 Background of the Study

The United Nations' Sustainable Development Goals seek to provide equitable economic development to address issues of inequality and inclusion in society (United Nations Conference on Trade and Development, 2018). Furthermore, the UN recognizes the importance of public sector procurement in providing direction and leadership in the pursuit of sustainable practices. For most OECD countries including Ghana, government expenditure is the major source of project financing. This place public procurement in a unique position to tackle sustainability and further promote efficiency in the usage of public resources. For instance, government expenditure accounts for 80 per cent (%) of procurement expenses and project financing (OECD, 2017).

The use of sustainable procurement practices has revolutionized the business and policy landscape and is now recognized as a suitable response to sustainability-related challenges (Ghadge et al., 2019, Tang et al., 2019). The broad idea of long-term sustainability is undoubtedly one of the most urgent issues of the twenty-first century. It involves preserving complete economic, environmental, and social development, as well as the welfare of current or future generations (Blok et al., 2015; Thiele, 2016). Experts have recognized the potential of using procurement, specifically public procurement as a tool to address issues with sustainability (Leal Filho et al., 2019).

The justification for encouraging sustainable procurement practices stems from the fact that procurement acts as a gatekeeper for organization acquisition, sourcing, and supply partnerships. Sustainable procurement (SP) is defined as the achievement of long-term sustainability goals through the entire strategic procurement process, including environmental,

social, and economic objectives (Phillips & Walker, 2009). Additionally, it can be considered as a deliberate business strategy developed by an organization to acquire and conduct business with responsible business entities is known as sustainable procurement. Economically sustainable procurement practices, socially sustainable procurement practices, and environmental sustainable procurement practices are the three distinct dimensions of sustainable procurement practices (Aragao & Jabbour, 2017; Leal Filho et al, 2019).

Public organizations can catalyse to achieve micro-macro level sustainability goals in which products and services comply with economic, social and environmental sustainability standards and requirements (Luthra et al, 2014). Studies have identified several enabling factors such as the green knowledge capabilities of firms, green orientation and identity (Islam et al, 2019; Walker & Brammer 2012); stakeholder pressure and regulatory requirements (Nasiche & Ngugi, 2014; Telewa, 2014).

Despite several studies in the area of sustainable procurement practices, most of these studies are concentrated on drivers and barriers to sustainable procurement (Tang et al, 2019; Leal Filho et al, 2019); adoption and implementation (Islam et al, 2016; Yawar & Kauppi, 2018); with limited number focusing on organizational/firm performance (Ghosh, 2018; Ferri & Pedrini, 2018). The findings from these studies reveal the adoption of sustainable procurement practices is crucial to the survival of both private and public enterprises, however, the impact of sustainable procurement practices on organization performance is inconclusive. The findings are inconclusive because most of these studies focus on a specific dimension of sustainable procurement practices instead of using a comprehensive multidimensional measurement of SPP. Additionally, there are few empirical studies examining SPP and organizational performance (Salama, 2018; Oelze, 2017) and a surprisingly limited amount of these studies focus on the public sector.

Address the limitation of previous studies requires investigating the impact of sustainable procurement practices (social, economic and environmental sustainable procurement practices) on organizational performance (market, environmental and financial performance) especially in the public sector. And that is the purpose of the study. Furthermore, research in the field of public management and governance posits a significant role in the adoption and implementation of new technologies and processes. Sustainable procurement processes are a paradigm shift from traditional procurement practices based on value for money – therefore their success and survival depend on the support and commitment of top management personnel (Walker & Brammer, 2012).

### 1.2 Statement of Problem

In academic literature, there is a consensus on how sustainable procurement strategies have evolved, been adopted, and used within firms since they first appeared (Walker and Brammer, 2012; Walker et al., 2012; Grandia et al., 2015; Thong & Wong, 2018; UN Sustainable Development Goals Report 2018). Numerous research findings and conclusions on organisations have emerged over the years, with an emphasis on identifying the determinants, drivers, problems, and impediments to sustainable procurement processes (Walker and Brammer, 2012; Walker et al., 2012; Grandia et al., 2015).

Another stream of studies (Nasiche & Ngugi, 2014; Gatari, 2014; Telewa, 2014) concentrated on the causes of sustainability practices as well as the impacts of sustainability practices as a one-dimensional construct on organizational performance (Thong & Wong, 2018). Although research in this field indicates a link between an organization's sustainable practices and its financial success, there is no evidence that these practices have an impact on an organization's overall performance (Islam et al, 2019). These findings don't fully explore the benefits of sustainable procurement methods as a comprehensive, multi-dimensional construct or their

overall effect on organizational performance. By analysing the effects of many sustainable procurement techniques on organizational performance, thus market, environment and financial performance of public enterprises.

### 1.3 Research Objective

The study aims to examine the effect of sustainable procurement practices on organizational performance, specifically in the government sector. It further explores the role of the green orientation of institutional leaders on the association between sustainable procurement practices and organizational performance. To address the aim of the study the following specific objectives are stated;

1. To examine the impact of economic sustainable procurement practices on organizational performance.
2. To examine the impact of environmental sustainable procurement practices on organizational performance.
3. To examine the impact of social sustainable procurement practices on organizational performance.

### 1.4 Research Questions

The study aims to address the following research questions;

1. What is the impact of economic sustainable procurement practices on organizational performance?
2. What is the impact of environmental sustainable procurement practices on organizational performance?
3. What is the impact of social sustainable procurement practices on organizational performance?

## 1.5 Significance of the study

The study highlights the significance of economic sustainable procurement practices and their positive financial implications. By incorporating life cycle cost analysis and considering the total cost of ownership, public institutions can make informed purchasing decisions that lead to long-term cost reductions. Furthermore, the implementation of sustainable procurement practices can enhance the reputation of public institutions and attract stakeholders who prioritize environmental and social responsibility. This, in turn, fosters increased stakeholder trust and support, as well as improved partnerships and collaborations with suppliers and other organizations.

The impact of economically sustainable procurement practices on the environmental and financial performance of public institutions in Ghana cannot be overstated. Through waste reduction, efficient resource utilization, improved financial performance, and enhanced reputation, sustainable procurement practices offer substantial benefits to public institutions. Ultimately, these practices contribute to a more sustainable future for Ghana, aligning with the goals of environ mental conservation and responsible financial management.

According to the findings of this study, adopting environmental sustainable procurement practices positively impacts the market, financial, and environmental performance of public agencies in Ghana. This suggests that prioritizing environmental SPP can potentially improve public institutions' overall performance. In addition, the study found that economically sustainable procurement practices significantly impact public institutions' environmental and financial performance, but do not have a major influence on market performance.

Moreover, the study reveals that social SPP is positively associated with the performance of public institutions, including market, financial, and environmental performance. Creating an equitable work environment can foster positive employee-firm interactions, which are essential

for innovation and risk management. Additionally, prioritizing the occupational health of employees is crucial to leveraging their talents, creativity, and competencies for the benefit of institutions.



### 1.6 Scope of the study

The study focuses on investigating the effect of sustainable public procurement practices on organizational performance within the public sector of Ghana. Since employees of public sector agencies are considered as the population for the study, it is challenging to acquire include every individual in the study, therefore is a need for a clearly defined boundary. A boundary definition of the scope of the study is essential for validity and inferences. The study focuses on public sector agencies in Accra and Tema Metropolis of the Greater Accra Region. The rationale for selecting this location is because headquarters are located in these locals. Furthermore, the issue of sustainability is considered an urgent urban canker.

### 1.7 Organization of the study

Chapter 1 of this study focus on the background and research objectives of this study. In addition, chapter 1 presents the statement of the problem, the significance of the study and the research questions. The structure of this thesis is further discussed in this section.

The Chapter 2 review discusses the body of knowledge in the area of procurement; sustainability and organizational performance. Furthermore, literature on green institutional leadership and its role in enriching the impact of sustainable procurement on organizational performance is highlighted. The underlying theory and hypothesis are discussed in this chapter.

Chapter 3 of this study highlights the research methodology utilized to acquire and analyse data acquired to address the research questions and objectives of the study. The study adopts a cross-sectional approach and hierarchical regression approach to assess the conceptual model.

The initial reliability and validity test in addition to the collinearity test is reported in this chapter.

Chapter 4 presents the empirical analyses and findings of this study. The result for the hypothesis stated is also discussed in this chapter. The outcome of empirical analysis is discussed in this chapter.

Chapter 5 finally focuses on the discussion, conclusion and recommendation of the study. In addition, further research direction is suggested in this section.

# CHAPTER TWO

## Literature Review

### 2.0 Introduction

This chapter presents critical scholarly works in the fields of procurement, procurement management, sustainable procurement practices, and green transformational leadership. The reasons for implementing sustainable procurement practices are discussed. This chapter further focuses on the study's underlying theory and hypotheses.

### 2.1 Overview of Sustainability and Sustainable Procurement Practices

The ever-increasing depletion of global resource stocks has transformed organizational and individual production and consumption patterns. Human activities over the last century have depleted the resources available to current and future generations (Konikow, 2005; Adger et al, 2003; Dussel & Klein, 2006). For example, most virgin forests have been polluted over time as a result of irresponsible mining and lumbering activities. The activities of production networks and organizations emit several carbon dioxides and other toxins that degrade the environment's and ecosystem's friendly nature (Parikka - Alhola, 2008; Walker & Brammer, 2012). The magnitude of the harm that human and organizational activities cause to communities, their members, and their surroundings cannot be overstated.

Sustainability is considered a business strategy concerned with providing products and services that meet today's needs without jeopardizing future generations' ability to meet their own needs (Mensah, 2019). The three categories under which sustainability practices are categorized are environment, social, and economic. Environmental frameworks and agreements share a passion for fostering responsible innovation, like the Paris Climate Change Accord and the Sustainable Development Goals established by the Millennium Development Authority (MiDA). These agreements encourage individuals and corporations to produce and consume

ethically. Those that practice responsible production and consumption, according to the government, will contribute to lower environmental dangers (PPA Act 663, 2003; Amendments Act 914, 2016; Griggs et al, 2013).

Industrial methods that are innovative, clean, and environmentally friendly must be used to reach the maximum level of development. To create clean, cutting-edge technology, several supply network members must collaborate. No organization has all the resources necessary to continuously increase its capacity for innovation, according to researchers in the field of open innovation, thus one must cooperate and share ideas with a variety of different participants. This process is frequently employed in the creation of new products. For instance, to meet their production and delivery goals, Toyota and the majority of manufacturers depend on several part suppliers (Chesborough, 2003; Hart, 2012).

In emerging economies, the substantial portion of national expenditure is channelled through government and public institutions. Recognizing this pivotal role, several scholars advocate for governmental intervention in steering industrial activities towards the attainment of sustainable objectives, as evidenced by studies conducted by Parikka-Alhola (2008) and Walker & Brammer (2012). They propose that strategic intervention by the government could effectively direct industry efforts towards sustainable practices and goals.

Government procurement stands as a fundamental component of a nation's strategy for acquiring services and products. Leveraging the influential capacity vested in the government and its associated entities, this procurement power can serve as a catalyst to shape and influence procurement practices and actions. By aligning these practices with the collective goals outlined in the Sustainable Development Goals (SDGs), the government can effectively steer the course toward sustainable outcomes.

The procurement decisions made by government entities have far-reaching implications, not only in meeting immediate needs but also in shaping the market by promoting sustainable practices. Embracing sustainability in procurement aligns with broader environmental, social, and economic goals outlined in the SDGs. By leveraging their authority and purchasing power, governments can play a significant role in encouraging and incentivizing suppliers to adopt environmentally friendly, socially responsible, and economically viable practices.

