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EXAMINING THE INFLUENCE OF SUPPLY MANAGEMENT INNOVATIVENESS ON SUSTAINABILITY PERFORMANCE AND FINANCIAL PERFORMANCE OF AGRIBUSINESS ENTERPRISES IN KUMASI METROPOLIS.

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DECLARATION

I hereby declare that this thesis is the result of my original work towards the award of MSc in Logistics and Supply Chain Management, and to the best of my knowledge, it does not contain any materials that have been published by another person or materials that have been approved for the award of any other degree from the University, with the exception of those instances where appropriate citations have been made in the text.

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DEDICATION

I dedicate this thesis to the glory of God because it was only because of his unmerited generosity and strength that I was able to finish this work. I dedicate it as well to my family, who have been my steadfast supporters during my entire academic career.

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ABSTRACT

Supply management innovativeness is critically important to agribusinesses as they operate in a highly dynamic and competitive environment, where factors such as weather patterns, supply chain disruptions, and changing consumer preferences can have a significant impact on their operations. By developing and deploying innovative supply management practices, agribusinesses can better respond to these challenges and improve their operational efficiency and effectiveness. The overall objective of this study was to examine the influence of supply management innovativeness on sustainability performance and financial performance of Agribusiness enterprises in Kumasi Metropolis. The quantitative research approach is used in this study. The survey is judged appropriate because this research is primarily quantitative in nature and also seeks to describe the agribusiness industry using a few agribusinesses. Due to the sensitive nature of the data they control, this research will only employ convenience sampling to recruit senior and middle management from agricultural companies. The researcher settled on a sample size of 110 agribusiness top and middle managers. Data was processed systematically by choosing, classifying, comparing, synthesizing, and analyzing raw data after it was collected to offer explanation and meaning. After being filled out, edited, and categorized, the questionnaires were imported into SPSS 23. In order to filter and remove disinterested replies, preliminary data analysis was performed. The data's demographic answers were also evaluated using descriptive methods. The connection between the dependent and independent variables was then determined by use of regression analysis. The study found that the practices include “satisfying customers through supply management innovativeness”, “using supply management innovativeness to achieve competitive advantage over competitors”, “adaptation of technological innovativeness”, “innovating to influence market share”, “reducing operational risk through technological innovativeness”, and “using their innovative consciousness to compete in the market”. The analysis also showed that supply management innovativeness has a positive and significant influence on sustainability performance of Agribusinesses in Kumasi Metropolis. Finally, the findings show that supply management innovativeness has a positive and significant influence on the financial performance of agribusinesses in Kumasi Metropolis. Based on the above, the study among other factors recommended that Agribusiness managers should focus on building strategic partnerships with suppliers and other stakeholders. This could involve working closely with suppliers to identify opportunities for cost reduction and value creation, and collaborating with other organizations to develop new markets and expand the customer base. For future studies, it also recommended that future studies should try and broaden the scope of this study to cover other agribusinesses in other municipality in order to ensure that a more generalizable finding could be obtained.

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LIST OF ABBREVIATIONS

RBV	Resource Based View
DCV	Dynamic Capability View
SCO	Supply Chain Orientation
EO	Environmental Orientation
DEA	Data Envelopment Analysis
GSCM	Green Supply Chain Management
BTC	Bitcoins
SSCP	System Security Certified Partitioner
SMI	Supply Management Innovativeness
FP	Firm Performance
SP	Sustainability Performance
EFA	Exploratory Factor Analysis
GDP	Gross Domestic Products
SMEs	Small and Medium-size Enterprises
USAID	United States Agency for International Development
FinGAP	Financing for Ghana's Agricultural Project
SPSS	Statistical Package for the Social Sciences
KMO	Kaiser-Meyer-Olkin
ROS	Return on Sales
ROI	Return on Investment
PCA	Principal Component Analysis

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In response to the growing international pressure for the business sector to adopt more sustainable practices, many companies have implemented them throughout their operations, including those of their suppliers and other partners (Sarkis, 2018). The decision of which suppliers to partner with through competitive bidding processes is a crucial factor affecting the overall performance of businesses (Luthra et al., 2017; Bai and Sarkis, 2014). A reliable supplier or business partner is one who strives to do their part to protect the environment.