Moreover, the influence of government procurement extends beyond the immediate transaction to impact the larger marketplace. This influence can trigger a ripple effect, stimulating a shift in industry practices and standards towards sustainability. As seen in research by Parikka-Alhola (2008) and Walker & Brammer (2012), a concerted effort by the government in procurement decisions holds the potential to drive significant change and progress towards sustainable development objectives.

Government intervention and strategic procurement practices can catalyse a transformation in the supply chain, instigating a shift towards sustainable products, services, and practices. By aligning procurement decisions with sustainability goals, governments can wield their influential position to drive not only immediate change but also steer the trajectory of industries and market practices toward a more sustainable future.

Price criteria have served as the foundation for product and service sourcing as well as procurement over the years. As a result, contracts are given to vendors and service providers with reasonable prices or who seem to be a good value (Bratt et al, 2013). Consequently, researchers' comprehension of the role public organizations and agencies play in developing and putting into practice new procurement policies intended to fulfil the Sustainable Development Goals (SDGs) of responsible manufacturing is constrained (UNEP, 2010; Acosta Bogran & Dzaja, 2015; Aguilar, 2016). To dramatically modify the structure of production and

consumption in developing countries, particularly in Africa, the power of the government and its agencies was required.

In emerging economies, particularly in regions like Africa, catalysing substantial shifts in production and consumption structures necessitates a significant role played by the authority of government bodies. As opposed to private spending or consumption, government spending constitutes the most significant share within these economies. On average, government institutions and their affiliated agencies command a substantial portion, ranging from 60 to 70 percent to a remarkable 100% of all national procurement.

The considerable weight of influence vested in the government presents an unparalleled opportunity to drive and expedite the implementation of green purchasing practices. This influential position holds the potential for transformative change in the procurement landscape, aiming to adopt environmentally conscious and sustainable procurement methods. The impact of this transformation can be monumental in aligning national procurement strategies with green practices, as discussed in the research by Perara & Colverson (2012).

With a dominant role in procurement, government bodies can serve as powerful change agents in promoting sustainable and environmentally friendly purchasing practices. The ability to steer and shape procurement policies, regulations, and actual purchasing decisions toward eco-friendly and socially responsible choices is of immense significance. Leveraging this extensive procurement authority, governments can exert their influence to favour suppliers and practices that align with green procurement principles, ultimately steering market dynamics toward sustainability.

The government's ability to drive change through green procurement goes beyond singular transactions; it extends to influencing market dynamics, encouraging innovation, and fostering a more sustainable ecosystem within the supply chain. By prioritizing environmentally friendly

practices in procurement decisions, government bodies can set a standard that stimulates a shift towards greener technologies, practices, and products, thereby contributing significantly to the broader goal of sustainability.

Thus, the strategic utilization of government procurement power becomes pivotal in the transformation of production and consumption patterns, instigating a positive domino effect across industries, leading to a more sustainable and environmentally responsible approach in emerging economies like those found in Africa.



## 2.2 Antecedents of Sustainable Procurement Practices

The performance outcomes of a company are increasingly recognized to be interlinked with the adoption of sustainable procurement practices. This linkage suggests that a company's approach to sustainability in procurement can significantly impact its overall performance. In recent times, ethical and socially responsible businesses have not only espoused sustainable practices but have also reaped the benefits of financial and economic incentives by offering eco-conscious products and services (Roman, 2017; Khan & Qianli, 2017). .

The alignment with sustainability practices, beyond being an ethical choice, has proved to be economically advantageous. Businesses embracing sustainability have experienced financial gains, driven by incentives aimed at encouraging eco-friendly initiatives. These incentives, often supported by both institutional and governmental regulations, serve the dual purpose of enhancing the organization's financial standing while ensuring compliance with environmental and social standards (Shen et al, 2017; Khan et al, 2021).

The success and competitive advantage of an organization are increasingly contingent on the integration of sustainability strategies into their operations. By adopting sustainable

procurement practices, companies signal their commitment to environmental responsibility, resource efficiency, and social welfare, aligning with the evolving expectations of consumers, investors, and society at large (Rehman et al, 2022; Yu et al, 2019).

The decision-making process for sustainable procurement practices is not solely dictated by regulatory compliance or stakeholder pressures, as illuminated in the research, several other significant factors influence and guide these strategies. These encompass considerations such as cost-effectiveness, technological advancements, innovation in supply chains, risk management, brand reputation, and the pursuit of competitive advantage through differentiation in the market (Kaur & Singh, 201; Candrasa et a, 2020).

Organizations are recognizing that sustainable procurement practices extend beyond mere compliance; they are strategic enablers for fostering innovation, cost savings, and market positioning (Sonnichsen & Cement, 2020). By embracing sustainability beyond mere regulatory compliance, companies can drive performance improvements, enhance brand reputation, and secure a competitive edge in an increasingly conscious and environmentally aware marketplace (Cheng et al, 2018).

An organization's identity is intricately interwoven with its fundamental orientation and the principles it upholds. This orientation shapes not only the organization's internal ethos but also its external perception within the broader societal and cultural context in which it operates. The work of Albert et al (2000) underlines how the culture or community surrounding an enterprise comprehends and engages with the underlying concepts and beliefs embedded within the organization's fabric.

Enterprises that prioritize sustainable production and consumption often project a distinct green or sustainability-focused identity. This identity becomes a defining feature that sets them apart

from conventional counterparts. Their commitment to sustainability isn't merely a superficial label but is deeply entrenched in their operational strategies and cultural framework.

Schwartz et al (2020) highlight that the successful adoption and implementation of sustainable practices within businesses heavily rely on this green orientation. This orientation serves as the guiding principle, steering decisions and actions taken by the organization toward ecological responsibility and sustainable operations. It permeates various aspects of the organization, from supply chain management and resource utilization to product development and customer engagement.

The green orientation embedded within a business influences not only its internal operations but also its external relationships with stakeholders, customers, and the wider community. It becomes a key identifier that resonates with environmentally conscious consumers, thereby enhancing the organization's brand image and market positioning. Moreover, it aligns the company's values and operations with the expectations of an increasingly environmentally aware society (Bohari et a, 2020).

Furthermore, this orientation catalyses a culture of innovation, encouraging the exploration of sustainable solutions and fostering a dynamic and responsive approach to market changes and societal needs. By intertwining sustainability within its core identity, an organization not only contributes to a greener future but also ensures its resilience and relevance in a rapidly evolving market landscape.

The green orientation embedded within an organization serves as a pivotal factor that significantly influences the establishment and realization of its sustainability goals. The works of Lee & Klassen (2008) and Helen & Neil (2012) underscore how this green orientation permeates an organization's fundamental purpose and mission, becoming an integral part of its core identity.

When an organization embraces a green orientation, it fundamentally reshapes its ethos, mission, and strategic objectives. Sustainability becomes deeply embedded within its raison d'être, guiding the organization's decision-making processes, practices, and overall direction. This alignment with environmentally conscious goals influences the organization's overarching sustainability strategies and aspirations (Terman & Smith, 2018; Ghosh, 2019).

The effectiveness of sustainable procurement methods and the overall sustainability efforts is intricately linked to the organization's identity. Studies, as highlighted by Walker & Brammer (2012) and Erridge & Hannigan (2012), demonstrate how companies possessing a strong green identity play a pivotal role in cultivating green supply chains that are more resilient and sustainable.

Through the deliberate integration of sustainability within their core identity and operational frameworks, organizations establish an environment that cultivates the evolution of green supply chains. This fundamental commitment to sustainability engenders a culture that prioritizes environmentally responsible practices across the entire spectrum of the supply chain, spanning from initial sourcing to production and eventual distribution. This approach marks a significant departure from conventional procurement strategies, focusing on ethical sourcing, environmental integrity, and optimal resource utilization throughout the chain (Yu et a, 2020; Isam et a, 2017).

The ethos of a green identity permeates every facet of the organization's procurement practices. This overarching philosophy influences the selection of suppliers, favouring those committed to eco-friendly and ethical practices. It reflects a conscientious approach that not only considers the quality and cost-effectiveness of products but also prioritizes their environmental impact and adherence to sustainability standards. This conscientiousness resonates through each stage of the supply chain, shaping production methods and advocating for practices that minimize

waste, reduce carbon footprints, and optimize resource usage (Song & Wu, 2018; Brick et al, 2017).

The outcome is a supply network designed not only for efficiency and profitability but also for environmental sustainability. It embodies a holistic vision that goes beyond mere transactions, aiming to establish a supply chain reflective of the organization's commitment to broader sustainability goals. The integration of green practices within the supply chain fosters a culture of innovation, encouraging continuous improvements and the adoption of cutting-edge technologies and methodologies that are environmentally friendly (Waltho et al, 2019; Ghomi – Avili et al, 2021).

Ultimately, this approach aligns the supply chain with the overarching sustainability objectives of the organization, fostering an ecosystem that supports environmental integrity, ethical sourcing, and operational efficiency. It not only demonstrates the organization's commitment to sustainability but also positions it as a frontrunner in promoting a greener and more responsible approach to procurement, setting an industry standard for ethical and environmentally conscious business practices.

Furthermore, this green identity not only reflects the company's commitment to sustainability but also positively influences stakeholders, partners, and consumers. It shapes the brand image and reputation, resonating with environmentally conscious consumers and fostering a deeper sense of trust and loyalty Sng & Yu, 2018). Such firms, driven by a green identity, often inspire similar values and practices in their business relationships, further contributing to the propagation of sustainability practices across the supply chain and within the industry as a whole (Shen et al, 2018)

Organizational green knowledge capabilities and green knowledge management systems are critical influencers of green procurement practices. A firm’s ability to identify green

knowledge within its business landscape is crucial to the identification and selection of green suppliers. Gaining and using knowledge is crucial for the success of green supply networks. The process by which knowledge is acquired, applied, safeguarded, and transformed into a strategic company resource is referred to as knowledge management capabilities (Abbas & Sagson, 2019; Tong et al, 2020). Having environmental knowledge about the environmental and social practices and the green attitude of your suppliers and adjacent firms/partners is essential to a smooth transition to a sustainable procurement framework (Shahzad et al, 2021; Nekmahmud et al, 2022).

### 2.3 Sustainable Procurement Practices and Organizational Performance

The phrase "sustainability" has gained popularity recently. The efficient use of resources during the production and consumption processes is a top priority for any organization and corporation. Every participant in the supply chain must embrace sustainable practices to achieve this goal. It is commonly known how operations management techniques affect an organization's success (Yu et al 2020; Ghadge et al, 2019). The achievement of sustainable development goals as well as the organization's long-term growth and viability depend on sustainable procurement practices. Maintaining organizational growth is essential for maintaining a competitive edge, and this is especially true in an uncertain economic environment. Nevertheless, utilizing environmentally friendly goods and services exposes companies to untapped areas that may increase earnings (Zaidi et al, 2019; Kannan, 2021).

The impact of sustainable procurement practices on a company's overall performance is increasingly recognized in contemporary business literature. Notably, ethical businesses have experienced tangible benefits by aligning themselves with sustainable practices and reaping financial and economic incentives. These incentives are directed towards encouraging and rewarding the provision of risk-free services and products, contributing to the financial

prosperity of these ethical businesses. The strategic application of these techniques is designed to bolster the organization's financial standing while ensuring adherence to prevailing institutional and governmental regulations.

The success and competitiveness of an organization are undeniably influenced by the strategic integration of sustainability strategies. This integration is not merely a corporate responsibility but a strategic approach that offers a dual advantage. It not only aligns the organization with regulatory frameworks and societal expectations but also fosters a competitive edge and resilience in the market.

Sustainable procurement practices not only contribute to environmental conservation and ethical standards but also offer significant economic advantages. By ensuring a focus on sustainable sourcing, production, and distribution, organizations can enhance efficiency, reduce waste, and achieve cost savings in the long term. This convergence of environmental and economic benefits contributes positively to the financial health and competitive positioning of these businesses.