Purchasing managers face significant difficulty when trying to find the most effective suppliers who can still achieve their performance expectations (Amindoust et al., 2012). Supplier selection is one of the most crucial decisions in industrial supply chains (Grimm et al., 2014; Bai and Sarkis, 2014). Consequently, it is feasible to increase manufacturing supply chain performance if the inputs (such as raw materials and parts/components) provided from suppliers into production/manufacturing fulfill the performance criteria and standards (Sarkis and Dhavale, 2015). The performance of a performance's supply chain as a whole is strongly dependent on the decisions made at the strategic level of selecting and managing suppliers (Luthra et al., 2017). To maintain a competitive edge in the market and ensure timely product delivery to customers, businesses need an effective supply management system that incorporates a fair bidding procedure and innovative supply management practices (Kusi-Sarpong et al., 2018).

According to Eccles and Serafeim (2013), innovation and sustainability are intertwined; nevertheless, the existing literature shows that the relationships between the two are unclear. Recent sustainability research has demonstrated (Bönte and Dienes, 2013) that a company's ability to innovate is one factor that determines its ability to develop sustainability strategies and practices (Van Bommel, 2011). In addition, research has indicated that innovativeness promotes the utilization of sustainable processes in supply

management (Pagell and Wu, 2009) and that it is a prerequisite for the adoption of sustainable supply chain management approaches (Gualandris and Kalchschmidt, 2014). (Gualandris and Kalchschmidt, 2014). The method of Porter and van der Linde (1995), however, offers an illustration of the opposing logic, in which sustainability is seen as a motivating element that enhances an organization's innovativeness. Studies by Nidumolu et al. (2009), for example, show that "increasing sustainability requirements boost the innovativeness of enterprises and their supplier networks" and that "sustainable innovations develop from supply chains in which suppliers try to meet the demands of their consumers." As a result, it would seem that innovativeness and sustainability create a self-feeding loop. Organizations have the creative capacity to exploit sustainability, and sustainability stimulates enterprises to innovate.

Supply management has an important impact on organizations' innovativeness evidenced by previous research (Azadegan and Dooley, 2010; Schiele, 2006; Mazzola et al., 2015). Suppliers also make major contributions to the development of new technologies. Due to the nature of supply management's performance with suppliers, it is crucial that companies actively engage with their suppliers during the conceptualization, prototyping, and early development stages of new products (Hallstedt et al., 2013). Supply chain value is created via the ability of suppliers to deliver creative and sustainable solutions, and through the development of integrated solutions (Windahl and Lakemond, 2006). A corporation has to invest in both its own inventive ability and the innovativeness of its suppliers if it is to reap the financial benefits of performance investments. According to Hollos et al. (2012), an upstream supply chain strategy approach may significantly enhance supplier engagement with the buyer organization in performance-related concerns. These sustainable-term innovations from supply bases are triggered by a company's strategic supplier orientation and the integration of the inter-firm skills of buyers and suppliers (Hollos et al., 2012).

Tchokogué et al. (2017) write that "supply management strategies are developed to support a company's sustainable development at the strategic and operational levels and to foster innovations," and that "supply management contributes to a company's sustainability performance" (Gualandris et al., 2014). It has also been noted that tight buyer-supplier

cooperation on sustainable product designs and advances in manufacturing and supply chains is a crucial driver of a company's sustainability performance (Paulraj et al., 2017; Gualandris et al., 2014; Hollos et al., 2012). Understanding the critical role played by the supply management function and its capacity to improve firm-level sustainability would be greatly advanced by a study that clarifies the connections between supply management innovativeness and its impact on sustainability performance within the agribusiness setting.

1.2 Statement of the Problem

Early studies in Ghana have only examined the effect of supply management practice on firm performance and overall financial performance, despite assertions that innovative supply management methods have a positive influence on financial performance (Schiele, 2006; Azadegan and Dooley, 2010; Mazzola et al., 2015). For instance, Khan et al. (2018) looked at Ghana's supplier orientation and how it affects company performance. They discovered that organizational performance and sustainability are greatly influenced by supply management orientation and innovation. This was corroborated by Anane (2020), who discovered in a study of the Ghana Water Company that these organizations' purchasing strategies have an impact on their performance. This demonstrates that the implications of supply management, innovation and supplier orientation on the financial and operational results have received the majority of attention from Ghanaian academics.