Moreover, the alignment with sustainability strategies reflects a commitment to ethical and responsible business practices. It influences consumer perceptions, fostering trust and loyalty among environmentally conscious consumers. The resulting positive brand image and reputation further contribute to the long-term success and viability of the organization in a marketplace increasingly valuing sustainability.

There is some evidence that sustainable business practices and financial performance are related, but there is little information on how these practices affect an organization's overall performance (Islam et al, 2019; Karim, 2008). Despite the encouraging and significant recent growth in these fields of study, much work still needs to be done to fully understand the effects of organizational performance. For instance, the majority of current disciplinary research is

introductory in nature and is frequently criticized for making only a little theoretical contribution to the area (Lember et al., 2011; Seuring and Müller, 2008). These findings fall short of exploring the entire scope and multidimensionality of the consequences of sustainable procurement methods and their overall influence on organizational performance.



**2.4 Sustainable Procurement Practices in Public Institutions**

Sustainable procurement practices within public institutions have emerged as a critical focal point in contemporary literature due to their significant impact on environmental, social, and economic sustainability. Numerous studies highlight the pivotal role of public sector procurement in driving sustainable development. Research by (Roman, 2017) emphasizes that public institutions, as major consumers, possess substantial leverage to influence markets, shape demand, and steer supplier behaviour toward more sustainable products and practices. Moreover, (Sonnichesen & Clement, 2020) underscores the importance of sustainable procurement in achieving national sustainability goals, emphasizing the environmental benefits derived from green procurement strategies, such as reducing carbon emissions, conserving natural resources, and minimizing environmental impact. In addition, studies by Adjei – Bamfo et al, (2019) and Demnic et al (2018) stress the social implications of sustainable procurement within public institutions, suggesting that these practices can promote ethical labour standards, foster community development, and enhance societal well-being. Furthermore, (Ahsan & Rahman, 2017) highlights the economic advantages of sustainable procurement, pointing out potential cost savings through resource efficiency, reduced waste, and long-term financial benefits despite initial investment requirements.

The literature review also indicates that successful implementation of sustainable procurement practices in public institutions is contingent upon various factors. Studies suggests that

organizational commitment, leadership support, and staff engagement are pivotal for the effective integration of sustainable procurement. Furthermore, underscores the significance of legislative frameworks and policies in driving sustainable procurement initiatives, emphasizing the role of governmental regulations in shaping procurement practices within the public sector (Grandia & Meehan, 2017; Johnsen et al, 2017). Lazarou et al 2020) emphasizes the importance of supplier engagement and collaboration, asserting that building strong partnerships with suppliers is essential to achieve sustainable procurement objectives, fostering innovation and mutual commitment to sustainability. Moreover, the role of monitoring, evaluation, and reporting mechanisms, indicating that transparent and accountable monitoring processes are essential for tracking progress, identifying areas for improvement, and ensuring compliance with sustainability objectives (Chaiarini et al, 2017; Ahsan & Rahman, 2017)

In addition, recent studies have focused on the challenges and barriers encountered in implementing sustainable procurement practices in public institutions. (Islam et al, 2017) identifies common challenges such as budget constraints, lack of expertise, resistance to change, and difficulties in measuring and demonstrating the value of sustainable procurement. (Shen et a, 2017) further adds that inconsistent regulatory frameworks, supplier capacity, and limited market availability of sustainable products pose hindrances to the effective implementation of sustainable procurement practices.

Overall, the existing literature underscores the importance of sustainable procurement practices in public institutions as a catalyst for achieving environmental, social, and economic sustainability. Successful adoption requires a multifaceted approach, encompassing organizational commitment, legislative support, supplier engagement, robust monitoring, and addressing various challenges to effectively embed sustainability in procurement practices within public institutions.

## 2.4 Theoretical Background

### 2.4.1 Institutional Theory

The institutional theory offers a rich theoretical foundation for examining a variety of important issues and permits theorizing at multiple levels of analysis, which is crucial for management and business research. As a result, more management scholars are using institutional theory to study both public and private organizations (Dacin, Goodstein, & Scott, 2002). (Djelic & Quack, 2003).

Institutional Theory is applicable across various fields, including sociology, management, economics, and political science. It helps in understanding the forces that shape organizational behaviour, explaining how organizations respond to external pressures, adapt to their environments, and maintain legitimacy. This theory is particularly valuable in explaining organizational responses to environmental changes, regulatory influences, and societal expectations. It sheds light on how organizations seek legitimacy and navigate institutional pressures by conforming to or challenging established norms and practices, thereby influencing organizational change and evolution.

The influence of institutions on political and business players has been addressed in studies. This impact derives its logic from the institutionalist perspective, which looks at people as integral components of complex environments. Therefore, altering human behaviour is necessary to sharpen the behaviours of such an environment (Mettler & Soss, 2004; Oliver & Mossialos, 2005). For the objectives of sustainable procurement practices to be sustained, several actors and mechanisms must be given the right attention. Each of these parts needs to be firmly established in a supplier network to create a micro institution (Ebbinghaus, 2005).

Institutional innovation is needed to give adaptability in a time of organizational change to obtain a high achievement in the field of sustainable procurement. The network of a certain

supplier may be required by an organization to switch from providing traditional goods and services to more sustainable ones. It is essential to establish an adaptive and adaptable institutional framework that aims to give comfort to each stakeholder as they increase their competence and capacities. Additionally, it is crucial to confirm when suitable structures are present for any network's continuation (Yawar & Kauppi, 2018; Shibin et al, 2020).

Local government and other relevant institutions make an effort to change how these supply networks behave, particularly during public procurement, to assure compliance. According to a UK public sector survey, suppliers who offer eco-efficient products are given a lot of consideration during the purchasing process. Local suppliers in numerous industries have been encouraged to adopt the sourcing and application of clean technology in the production process as a result of the attention policymakers have given to green products.

The significance of cost as a determinant in establishing and maintaining sustainable green supplier networks and procurement strategies is widely acknowledged. While cost considerations play a crucial role, the impetus to foster and sustain eco-friendly ecosystems primarily stems from entities such as government organizations, as underscored by Wilson & Alves (2017) and Boffcher & Muller (2015). These entities, driven by their influence and scope, often play a pivotal role in advocating and pushing for green initiatives and practices within the procurement landscape.

Moreover, institutional theory sheds light on the critical role of actors committed to institutionalizing new behaviours that capitalize on existing consumer habits rather than disrupting them. This theory emphasizes the strategic approach of integrating sustainability initiatives into existing norms and consumer behaviours. By aligning eco-friendly practices with established consumer habits, organizations can more effectively introduce and encourage sustainable procurement behaviours without causing significant disruption.

The proactive approach advocated by the government and other key entities in steering green initiatives within procurement networks indicates a significant shift towards a sustainable ecosystem. The influential role played by these entities not only fosters a collaborative environment but also ensures a more structured and concerted effort in driving sustainability initiatives.

Furthermore, aligning sustainable practices with existing consumer habits, as suggested by institutional theory, signifies a more seamless integration of green initiatives. This approach minimizes resistance to change by leveraging pre-existing consumer behaviours, making the adoption of eco-friendly practices more appealing and viable in the eyes of consumers.

The combined emphasis on both the influence of key entities like the government in advocating green practices and the alignment of these practices with existing consumer habits underlines a strategic and harmonious approach to instilling sustainability within procurement networks. This coordinated effort ensures a smoother transition towards eco-friendly procurement practices while maintaining cost considerations and leveraging established consumer behaviours for a more effective and sustainable transformation.

### 2.4.2 **Natural Resource Dependency Theory**

According to the resource dependency theory, a company is an open system that is constantly exchanging materials and information with its surroundings, considering "any event in the world which has any effect on the actions or outcomes of the company" (Pfeffer & Salancik, 1978, p. 12). According to resource dependency theory, this interaction with the outside environment is necessary for an organization to survive to obtain the resources it needs (Pfeffer

& Salancik, 1978). However, according to Lopez-Gamero, Molina-Azorn, and Claver-Cortés (2011), the original resource dependency theory does not genuinely view the natural environment as a source of essential organizational resources. Tashman (2011) argued that the biophysical environment is also a part of the environment by extending the resource dependency theory to include natural resources. Additionally, the natural resource dependency theory refers to ecosystem embeddedness, which implies that organizational behaviour is a component of both social and natural systems (Tashman, 2011).

This study vividly portrays the emergence of uncertainty stemming from socio-ecological processes intertwined with human-induced impacts on ecosystem services. These intricate relationships create a dynamic backdrop for uncertainty, highlighting the complex interplay between human activities and the services rendered by ecosystems. Furthermore, the study examines how organizations, guided by their dominant institutional logic, craft a diverse array of responses to confront and navigate this inherent uncertainty.

Within this framework, organizations exhibit varied strategies in response to such uncertainties. Some organizations opt for measures focused on the safeguarding and rehabilitation of ecosystems that are instrumental in providing essential natural resources. These proactive steps involve protective and restorative actions, intending to preserve and enhance the integrity of the ecosystems and their services.

Conversely, other organizations, driven by different institutional logics, opt to further exploit these ecosystems to maximize resource yields. These strategies, while aiming for increased resource productivity, come with the inherent risk of depleting and degrading these ecosystems in the pursuit of higher yields.

As elucidated by Tashman (2021) and Chand-Tarei (2021), this dichotomy in organizational responses mirrors the wide spectrum of approaches adopted by different entities, each guided

by their distinct institutional frameworks and underlying motivations. The study underscores how these responses, rooted in organizational values and logics, shape the strategies undertaken to address uncertainties arising from socio-ecological impacts, offering a nuanced understanding of the dynamic relationship between human activities, ecosystem services, and organizational decision-making.



## 2.5 Conceptual Framework and Hypotheses

### 2.5.1 **Economic Sustainable Procurement Practices and Organizational Performance**

The recent decades' rapid social and economic development also prepared the way for the birth of sustainable development. The argument for sustainable development is based on the notion that traditional development approaches to production and consumption are ineffective in light of the growing environmental difficulties and crises. Green production and consumption were consequently introduced as a result of the sustainability concept. It also sparked the emergence of the responsible innovation sector. The goal of the sustainable procurement idea is to get businesses to think about how their economic actions will affect society and the environment (Paulraj, Chen & Blome, 2017; Kim & Kim, 2017).

The primary goals of the economic part of sustainable procurement practices are to increase corporate productivity, efficiency, and profit. Economic sustainability strategies essentially involve the optimization of a product or service's quality, price, and availability. Most often, economically sustainable approaches promote careful financial management to maximize value. For instance, it is crucial to guarantee that funds supplied are used by established frameworks and norms in public procurement, where government spending is used to deliver

larger government programmes (McCrudden, 2014; Cambra-Fierro & Ruiz-Benitez, 2011). Despite the importance of the many sustainability practice dimensions, in actuality, the economic sustainability practices end up outweighing the social and environmental dimensions.

Organizations' decisions regarding the creation and distribution of products are influenced by the financial incentives that sustainable practices provide. Offering sustainable services or goods has recently helped businesses access new prospects. And this made a significant contribution to the organization's performance. In light of this, the study postulates that businesses that follow strong economic sustainability strategies will perform better overall. One hypothesis is put forth;

*H1a: Economic Sustainable procurement practices have a positive impact on the market performance of public sector enterprises.*

*H1b: Economic Sustainable procurement practices have a positive impact on the environmental performance of public sector enterprises.*

*H1c: Economic Sustainable procurement practices have a positive impact on the financial performance of public sector enterprises.*

### 2.5.2 **Environmental Sustainable Procurement Practices and Organizational Performance**

In recent years, public-sector organizations have been urged to carry out operations like manufacturing and consumption in an environmentally sustainable way. This is done to stop the natural environment's population growth and rapid resource depletion. Most of the time, organizations' careless production and consuming practices have harmed the environment's

and its habitat's ability to survive (Brammer & Walker, 2010; Wisner, 2003). Organizations are urged to source and sustainably create goods and services to reduce harmful manufacturing and consumption habits. The future of maintaining an enterprise's competitive advantage is sustainability. To adopt new, enhanced production procedures based on clean technology, organizations must make large investments. In this chaotic time, organizations place a strong priority on resource utilization optimization for high productivity.