But, in the modern business world, performance risks and opportunities have led to breakthroughs in a wide range of industries and sectors, and these innovations have become crucial competitiveness drivers for organizations which agribusiness enterprises are exempted (Schaltegger and Burritt, 2014). Van Bommel (2011) state that a firm's potential to establish sustainability and performance strategies and methods is impacted by both its supply network and internal innovation capacity consciousness. This supports the idea that supply management is a key factor in driving innovation and inventiveness and suggests that the creative ability of the function has an effect on an organization's overall performance. Gunday et al. (2011) stated that organizational growth, sustainability, and profitability are the results of technological and administrative innovation, which is categorized under innovation performance on businesses. They also stress that

innovativeness is the missing piece that connects organizational strategic orientations with sustainable performance despite the sector it may operate in which agribusiness and agricultural-related enterprises are not excluded.

A business must have the ability to innovate before developing and putting into practice sustainable strategies if it is to meet the performance standards as well as the demands and values of stakeholders. The majority of prior research on supply management innovation, however, has examined how it affects overall company performance, based either on financial or operational performance. Since the primary goal of enterprises includes meeting sustainability needs and financial needs when engaging in supply chain activities, the focus of the researcher in this study is on both sustainability performance and financial performance as significant factors that affect supply management innovativeness. Furthermore, the agricultural sector received little to no attention in earlier research, which was mostly focused on manufacturing companies and SMEs. Given that companies in the agricultural sector are known for regularly dealing with various suppliers, such as buying fertilizer, chemicals, and seedlings, studies into their industry would be important. Therefore, research into this sector would offer the necessary understanding of how supply management innovations can be made to attain sustainability and financial performance. This study addresses and covers this knowledge gap by investigating the influence of supply management innovation on both the sustainability and financial performance of agribusiness enterprises in Kumasi Metropolis.

1.3 Research Objectives

The overall objective of this study was to "examine the influence of supply management innovativeness on sustainability performance and financial performance of Agribusiness enterprises in Kumasi Metropolis". The specific objectives include:

1. To examine the supply management innovativeness practices of Agribusiness enterprises in Kumasi Metropolis.
2. To evaluate the influence of supply management innovativeness on the sustainability performance of Agribusiness enterprises in Kumasi Metropolis.

3. To examine the effect of supply management innovativeness on the financial performance of Agribusiness enterprises in Kumasi Metropolis.

1.4 Research Questions

The questions below help to achieve the research objectives outlined above:

1. What are the supply management innovativeness practices of Agribusiness enterprises in Kumasi Metropolis?
2. What is the influence of supply management innovativeness on the sustainability performance of Agribusiness enterprises in Kumasi Metropolis?
3. What is the effect of supply management innovativeness on the financial performance of Agribusiness enterprises in Kumasi Metropolis?

1.5 Justification of the Study

The overall objective of this study was to "examine the influence of supply management innovativeness on sustainability performance and financial performance of Agribusiness enterprises in Kumasi Metropolis. Therefore, the study's findings would demonstrate to policymakers and the Ghanaian government that agribusiness in Ghana can apply supply management innovation to boost performance. This would help create plans to teach the managers of these agribusinesses the importance of inventive supply-chain management in raising the productivity of their companies.

Successful innovation in supply management requires not just the integration of processes and technologies, but also the cooperation of all business stakeholders without limitation to only agribusiness and agricultural-related firms. That is to say, supply management may fall flat if not enough managers get into the concept of innovation. This study's results would give Agribusiness with empirical information about which areas of supplier engagement may aid in improving the sector's performance since employee engagement is crucial to the execution of supplier management's innovativeness. Overall, the results of this research would contribute to but not be limited to only a deeper understanding of the relationship between supply-side management innovation and Agribusinesses' financial

success in Ghana but it also would broaden the knowledge and understanding of other stakeholders outside Agribusiness enterprises like shareholders, customers, society, government, creditors and suppliers on the influence supply management based innovation can have in terms of a business or sector sustainability and performance.

For future studies and literature, the findings of this study would offer important insight into the supply management innovativeness and sustainability performance literature, and the findings would guide future research into the research area and pave the way for future studies to build on the literature on supply management innovativeness.