Meeting environmental goals improves a company's sustainability record. It improves the company's reputation even more. Having an ecologically friendly product gives businesses the advantage they need to outbid rivals. An organization's success is shaped by the overall benefits that come from providing environmentally friendly goods and services. It expands markets and draws in new, better incentives, which work as a foundation to boost organizational performance (Centobelli et al, 2017: 2018; Amann et al, 2014).

Respecting environmental specifications and requirements when developing, manufacturing, and commercializing products not only strengthens an organization's commitment to sustainability but also improves its overall performance. In light of this context, the study hypothesized that environmental sustainability measures might have a favourable impact on organizational success. 2 is developed based on the aforementioned hypotheses.

*H2a: Environmental Sustainable procurement practices have a positive impact on the market performance of public sector enterprises.*

*H2b: Environmental Sustainable procurement practices have a positive impact on the environmental performance of public sector enterprises.*

*H2c: Environmental Sustainable procurement practices have a positive impact on the financial performance of public sector enterprises.*

### 2.5.3 **Social Sustainable Procurement Practices and Organizational Performance**

Procurement officers' responsibilities and related operations are at the forefront of sustainability. The concept of sustainable procurement should be expanded to include the purchase of goods and services. Environmentally responsible purchasing offers businesses both financial and non-financial advantages (Carter et al, 2008; Pullman, Maloni & Carter, 2009). Because it is become harder to predict how sustainability policies will affect an organization's financial performance, organizations frequently ignore the social aspect of sustainability. Organizations are profit-driven enterprises, thus straying from the norm to provide socially conscious goods and services can often put a financial strain on institutions, leading to high expenses and operating costs (Luthra et al, 2004; Awaysheh & Klassen, 2010).

Except for a few studies, there is a dearth of literature examining the relationship between social sustainable procurement practices and businesses' non-financial outcomes (Murakami & Kimbara, 2015; Islam, Mural & Karim, 2017). An organization performs better if it adopts and implements environmental standards together with boosting staff training and interpersonal contact, according to a study by Delmas & Pekovic (2013). Further evidence for this claim comes from Sammalisto & Brown's studies (2012). In the end, the performance of public entities would be impacted by the implementation of socially responsible procurement procedures. In light of this context, this third hypothesis was developed. Based on the idea presented above, hypothesis 3 is proposed.

*H3a: Social Sustainable procurement practices have a positive impact on the market performance of public sector enterprises.*

*H3b: Social Sustainable procurement practices have a positive impact on the environmental performance of public sector enterprises.*

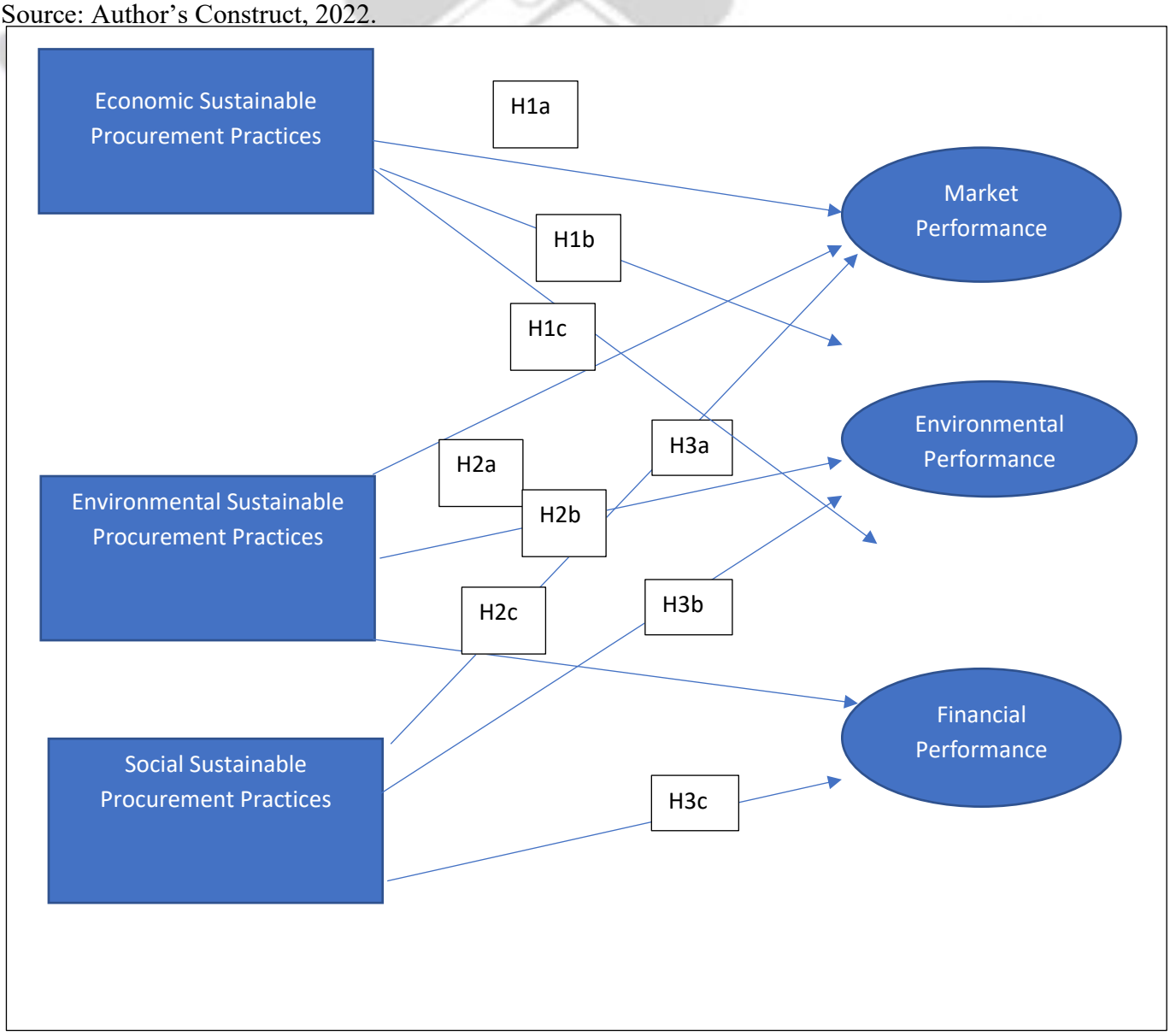
*H3c: Social Sustainable procurement practices have a positive impact on the financial performance of public sector enterprises.*



**Conceptual Model**

Figure 1: **Conceptual Model**

Source: Author's Construct, 2022.



# CHAPTER THREE

## Research Methodology

### 3.0 Introduction

The research approach used to achieve the study's goals is highlighted in Chapter 3 of the study. It employs a quantitative research methodology. In addition to talking about the study's research design, emphasis is placed on the sampling method and data collection process. Data is gathered in Ghana from people working in the procurement industry and other sources. The collected data is put to use in testing the study's hypotheses. The composite reliability and discriminant validity approaches are used to analyse the validity and reliability of data. Partial least square structural equation modelling (SEM-PLS) approaches are used to test the structural model.

### 3.1 Research Design

An organized framework for conducting data collecting and subsequent data analysis is provided by the research design. The data gathering method has a consequence on the veracity of the data analysis. The descriptive research design is used to test the proposed hypotheses

since it offers a logical way to look at the research questions and objectives. It enables the systematic collecting of data from a range of people in the intended population (Creswell, 1996; Yin, 2009). By using a descriptive research design, variables are examined without extensive manipulation. Additionally, social science research has a strong record of using this form of quantitative analysis (Forza, 2002; Anderson, Hakanson & Johanson, 1994).



**Research Approach**

### 3.2 Study Population

The events, cases, or people that a given study wishes to look into are grouped as the population. Depending on the particular study, the study's population may be small or equal to the size of the entire society (Yin, 2000). Study results are positively impacted by choosing the appropriate demographic, and vice versa. Employees at institutions in the public sector are regarded as the population for this study. But because of its size, using the entire population in single research has several serious drawbacks.

The focus of this study is deliberately directed towards a specific group of professionals within the Ghanaian public sector. Specifically, the research narrows its concentration to encompass procurement professionals, supply chain practitioners, and sustainability practitioners. This strategic selection of targeted professionals aims to address the challenge posed by the vast and diverse array of individuals potentially involved in these sectors within the public domain.

By homing in on these particular groups of professionals, the study navigates the complex landscape of the public sector in Ghana. It acknowledges the intricate nature of the sector, which comprises a wide spectrum of roles and responsibilities. With a strategic focus on procurement, supply chain, and sustainability practitioners, the research aims to capture insights and perspectives from key individuals directly involved in decision-making, policy

implementation, and operational facets related to procurement practices and sustainability initiatives within public institutions.

This specific focus allows the study to delve deeply into the experiences, challenges, and perspectives of professionals whose roles are directly entwined with the procurement and sustainability aspects of the public sector in Ghana. By engaging with these specialized professionals, the research seeks to obtain nuanced and targeted insights, avoiding the potential complications arising from a vast and diverse pool of respondents. This deliberate concentration enhances the depth and specificity of the data collected, ensuring a more focused, detailed, and contextually relevant analysis of the procurement and sustainability landscape within the Ghanaian public sector.

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### 3.3 Sample

A sample, in research terms, constitutes a representative subset of a larger population under study. It is a fundamental approach used to draw inferences about the entire population based on a smaller, more manageable subset. The selection and constitution of this sample are paramount as they largely determine the accuracy and relevance of findings derived from the study.

The process of sample selection involves careful consideration and deliberate choices regarding which events, cases, or elements to include or exclude from the data collection process. This meticulous selection is essential in order to capture a cross-section of the population that accurately reflects its characteristics, behaviours, and dynamics. The aim is to ensure that the sample is not only representative but also that it encapsulates the diversity and

key attributes of the broader population, enabling the researchers to draw meaningful and insightful conclusions.

The identification and selection of the sample are critical phases in the research process, as emphasized by Kadam & Bhalerao in 2010 and Saunders et al. in 2007. It is during this phase that the framework for the entire study is established. The choices made here significantly impact the quality, reliability, and validity of the study's findings, underscoring the importance of a well-thought-out and methodically constructed sample. A well-chosen and appropriately representative sample strengthens the study's ability to draw accurate inferences and derive insights that are pertinent and applicable to the targeted population, enhancing the overall credibility and significance of the research outcomes.

### 3.4 Sampling Technique

In the realm of social science analysis, researchers commonly employ two types of sampling techniques: probability and non-probability (Babbie 2012; Bryman 2012). The selection of an appropriate sampling technique hinges on its potential to generate reliable results without necessitating data collection from the entire population, considering factors such as financial expenses and the duration spent on gathering and analysing test results (Denscombe 2010). Probability sampling procedures are specifically designed to ensure that the sampled elements are representative of the overall population, facilitating the generalization of results to the broader context (Hair et al., 2007). However, due to the random nature of this approach, researchers have limited control over which items are included or excluded from the sample (Celsi et al. 2011; Hair et al., 2007).

On the other hand, non-probability sampling serves as an alternative to probability sampling, often chosen for various reasons. According to Bryman (2012), factors such as time and budget constraints in comparison to available resources, difficulties in obtaining chance samples, and unique opportunities to study specific samples within a population are prominent considerations favouring the use of non-probability sampling methods.

The study's target respondents consist of individuals working in the procurement and sustainability landscape of public institutions. Using formula proposed by Zikmund et al, (2012) the sample of the study is calculated.

Sampling calculation formula;

$$n' = \frac{NZ^2P(1-p)}{d^2(N-1) + Z^2P(1-P)}$$

Where;

N' = represent the sample size to be determined

N= represents the population

Z= denotes the statistical value of confidence level, 95% confidence level, thus Z = 1.96

D= denotes the margin of error of 95% confidence level

P=denotes estimated population proportion (0.5)

Based on above, and following calculations, n' is the modified sample size, n is the original sample size and N is the target population size. Consequently: Substituting the values in the formula the sample size computed as follows:

$$n' = \frac{480(1.96)^2 0.5(1-0.5)}{0.05^2(1738-1) + (1.96)^2 0.5(1-0.5)}$$

N’ = 214

Therefore: n’ = 214



### 3.5 Types and Sources of Data

Primary and secondary data are the two types of research data. Primary data is defined as information gathered from key informants, typically through field surveys and experiments. Secondary data primarily consists of stored data found in third-party organizations/institutions (Yin, 2000). The data source used is typically determined by the research question and objective to be investigated. Furthermore, if the study is to reach any meaningful conclusions, the relevant data source should be identified and used.

This study relies primarily on the utilization of first-hand, primary data as the main source of information and crucial data. The collection of this primary data is accomplished through comprehensive field surveys conducted among individuals directly involved in the subject matter under investigation.

The field surveys serve as a vital means of gathering authentic and real-time information directly from the source. By engaging with individuals involved in the specific domain or context of the study, the surveys capture first-hand insights, experiences, and perspectives that are pertinent to the research objectives. These surveys are meticulously designed to obtain a detailed and comprehensive understanding of the subject matter, ensuring the accuracy and richness of the collected data.

The approach of utilizing primary data collection methods, such as field surveys, is instrumental in capturing a diverse array of opinions, knowledge, and experiences directly from the individuals involved in the procurement landscape of public institutions in Ghana. This

method ensures that the information gathered is contextually relevant, current, and reflective of the actual practices, challenges, and perspectives within the field.

By leveraging primary data collected through field surveys, the study is positioned to offer a comprehensive and in-depth analysis based on first-hand information, providing a solid foundation for drawing accurate conclusions and generating meaningful insights relevant to the procurement practices within public institutions in Ghana.



### 3.6 Data Collection Method

Questionnaires were used as the data collection instrument to collect the necessary data. On a 5-point Likert scale, the questionnaire will assess measurement scales. A questionnaire is reliable for gathering data and information (Kartono & Rao, 2005). The questionnaire assesses five latent variables: three independent variables, a moderating variable, and public-sector organizational performance as dependent variables. However, to improve the questionnaire's accuracy and reliability, the language should be concise and precise.

The data collection process in this study specifically targeted individuals operating within the procurement landscape of public institutions in Ghana, as detailed in earlier sections of the research. This phase of data collection spanned a month, during which a total of 214 questionnaires were disbursed to individuals across various public institutions involved in procurement activities.

This extensive outreach aimed to gather insights and perspectives from a diverse range of professionals working within the procurement domain. The questionnaires, meticulously designed to extract comprehensive information, were disseminated among practitioners,

managers, and professionals actively engaged in procurement processes within different public institutions across Ghana.

The robust effort yielded a notable response, with a 62% rate of participation. Out of the 214 questionnaires distributed, a total of 133 respondents actively contributed their insights and experiences to the study. This substantial response rate underscored the willingness and engagement of professionals within Ghana's procurement landscape to actively participate and share their perspectives, thereby enriching the depth and breadth of the study's dataset.

The responses gathered from these 133 participants reflect a diverse array of experiences, expertise, and perspectives within Ghana's public procurement domain. The comprehensive and varied insights derived from these respondents are instrumental in providing a holistic understanding of the procurement landscape in the public sector, contributing to the robustness and credibility of the research findings and conclusions.

### 3.7 Data Analysis

Data analyses will be performed in this study using a variety of empirical techniques. The initial construct validity and reliability tests will be carried out using composite reliability techniques and average variance extracted, respectively. The outcome of these tests will be evaluated using a benchmark index for composite reliability and validity (Kelley & Pornprasertmanit, 2016; Henseler et al, 2015). The additional empirical analysis will be carried out only if the acquired data meets the accepted reliability and validity outcomes.

To investigate the characteristics of the data collected, descriptive statistics will be used. The mean, median, mode, standard deviation, and kurtosis are examples of these characteristics.

This section contains information about the sample size. In addition, the respondent profile is described.

The next step is to use a factor analysis approach to perform a data dimension reduction analysis. Using this technique, the study can measure the relationship between measurement and the latent variable under investigation. Hair et al. describe the factor analyses that were performed (2014). The study's structural model is examined using the partial least square structural model (SEM - PLS). SEM-PLS is a multivariate data analysis statistical methodology. The SEM-PLS method is widely accepted in the social science community as a standard tool for measuring latent variable casual relationships (Mackinnon & Fairchild, 2009). The t-statistics test will be used to test hypotheses. The smartPLS statistical software version 13 will be used for data analysis.

### 3.8 Validity and Reliability

Ensuring the reliability and validity of data acquired from a field survey is a crucial step in deriving substantive and trustworthy insights. To establish the credibility and dependability of the collected data, the study employed rigorous methodologies such as the Cronbach's alpha and composite reliability techniques. These statistical tools serve as pivotal indicators to evaluate the reliability of the obtained data.

The Cronbach's alpha and composite reliability techniques play a significant role in assessing the internal consistency of the measurement items within the data set. By subjecting the data to these methodologies, researchers aim to verify the extent to which the items employed in the survey consistently measure the same underlying construct. This assessment provides critical insights into the reliability and stability of the measurement tools used in the study, ensuring that they yield consistent and dependable results.

Moreover, these methods not only validate the reliability but also serve as diagnostic tools, assisting in identifying potential issues such as multicollinearity, a condition where two or more variables in a multiple regression model are highly correlated. Detecting multicollinearity is crucial as it can distort statistical analyses and compromise the accuracy of results. Conversely, these tests also help in discerning the absence of multicollinearity, thus affirming the robustness of the model.

In addition to these assessments, these tests contribute to evaluating the goodness of fit of the measurement model. This evaluation is vital in gauging how well the model aligns with the collected data, indicating the model's suitability and accuracy in representing the underlying constructs. As advocated by Hair et al. in 2014, these statistical methods serve as foundational tools in ensuring the reliability, validity, and overall robustness of the measurement model, thereby bolstering the accuracy and credibility of the study's conclusions and findings.

In the pursuit of assessing the validity of measurement items, the study employs the Average Variance Extracted (AVE) test, a pivotal tool in evaluating the reliability of latent variables. This evaluation method, as outlined by Fornell and Larcker in 1981 and reiterated by Henseler et al. in 2014, involves an examination of the AVE value. The AVE value serves as a benchmark, indicating the extent to which the latent variable's measures reflect their underlying construct accurately.

To ensure the validity of the measurement items, the AVE value is required to exceed the highest squared correlation with any other latent variable within the model. This criterion, established by Fornell and Larcker, acts as a stringent threshold, validating the strength of the relationship between the latent variable and its corresponding measures. This comparison serves as a means to verify that the latent variable is adequately explained by its respective measurement items, reinforcing the confidence in the validity of the construct.

Furthermore, alongside the AVE test, the study conducts a discriminant validity test. This complementary assessment fortifies and complements the insights derived from the AVE evaluation. The discriminant validity test examines whether the measures intended to represent different constructs truly diverge from one another. It scrutinizes whether each latent variable is distinct and unique, ensuring that the variables under study are not measuring the same underlying concept.

This combined evaluation of AVE and discriminant validity, endorsed by established methodologies and echoed in contemporary research, constitutes a robust approach in validating the measurement model's constructs. These meticulous assessments not only ensure the reliability and validity of the measurement items but also fortify the study's foundation, providing confidence in the distinctiveness and accuracy of the latent variables and their respective measures within the research framework.

## 3.9 **Ethical Consideration**

Adhering to stringent research ethics, this study prioritized the mitigation of plagiarism concerns by thoroughly recognizing and crediting scholars for their invaluable contributions to the field of management and sustainability. This approach entailed a comprehensive acknowledgment of prior scholarly works, serving as the foundation upon which the current study was built. By conscientiously citing and attributing sources, the research aims to honour the originality and intellectual integrity of these academic foundations.

Moreover, in compliance with ethical guidelines, particular attention was given to ensuring the informed consent of all survey participants before the commencement of the field survey. Participants were provided with explicit details about the study's objectives, procedures, and potential implications, allowing them to provide their consent willingly and knowingly. Emphasis was placed on the complete anonymization of sensitive personal data, assuring participants that their identities, such as names and other personal information, would remain confidential to protect their privacy throughout the study.

The collected data underwent rigorous scrutiny to uphold quality standards and eliminate potential biases. Rigorous checks and validation procedures were applied to ensure the data's accuracy, reliability, and credibility, fostering a research framework built on robust and dependable information. By scrutinizing the data meticulously, the research sought to ensure that the collected information aligned with the study's objectives and was free from biases, inaccuracies, or inconsistencies that could compromise the study's integrity.

Additionally, the confidentiality and anonymity of the respondents were safeguarded throughout the research process. Measures were implemented to secure the privacy of participants, ensuring that their personal information remains undisclosed and that their contributions to the study remain unidentifiable. By prioritizing and upholding these ethical standards, the research aimed to create a secure and trustworthy environment, promoting integrity, respect, and protection for the participants involved in the study.

# CHAPTER FOUR

## Data Analysis and Findings

### Introduction

### 4.1 Profile of Respondents

Table 4.1 delineates an overview of the respondents who participated in the study. These individuals were chosen from a wide array of public institutions, as previously described in an earlier section of the research. The table provides a comprehensive insight into the demographic characteristics of the participants, encompassing various factors such as educational background, professional experience, gender, and age.

An in-depth analysis of the data revealed a notable trend among the respondents, particularly in their level of experience. The majority of the participants possess a substantial amount of professional experience, signalling a wealth of knowledge accrued through their respective careers. On average, each respondent boasts an academic degree coupled with approximately five years of practical work experience, consolidating their expertise and making their individual insights a valuable contribution to the overall outcome of this study.

The robust educational backgrounds, coupled with significant real-world experience, position these respondents as insightful and knowledgeable contributors to the research. Their varied experiences and educational achievements signify a diverse pool of expertise, laying a strong foundation for comprehensive and credible insights that can significantly impact and enrich the conclusions drawn from this study.