1.6 Research Methodology

The overall objective of this study was to examine the influence of supply management innovativeness on sustainability performance and financial performance of Agribusiness enterprises in Kumasi Metropolis. To accomplish the aforementioned goals, the study primarily employed a quantitative research approach to empirically investigate this phenomenon, which was combined with a survey research design. According to Bryman (2012), the goal of quantitative research is to quantify the process of gathering and analyzing data. It stems from a deductive approach that emphasizes testing theories, and it is influenced by positivist and empiricist philosophies. Agricultural businesses within Kumasi Metropolis were the targeted population for the study. In order to select a sample of 110 companies for the study, convenience and purposive sampling methods were used. Primary data were the main data source for the study, and the data were collected via a questionnaire. Using a questionnaire with a Likert scale of 1 to 7, the responses were coded. From 1 to 7, respondents were asked to select the number that best describes their response to a statement. The questionnaires, which were adapted from Lintukangas et al. (2019), were used to measure the variables. The data was edited, categorized, and entered into the Statistical Packages for Social Science (SPSS), version 23, to complete the survey.

1.7 Scope of the Study

This study was aimed at examining the influence of supply management innovativeness on sustainability performance and financial performance of Agribusiness enterprises in

Kumasi Metropolis. For this reason, the study focused on Agribusiness enterprises in Kumasi Metropolis and not all companies in the Kumasi Metropolis.

1.8 Limitations of the Study

The absence of data on the precise number of Agribusinesses in Ghana, as well as quantitative data on their operations and performance, was the study's principal weakness. Quantitative data on the performance of firms ensures more accurate data since businesses can hardly lie on their financial information when audited. This made it difficult for the researcher to choose an acceptable sample size for this study. The researcher acknowledges that this may have an impact on the study's conclusions; yet, because of the successful sample selection approach, the study may be relevant.

1.9 Organization of the Study

The study is broken down into five chapters, each of which is dedicated to certain subtopics of the overall inquiry. The first chapter is the introduction, which gives readers a background of the study, a problem statement, a discussion of the study's scope, limitations, significance, and a summary of the research methods. The next section is a literature evaluation of previous works that have been done on the same topic as the current investigation. In this part, the study reviewed relevant literature that helped to make arguments about the relationship between the variables. This chapter is followed by the methodology. The research design, sample demographics, model formulation, and variable definitions are all provided to readers in the methods section. The fourth chapter of the study contains an examination of the study's data as well as the researcher's research findings. The full research project is finally summarized in chapter five, along with the researcher's findings-based conclusions and suggestions.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The literature that is pertinent to this investigation is reviewed in this section. The bulk of the literature falls into five broad areas. After a short introduction to agribusiness in Ghana, the research's three primary themes, financial performance in supply management, innovativeness in supply management, and sustainability management, are presented. The third section of the chapter delves into the hypotheses that have been proposed to account for the correlation, while the fourth section evaluates the findings of empirical studies of the association. In the paper's third part, we see examples that back up the premise and a theoretical framework that helps us understand how everything works together.

2.1 Conceptual Review

This section presents a review of the concepts used in the study and the definitions used by other scholars.

2.1.1 The Concept of Supply Management Innovativeness

Supply management is the process through which a company identifies, acquires, and manages the suppliers and resources it needs to run (Harland et al., 2006). Supply management, often known as procurement, refers to the process of acquiring materials, data, and labour required to maintain and expand an organization (Shin et al., 2000). Supply chain management is commonly thought of as the process by which businesses acquire materials and products. However, there is more to supply management than just making purchases and signing contracts. For a business to run effectively, it is necessary to have a well-organized management business for managing not only the procurement of goods and services but also their pre-production logistics and inventories (Presutti, 2003). Supply management's primary objectives include minimizing expenses, optimizing business management, mitigating threats, and collecting useful data for making informed strategic decisions (Johnson et al., 2021).

Many studies have examined the topic of innovation, as shown by Crossan and Apaydin's 2010 literature review.