Table 4.1 Profile of Respondents

| | Frequency |
|---|---|
| Gender | |
| Male | 76 |
| Female | 34 |
| Respondents Age (in years) | |
| 18 – 25 | - |

| | |
|---|---|
| 26 – 30 | 2 |
| 31 – 35 | 32 |
| 36 - 40 | 42 |
| 41 – 45 | 18 |
| 46 - 50 | 13 |
| > 50 | 3 |

Educational Background

| | |
|---|---|
| Doctorate Degree | 3 |
| Master's Degree | 73 |
| Bachelor's Degree | 34 |
| High School Diploma | - |

Job Position

| | |
|---|---|
| Senior Management (e.g., Director of procurement /sustainability/Operations) | 14 |
| Middle-Level Management (e.g., head of sustainability/production department) | 84 |
| Procurement/Supply Officer | 12 |

Work Experience of respondents (in years)

| | |
|---|---|
| < 5 | 8 |
| 6 – 10 | 48 |

| | |
|---|---|
| 11 – 15 | 21 |
| 16 – 20 | 14 |
| > 20 | 19 |



### 4.2 Descriptive Statistics

Table 4.2 shows the data distribution and characteristics, including mean, standard deviation, kurtosis, and skewness. The table shows that, on average, respondents agreed with the statement on the questionnaire. Furthermore, looking at the mean and skewness of the data indicates that there were no outliers, hence no data transformation was required. The results suggest that the data is regularly distributed

Table 4.2: **Data Distribution and Characteristics**

| **Variables** | **Mean** | **Median** | **Observed Min** | **Observed Max** | **Standard Deviation** | **Excess kurtosis** | **Skewness** |
|---|---|---|---|---|---|---|---|
| **Economic SPP** | | | | | | | |
| EcSPP1 | 5.265 | 6 | 1 | 7 | 1.242 | 2.066 | -1.43 |
| EcSPP2 | 5.49 | 6 | 1 | 8 | 1.231 | 4.278 | -1.71 |
| EcSPP3 | 5.316 | 6 | 2 | 7 | 1.345 | -0.466 | -0.93 |
| EcSPP4 | 5.51 | 6 | 2 | 7 | 1.154 | 2.237 | -1.462 |
| EcSPP5 | 5.684 | 6 | 3 | 7 | 0.899 | 0.577 | -0.781 |
| **Environmental SPP** | | | | | | | |
| EnSPP1 | 5.684 | 6 | 3 | 7 | 0.899 | 1.19 | -1.038 |
| EnSPP2 | 5.796 | 6 | 3 | 7 | 0.832 | 1.839 | -1.106 |
| EnSPP3 | 5.837 | 6 | 2 | 7 | 0.853 | 4.288 | -1.477 |
| EnSPP4 | 5.592 | 6 | 1 | 7 | 1.219 | 4.433 | -1.812 |
| EnSPP5 | 5.765 | 6 | 3 | 7 | 0.89 | 0.351 | -0.751 |
| **Social SPP** | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SoSPP1 | 5.704 | 6 | 3 | 7 | 0.906 | 0.582 | -0.796 |
| SoSPP2 | 5.714 | 6 | 2 | 7 | 1 | 3.265 | -1.572 |
| SoSPP3 | 5.551 | 6 | 1 | 7 | 1.472 | 4.05 | -2.013 |
| SoSPP4 | 5.704 | 6 | 1 | 7 | 1.171 | 6.068 | -2.11 |
| **Market Performance** | | | | | | | |
| MP1 | 5.194 | 5 | 1 | 7 | 1.53 | 0.419 | -0.768 |
| MP2 | 5.214 | 5 | 1 | 7 | 1.365 | 0.422 | -0.641 |
| MP3 | 5.255 | 5 | 1 | 7 | 1.395 | 1.208 | -0.858 |
| MP4 | 5.378 | 5 | 2 | 7 | 1.182 | -0.682 | -0.097 |
| **Environmental Performance** | | | | | | | |
| EP1 | 5.418 | 5 | 2 | 7 | 1.203 | -0.563 | -0.323 |
| EP2 | 5.633 | 6 | 2 | 7 | 1.063 | 2.884 | -1.441 |
| EP3 | 5.816 | 6 | 1 | 7 | 1.063 | 5.077 | -1.799 |
| EP4 | 5.837 | 6 | 2 | 7 | 1.027 | 3.266 | -1.501 |
| EP5 | 5.847 | 6 | 2 | 7 | 0.951 | 1.792 | -1.058 |
| **Financial Performance** | | | | | | | |
| FP1 | 5.837 | 6 | 2 | 7 | 1.057 | 1.957 | -1.301 |
| FP2 | 5.745 | 6 | 1 | 7 | 1.181 | 5.075 | -2.02 |
| FP3 | 5.929 | 6 | 1 | 7 | 0.982 | 6.016 | -1.825 |
| FP4 | 5.908 | 6 | 2 | 7 | 0.927 | 4.934 | -1.611 |
| FP5 | 5.929 | 6 | 2 | 7 | 0.918 | 3.473 | -1.466 |

### 4.3 Structural Model Assessment

In order to ascertain the trustworthiness and accuracy of the data collected through the field survey, an initial evaluation of reliability and validity is conducted. This preliminary test aims to confirm the credibility and consistency of the data acquired. Specifically, two key metrics, namely the average extracted variance and Cronbach's alpha value, are utilized as benchmarks to gauge the reliability and validity of the gathered data.

The analysis of the study's results showcases that each of the investigated constructs exhibits a robust Cronbach's alpha value, indicating a high level of internal consistency within the data. This suggests a strong alignment and reliability among the data points within each construct, reinforcing the confidence in the data's accuracy and coherence. The substantial alpha values

affirm the stability and consistency of the data, emphasizing the reliability of the measurements taken within the surveyed constructs.

This approach, as delineated by Hair et al. in 2014, focuses on evaluating the quality and precision of the data by probing into the internal consistency of the constructs under scrutiny. By employing this method, the research ensures the dependability and validity of the gathered information, enhancing the overall credibility and integrity of the study's findings. This meticulous analysis underscores the foundational importance of reliable and valid data, setting a strong groundwork for drawing accurate conclusions and insights from the research study.

A dimension reduction approach is carried out before the analysis of the study's structural model. Exploratory factor analysis approaches are used to reduce the amount of data. To verify the structural model's robustness and dependability, the Kaiser – Meyer – Olkin (KMO) measure of adequacy and Bartlett's test of sphericity are used. The model passed the Bartlett test of sphericity (Approx: Chi-square 798.123, df, 242, sig,.000) and had a KMO value of 0.646, according to the empirical study. The results of the initial structural test constitute the foundation for exploratory factor analysis. The main component technique is used to extract the required variables/indicators during exploratory factor analysis. In conclusion, as stated by Hair et al (2019), the majority of the indicators exhibited acceptable levels of factor loadings.

The outcome of the factor analysis indicates some variables do not meet the required threshold of 0.7, therefore these variables were excluded from the model prior to further analysis. These variables included EP1, EP2, EP3, EcSPP1, EcSPP2, EnSPP4, EnSPP5, FP5, FP2, MP1 and SoSPP1 – all have factor loading score below 0.7. Further analysis is performed to examine the causal relationship between dimensions of sustainable procurement practices and organizational performance (i.e. environmental performance, market performance and financial performance) of public organizations in Ghana.

In addition, the outcome of the reliability and validity test is presented in table 4.4. The reliability matrix used to assess the data suggest data is reliable – outcome of Cronbach alpha and composite reliability test indicates the data is reliable. Average variance extracted to examine the convergent validity of data. The outcome indicate variables are valid for further analysis.



**4.4 Factor Loading**

| **Factor Loading** | **Values** | **Reliability (Alpha)** | **Composite Reliability** | **AVE** |
|---|---|---|---|---|
| | | | | |
| EP3 <- Environmental Performance | 0.886 | | | |
| EP4 <- Environmental Performance | 0.907 | | | |
| EcSPP3 <- Economic SPP | 0.812 | 0.783 | 0.808 | 0.782 |
| EcSPP4 <- Economic SPP | 0.833 | | | |
| EcSPP5 <- Economic SPP | 0.809 | | | |
| EnSPP1 <- Environmental SPP | 0.788 | | | |
| EnSPP2 <- Environmental SPP | 0.942 | | 0.775 | 0.789 |
| EnSPP3 <- Environmental SPP | 0.857 | 0.713 | | |
| FP1 <- Financial Performance | 0.793 | | | 0.893 |
| FP3 <- Financial Performance | 0.875 | | 0.801 | |

| | | | | |
|---|---|---|---|---|
| FP4 <- Financial Performance | 0.834 | 0.812 | | |
| MP2 <- Market Performance | 0.797 | | 0.745 | 0.687 |
| MP3 <- Market Performance | 0.911 | 0.793 | | |
| SoSPP2 <- Social SPP | 0.774 | | | |
| SoSPP3 <- Social SPP | 0.783 | 0.689 | | 0.838 |
| SoSPP4 <- Social SPP | 0.845 | | 0.718 | |

In the HTMT ratio approach: A lower HTMT ratio (closer to 0) suggests stronger discriminant validity, indicating that the constructs are more distinct from each other. Values around or below 0.85 are often considered indicative of good discriminant validity, as they suggest that the constructs have more shared variance within themselves than with other constructs. These outcomes in Table 4.5 affirm the discriminant validity of the study's constructs. The presented HTMT ratios fall within the acceptable range, reinforcing the idea that the measured constructs are sufficiently different from each other in the context of the study.

**Table 4.5: Discriminant Validity – Heterotrait – Monotrait Ratio**

| | **1** | **2** | **3** | **4** | **5** | **6** |
|---|---|---|---|---|---|---|
| **1.** Economic SPP | | | | | | |
| **2.** Environmental Performance | **0.718** | | | | | |
| **3.** Environmental SPP | **0.698** | **0.763** | | | | |
| **4.** Financial Performance | **0.687** | **0.761** | **0.783** | | | |
| **5.** Market Performance | **0.760** | **0.645** | **0.791** | **0.618** | | |
| **6.** Social SPP | **0.841** | **0.538** | **0.785** | **0.808** | **0.754** | |

### 4.6 Correlations Analysis

The relationship between environmental, social and economic sustainable procurement practices and organizational performance dimensions are examined using a correlation test. It is necessary to establish the link between latent variables and business performance. Despite the fact that correlation does not imply causation, it does offer some useful insight into how different variables interact. Additionally, the correlation result enables the researcher to assess the presence or absence of multicollinearity.

The outcome of the correlation test indicates a positive association between sustainable procurement practice and organizational performance. Furthermore, all of the study's independent variables exhibit some sort of link with company performance (i.e. environmental performance, market performance and financial performance). Table 4 presents the outcome of the correlation test.

Table 4.6: **Outcome of Correlation Test**

| | **1** | **2** | **3** | **4** | **5** | **6** |
|---|---|---|---|---|---|---|
| **1.** Economic SPP | 1 | | | | | |
| **2.** Environmental Performance | 0.524 | 1 | | | | |
| **3.** Environmental SPP | 0.673 | 0.389 | 1 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **4.** Financial Performance | 0.558 | 0.709 | 0.567 | 1 | | |
| **5.** Market Performance | 0.382 | 0.516 | 0.576 | 0.541 | 1 | |
| 6. Social SPP | 0.434 | 0.282 | 0.534 | 0.482 | 0.324 | 1 |



### 4.7 Structural Model Evaluation

The study examines the relationship between organizational performance and sustainable procurement practices in Ghana's public sector. When evaluating an institution's long-term viability, a variety of factors are taken into consideration, including environmental, economic, and social sustainable procurement practices. The structural model of the study is evaluated using partial least square structural equation modelling. The performance of public sector institutions is examined using the path analysis to determine how latent variables like economic, social, and environmental sustainable procurement practices impact institutions. The path modelling or analysis is conducted in accordance with the techniques proposed by Hair et al (2019) and used in several management studies.

The outcome of the partial least square structural equation modelling indicates environmental sustainable procurement practices have a positive impact on the environmental and financial performance of public institutions. Inasmuch as public agencies are not profit-driven ventures, the implementation of sustainable measures results in a decrease in cost and financial waste contributing to a positive balance sheet for the institution. In addition, the environmental impact of institutional activities is minimized.

Furthermore, the study reveals that economic, social and environmental sustainable procurement practices have a positive impact on several dimensions of organizational performance. The dimensions of sustainable procurement practices have a positive impact on the financial, market and environmental performance of public institutions in Ghana. Summarily, economic, social and environmental sustainable procurement practices have $R^2$ value of 0.332, 0.411 and 0.279 on market performance, financial performance and market performance respectively.

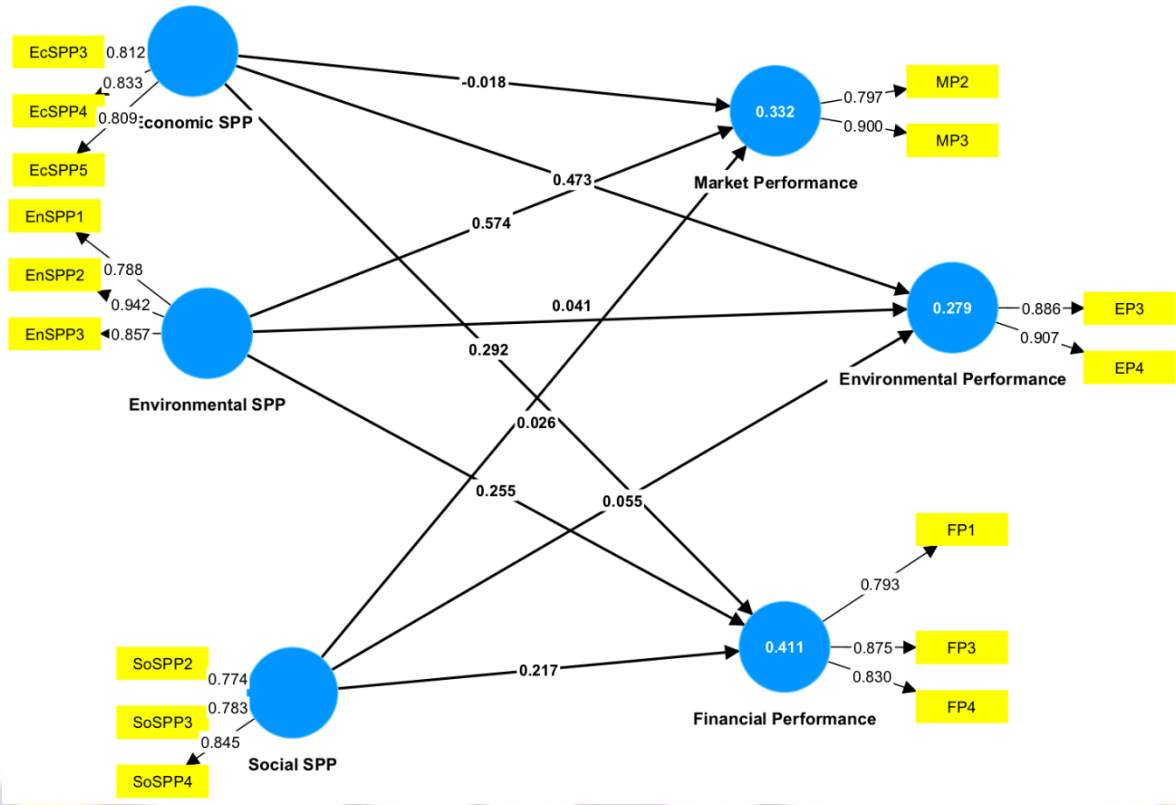


Figure 2: **Structural Model Evaluation**

Additionally, to investigate the hypotheses stated for the study – the t-statistics test is conducted. A Benchmark index of 1.96 or greater is used to accept or reject specific hypotheses. The outcome of the test indicates the result provides evidence to support three (3) out of the nine (9) stated hypotheses. The summary of the hypotheses test is presented in table 6.

## 4.8 Hypotheses Testing

Table 4.8: Hypotheses Testing

| Hypotheses | Standard Deviation | T Statistics | P Values |
|---|---|---|---|
| Economic SPP --> Environmental Performance | 0.137 | 3.45 | 0.001 |
| Economic SPP --> Financial Performance | 0.132 | 2.216 | 0.027 |
| Economic SPP --> Market Performance | 0.147 | 0.123 | 0.902 |
| Environmental SPP --> Environmental Performance | 0.145 | 0.283 | 0.777 |
| Environmental SPP --> Financial Performance | 0.137 | 1.859 | 0.063 |
| Environmental SPP --> Market Performance | 0.129 | 4.463 | 0.000 |
| Social SPP --> Environmental Performance | 0.134 | 0.411 | 0.681 |
| Social SPP --> Financial Performance | 0.122 | 1.775 | 0.079 |
| Social SPP --> Market Performance | 0.112 | 0.228 | 0.819 |

## 4.8 Discussion of Findings

The core tenet of the study is to investigate the impact of sustainable procurement practices on performance of public sector institutions and agencies in Ghana. Institutional performance is measured in three dimensions, thus, market performance, financial performance and environmental performance. The study utilized survey approach to collect data from key

informant within the public sector landscape in Ghana. Data acquired was analysed using partial least square structural equation modelling (PLS – SEM) approach.

The findings of the study support three (3) of the stated hypotheses. Inasmuch as empirical findings did not support proposed hypotheses, it makes some interesting revelations about how the dimensions of sustainable procurement practices affect the market, environmental and financial performance of public sector enterprises. Findings reveals economic sustainable procurement practices have a positive impact on the financial and environmental performance of public institutions. Economic sustainable procurement practices, which prioritize the selection of goods and services that balance financial, social, and environmental considerations, have a positive impact on the environmental and financial performance of public institutions in Ghana.

Studies have shown that adopting environmentally responsible procurement strategies can reduce greenhouse gas emissions, waste, and resource use, ultimately leading to improved environmental performance. For example, a study by Azapagic et al. (2004) found that procurement of energy-efficient equipment can significantly reduce energy use and greenhouse gas emissions in organizations. Similarly, procurement of environmentally friendly cleaning products and products with minimal packaging, as suggested by Chen and Chiu (2010), can also contribute to reducing waste and resource use.

Additionally, economic sustainable procurement practices can also have a positive financial impact. By incorporating life cycle cost analysis and considering the total cost of ownership, public institutions can make informed purchasing decisions that reduce costs over the long term (Kourkouta and Theotokas, 2013). Moreover, implementing sustainable procurement practices can also enhance the reputation of public institutions and attract stakeholders who prioritize environmental and social responsibility (Chen and Chiu, 2010). This can result in increased

stakeholder trust and support, as well as improved partnerships and collaborations with suppliers and other organizations.

The study reveals a substantial positive impact of economic sustainable procurement practices on both the environmental and financial performance of public institutions in Ghana. The implementation of sustainable procurement practices not only leads to a reduction in waste and resource consumption but also contributes to an enhancement in financial performance. Furthermore, these practices play a crucial role in improving the overall reputation of public institutions. The findings underscore the significant benefits that sustainable procurement practices can bring to public institutions, emphasizing their potential to contribute to a more sustainable future for Ghana.

Environmental sustainable procurement practices, which focus on minimizing the environmental impact of goods and services procured by public institutions, have a positive impact on environmental, market, and financial performance in Ghana. Environmental sustainable procurement practices had the most significant association with market, environmental and financial performance of public institutions in Ghana. By reducing their environmental impact, public institutions can help to mitigate climate change and conserve natural resources. The outcome is consistent with studies that argue the positive impact of environmental sustainability practices on institutional/firm market, financial and environmental performance.

Environmental sustainable procurement practices can enhance the reputation and competitiveness of public institutions, as they demonstrate a commitment to environmental responsibility. For example, a study by Gifford & Aurambout, (2013) found that companies with strong environmental practices have higher brand recognition and are more likely to be selected by consumers. Implementing environmental sustainable procurement practices can

result in cost savings for public institutions through reduced waste, improved energy efficiency, and lower resource consumption (McKinsey & Company, 2007). A study by Lozano & Sáenz, (2014) found that companies that adopt sustainable procurement practices have lower operating costs and higher profits compared to those that do not. Environmental sustainable procurement practices can help to reduce greenhouse gas emissions, conserve natural resources, and reduce waste and pollution. This finding is consistent with a study performed by Eccles & Serafeim, (2013) found that companies that adopt sustainable procurement practices have lower carbon emissions compared to their counterpart.

The adoption of social sustainable procurement practices, encompassing fair labour standards and supplier diversity initiatives, stands as a crucial mechanism for bolstering the reputation and competitive edge of public institutions. These practices serve as a testament to the institution's dedication to social responsibility, as affirmed by research conducted by Karnani & Sailer (2007). By actively engaging in fair labour practices and endorsing supplier diversity, public institutions establish a stronger bond with their stakeholders, promoting a positive image that accentuates their commitment to ethical and socially conscious practices.

Empirical evidence, such as the study conducted by Carroll & Shabana in 2010, underscores the remarkable impact of socially responsible practices on brand recognition and consumer loyalty. Their research revealed that companies that actively participate in socially responsible initiatives tend to enjoy higher levels of brand recognition and enhanced customer loyalty compared to those that do not prioritize such practices. This substantiates the potent influence of socially sustainable procurement on fortifying an institution's image and market position.

These findings resonate harmoniously with the wealth of prior literature examining the correlation between social procurement practices and firm performance. Consistently, scholarly works have reinforced the positive influence of socially sustainable procurement

practices on the overall performance of organizations. This synergy underscores the powerful relationship between a commitment to fair labour standards, supplier diversity, and the resultant enhancement in an institution's reputation, market competitiveness, and overall success.

By aligning with these socially responsible practices, public institutions not only cater to the ethical expectations of their stakeholders but also position themselves as leaders in fostering a more inclusive and socially conscious environment. This commitment not only elevates their standing in the eyes of consumers and stakeholders but also cultivates a culture of trust and credibility. Consequently, these institutions stand to benefit from strengthened brand recognition, heightened consumer loyalty, and an enduring competitive advantage within their respective markets.

Social sustainable procurement practices can result in cost savings for public institutions through reduced risk, improved supplier relationships, and increased innovation (Lozano & Sáenz, 2014). Studies have found that companies that adopt socially sustainable procurement practices have lower costs and increased profitability compared to those that do not. Additionally, social sustainable procurement practices enhance employee and stakeholder engagement, which is necessary for achieving institutional goals and objectives. It is worth noting the impact of sustainable procurement practice cannot be underestimated in both the private and public sectors. However, public agencies should endeavour to invest significantly in sustainability programs and projects. The public sector accounts for the major share of procurement in the economy, therefore it is prudent it uses its stands to steer suppliers and other relevant stakeholders into the green fields.

On the contrary, the research findings uncover an intriguing perspective: economic sustainable procurement practices exhibit a negative and statistically non-significant relationship with the

market performance of public institutions. This unexpected correlation is notably linked to the inherent nature of public enterprises. The distinctive characteristic of most public enterprises or institutions lies in their non-profit-making orientation. Consequently, assessing the economic cost and value of sustainable procurement practices within these entities becomes a complex and challenging endeavour.

The intricate relationship between economic sustainable procurement practices and market performance is notably influenced by the non-profit motive prevalent in public institutions. Unlike profit-driven private enterprises, the primary objectives of public institutions revolve around serving the public interest rather than maximizing financial gains. As a result, the traditional economic evaluation frameworks, often tailored for profit-oriented businesses, might not adequately encapsulate the value and cost-effectiveness of sustainable procurement practices in the context of these public entities.

In these public institutions, the metrics employed for assessing market performance might not entirely encapsulate the broader impact or value generated through economic sustainable procurement practices. The inherent difficulty in quantifying the direct market-related benefits might lead to a lack of significant association between economic sustainable procurement practices and market performance within these entities.

Understanding and quantifying the economic implications and benefits of sustainable procurement practices in the context of non-profit-driven public institutions remain a challenging aspect. The traditional economic indicators and frameworks predominantly focused on profitability might not effectively capture the broader social, environmental, and long-term economic advantages brought about by sustainable procurement practices within these specific organizational settings.

Therefore, while the observed non-significant relationship between economic sustainable procurement practices and market performance might seem paradoxical, it underscores the need for more nuanced assessment methods tailored specifically for public institutions, considering their distinctive goals, stakeholder interests, and societal impact beyond traditional market-oriented measures. These findings call for a re-evaluation of assessment methodologies to comprehensively recognize the holistic value generated by sustainable procurement practices in these unique organizational contexts.

# CHAPTER FIVE

## Summary of Findings, Recommendation and Conclusion

### 5.1 Introduction

Chapter 5 discusses the summary of the findings of the study, conclusion and recommendation. The recommendation includes measures that can be adopted to enhance the execution and practices of sustainable procurement and associated strategies. In furtherance, the shortcomings and future research direction of the study are presented.

### 5.2 Summary of Findings

The primary objective of this research is to analyse and comprehend the influence of sustainable procurement practices on the market, environmental, and financial performance of public institutions in Ghana. To achieve this, the study employed a systematic approach by collecting data from knowledgeable individuals involved in the procurement landscape within various public sector institutions. This data was instrumental in understanding the dynamics and practices prevalent in the realm of procurement.

Upon conducting the empirical analysis, the study revealed that the outcomes supported three out of the nine initial hypotheses formulated. This finding implies that specific relationships between sustainable procurement practices and market, environmental, and financial performance within public institutions were statistically significant, while others did not exhibit the expected correlation or influence as initially hypothesized.

These supported hypotheses underscore the critical impact of certain sustainable procurement strategies on enhancing the market competitiveness, environmental sustainability, and financial robustness of public institutions in Ghana. Despite not all hypotheses being validated, the findings shed light on the nuanced and varied impact of sustainable procurement practices on

organizational performance, offering valuable insights for future research and practical implementation within the procurement landscape of public institutions.

The implications of these findings are substantial. Public institutions stand to benefit not only from improved reputations and competitiveness but also from tangible cost savings. The adoption of environmental sustainable procurement practices aligns with broader environmental goals, contributing to the reduction of greenhouse gas emissions, conservation of natural resources, and mitigation of waste and pollution.

These findings provide a compelling rationale for public institutions to integrate environmental sustainability into their procurement practices. Beyond the immediate financial advantages, such practices position institutions favourably in the eyes of consumers and contribute to broader environmental stewardship goals. Policymakers and organizational leaders should consider these implications when formulating strategies for sustainable procurement practices within public institutions.

The outcome of the study indicates the positive impact of environmental sustainable procurement practices on the market, financial and environmental performance of public agencies. The propensity to strike a balance among various performance indicators suggests environmental SPP has the potential to positively impact the performance of public institutions in Ghana. Additionally, economic sustainable procurement practices have a significant impact on the environmental and financial performance of public institutions. Economic SPP does not influence the market of public institutions drastically.

Furthermore, the outcome of the study reveals a positive association between social SPP and organizational performance (i.e market, financial and environmental performance). Having an equitable work environment promotes employee–firm interaction necessary for innovation and risk management. Ensuring the occupational health of employees is considered a priority to

ensure talent creativity and competences can be utilized to the benly beneficial for organizations, but also for the environment and society. It is recommended that organizations adopt sustainable procurement practices to enhance their performance and contribute to a more sustainable future.



### 5.3 Recommendation

The findings of the study have relevant implications for procurement practitioners and professionals in public enterprises and institutions as a whole. Based on the findings of the study, it is recommended that public institutions in Ghana integrate sustainable procurement practices into their operations. The positive impact of sustainable procurement practices on market, financial, and environmental performance, as well as the benefits for society and the environment, highlights the importance of adopting these practices.

To enhance the implementation of sustainable procurement practices, it is recommended that public institutions in Ghana:

1. **Development and Integration of Sustainable Procurement Policies and Procedures:**

Instituting and embedding sustainable procurement policies and procedures is pivotal. It establishes a comprehensive framework that seamlessly integrates sustainability considerations into the core of procurement processes. The purpose is to ensure a consistent and standardized application of sustainable procurement practices across all operational aspects. By delineating these policies, organizations establish a clear path toward sustainable goals within their procurement strategies. This formalized structure not only outlines the 'what' of sustainable procurement but also emphasizes the 'how' in practical and feasible terms.

2. **Training and Empowerment of Procurement Staff:**

Equipping procurement staff with the necessary training and education is essential. This process ensures that they comprehend and appreciate the intrinsic benefits of embracing sustainable procurement practices. Moreover, by providing them with the requisite knowledge and skill sets, organizations empower their staff to effectively implement these sustainable practices. Investing in the education of procurement professionals not only cultivates a culture of awareness but also fortifies the capability to actively incorporate sustainability elements in their day-to-day operations.

3. **Stimulating Supplier Engagement and Collaboration:**

Fostering engagement with suppliers is a key strategy. By actively involving and encouraging suppliers to adhere to sustainable procurement practices, public institutions play a pivotal role in propelling a wider adoption of these practices across the supply chain. Through collaborative efforts and sustained dialogue, public institutions serve as catalysts in steering suppliers towards more sustainable practices, thus collectively contributing to the development of an environmentally conscious and ethically sound supply chain.

5. **Integration of Environmental and Social Criteria in Procurement Processes:**

Incorporating specific environmental and social criteria within the procurement processes is a crucial step. This integration involves identifying, assessing, and applying specific benchmarks that prioritize environmental sustainability and social responsibility. By including criteria such as reduced carbon footprint, ethical sourcing, and environmental impact assessments, organizations reinforce their commitment to selecting suppliers and products aligned with sustainable principles. This deliberate inclusion serves as a guiding compass, steering procurement decisions towards environmentally friendly and socially responsible choices.

6. **Establishment of Clear Performance Metrics and Targets:**

Setting measurable performance metrics and targets provides a roadmap for sustainable procurement. Clear, quantifiable goals allow organizations to track progress and hold themselves accountable for achieving sustainable outcomes. Whether it's reducing waste generation, increasing the use of renewable resources, or improving supplier sustainability certifications, establishing these specific targets facilitates a transparent evaluation of performance and encourages continual improvement in meeting sustainability objectives.

7. **Advocating Innovation and Collaboration in Procurement Practices:**

Embracing innovation and collaboration within procurement practices is paramount. Encouraging creative solutions and collaborative partnerships fosters a culture of continuous improvement and adaptation. It enables the exploration and implementation of new technologies, practices, and supplier relationships that promote sustainability. By leveraging innovative ideas and collaborating with like-minded entities, organizations can collectively push the boundaries of what sustainable procurement entails, fostering a dynamic environment for positive change and progress.

8. **Communication and Transparency in Procurement Processes:**

Promoting open communication and transparency within procurement processes is essential. Communicating the commitment to sustainable procurement internally and externally not only builds trust and credibility but also encourages similar values among stakeholders. Transparency in decision-making and reporting on sustainable practices fosters accountability and trust, providing stakeholders with a clear understanding of the organization's efforts and progress towards sustainability goals.

9. **Monitoring and Evaluation of Sustainable Procurement Implementation:**

Constant monitoring and evaluation of sustainable procurement practices are imperative. These evaluations serve as a barometer of the effectiveness of the implemented sustainable procurement policies. They offer valuable insights and data, aiding in the identification of areas that require improvement or adjustment. This ongoing assessment serves as a foundation for adaptive strategies, ensuring that the organization evolves in its pursuit of sustainability and consistently enhances its procurement practices for a better, more eco-conscious future.

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Appendix 1

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

QUESTIONNAIRE FOR RESPONDENTS

I am a Master of Science, Logistics and Supply Chain Management student of the Kwame Nkrumah University of Science and Technology undertaking an exploratory study on sustainable public procurement.

Your assistance is therefore needed in providing responses to the following questions below in order to assist me achieve the objectives of the study.

**Questionnaire**

**Part 1: Demographic Information of Respondents**

1. Gender

Male ☐

Female ☐

2. Respondent age (in years)

18-25 ☐

26-30 ☐

31-35 ☐

36-40 ☐

41-45 ☐

46-50 ☐

>50 ☐

3. Education

Undergraduate ☐

Graduate ☐

Post graduate ☐

Doctorate ☐

Other ☐



4. Work experience (in years)

<5 ☐

6-10 ☐

11-15 ☐

16-20 ☐

> 20

Please indicate the extent to which you agree or disagree with the following set of questions. You may rate your level of agreement or disagreement on a scale of 1-7.

**The questions are measured in a seven-point scale Likert type where 1=Strongly Disagree, 2=Disagree, 3=More or Less Disagree, 4=Not Sure, 5= More or Less Agree, 6=Agree and 7=Strongly Agree**

**Economic Sustainable Procurement Practices**

| Codes | Items (Economic) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| **EcSPP1** | Our organization considers the costs of management, procurement, and other costs in its operations. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EcSPP2** | My organization favours suppliers that rate highly on sustainability during the tender process. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EcSPP3** | We have a written procurement policy stating our commitment to purchasing sustainable goods & services. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **EcSPP4** | My organization has integrated sustainability into its procurement process. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EcSPP5** | We have made our suppliers aware of our sustainable procurement policy and practices. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



**Environmental Sustainable Procurement Practices**

| **Codes** | **Items (Environmental)** | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
|---|---|---|---|---|---|---|---|---|
| **EnSPP1** | Our organisation prefers its suppliers to have sustainable and environmental certifications. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EnSPP2** | We currently have ISO14001 certification. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EnSPP3** | Environmental sustainability is a key priority of our organization | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EnSPP4** | We have made our suppliers aware of our sustainable procurement policy and practices | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EnSPP5** | The organisation actively shares good environmental practice experiences with its partners. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Social Sustainable Procurement Practices**

| **Codes** | **Items (Social)** | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
|---|---|---|---|---|---|---|---|---|
| **SoSPP1** | This organization, when selecting partners, gives priority to those who comply with and support laws, regulations, and standards on social sustainability. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **SoSPP2** | The organization has established a healthy and safe management system. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **SoSPP3** | My organization specifies sustainability criteria in its contract notices | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **SoSPP4** | My organization helps to develop its suppliers' sustainability performance (e.g. through auditing). | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Green Transformational Leadership**

| Codes | Items | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| **GTL1** | Our institution's leadership consistently assesses the sustainability impacts of our operations | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **GTL2** | The management of institution/agency shows behaviour that indicates sustainability as a competitive advantage in our operations | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **GTL3** | Our Top-Managements constantly receive training on the impact of sustainability on purchasing decision-making. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Market Performance**

Please rate the performance of your organization in comparison with your annual targets with respect to the following metrics during the past financial year.

| Codes | Items (Social) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| **MP1** | Sales Volume | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **MP2** | Sales growth | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **MP3** | Market share (customer base) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **MP4** | Number of new market entered | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Environmental Performance**

Please indicate the extent to which you perceive that your organization has achieved each of the following during the past year.

| Codes | Items (Social) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **EP1** | Reduction in Air Emission | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EP2** | Reduction in consumption of resources during operations (e.g water, electricity) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EP3** | Improvement in environmental compliance | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EP4** | Reduction in environmental accidents | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **EP5** | Reduction in hazardous material usage and waste emission | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



**Financial Performance**

Please rate the performance of your organization in comparison with your annual targets with respect to the following metrics during the past financial year.

| **Codes** | **Items (Social)** | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
|---|---|---|---|---|---|---|---|---|
| **FP1** | Profitability | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **FP2** | Return on Investment | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **FP3** | Return on asset | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **FP4** | Return on Equity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **FP5** | Overall financial performance | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Thanks for participating in the study**