According to Damanpour (1996), "Innovation is seen as a method to transform an organization in response to changes in the external environment or to influence the environment in advance". So, the word "Innovation" is used here in a broad sense to refer to a variety of changes, including those involving new products or services, new process technologies, new organizational structures or administrative systems, and new member-facing initiatives or plans. For instance, Baregheh et al. (2009) claim that "Innovation is the multi-stage process by which companies turn ideas into new/improved goods, services, or processes to progress, compete, and distinguish themselves effectively in their marketplace" to expand on this definition and consider business and corporate success as the primary driver of innovations. Crossan and Apaydin (2010) define innovation as "both a process and an outcome," and “they provide examples of innovation drivers such as the presence of innovation capability and resources within a company, the identification of a market opportunity, the uncertainty of the business environment, and the changes that force firms to innovate”. In contrast to "Innovation," which is the result of an intellectual process, "Innovativeness" describes an organization's long-standing disposition toward openness to new ideas (Hurley and Hult, 1998).

The likelihood that a firm will create or implement new inventions to have an impact on the markets in which it competes may be used to gauge its level of innovation (Garcia and Calantone, 2002). According to Calantone et al. (2002), a company's innovativeness may be measured by how often it is the first to market with new products and services, how actively it seeks out new ideas and operating methods, and how it adapts its business model to meet changing market conditions. The amount to which a business's personnel are able to establish an atmosphere that supports innovation within the organization is one of the most critical factors of firm performance and competitive advantage (Porter, 1990; Burns and Stalker, 1961; Prahalad and Krishnan, 2008; Hult et al., 2004). This illustrates that a company's capacity to innovate may be vital to its long-term success. Supply management innovators, according to Hurley and Hult (1998), Calantone et al. (2002), and Garcia and

Calantone (2002), are those who are both receptive to new ideas and able to work together to implement them in order to affect supply markets.

During the process of innovation, new concepts and techniques are created. There are several potentials for ecologically sustainable innovation in supply networks (Isaksson et al., 2010). Because of this, the ability of corporations to innovate and acquire ideas from their suppliers has proved to be a critical component in encouraging cooperation and a source of influence in supply chains.

Many studies have looked at the impact of "buyer-supplier cooperation and supplier involvement in product development projects on business performance and the success of product development (Hoegl and Wagner, 2005; Van Echtelt et al., 2008)", however, they have come to contradictory conclusions (Wynstra et al., 2001). Azadegan and Dooley (2010) found a favorable correlation between suppliers' innovativeness (the ability to create and launch new things and processes) and customers' manufacturing performance. Companies are increasingly turning to external resources for innovation management, therefore it's important to know which ones will have the most impact on fostering an environment conducive to creative problem-solving. Suppliers can be the catalysts for innovations (Teece, 2007; Schiele, 2006). Prerequisites for this include the capacity to apply decision-making frameworks and processes and the capacity for opportunity sensing through knowledge of supply networks (Teece, 2012). In addition, Multaharju et al. (2017) cite collaboration with suppliers as an excellent way to lower performance-related risks and improve supply chain visibility. Businesses can take advantage of the flexible innovation of supply management and appreciate the innovative potential of their suppliers to impact supply markets and enhance overall performance.

2.2.2 The Concept of Firm Performance

As long as it discusses how well an organization performs and the outcomes of its efforts, "firm performance" is a vague concept that can encompass a wide range of interpretations. In economics, a company's performance is measured by how well it meets its goals through the application of its human and material resources (Le, 2005). The effectiveness with which a business produces and consumes its goods or services is another factor in

evaluating its performance. The efficiency of a company's resource usage and value creation determines how well it performs (Truong & Tran, 2009). When individuals discuss a performance's performance, they typically refer to the performance as a whole, which includes how well it produces goods and services, how well its department function, how well its personnel carry out their duties, and what kind of outcomes those duties produce (Taouab and Issor, 2019). The performance of the firm can also be seen in the context of the evolution of the company's business. That is, the growth of a business's operations is a reliable indicator of the performance of its performance, as it reflects overall market trends. Two key performance measures are used in this study sustainability performance and financial performance which are elaborated below:

2.2.2.1 Sustainability Performance

An organization's sustainability performance can be measured by how well it serves its current stakeholders without jeopardising its ability to provide for future generations (Dyllick and Hockerts, 2002). As a result, economic, social, and environmental capital all play a role in the success and growth of a company. Firms can improve their sustainability performance by deliberate steps including defining plans and creating sustainable performance monitoring systems (Epstein and Roy, 2001). Long-term and frequently indirect profit is generated by sustainability for enterprises, according to recent studies (Pullman et al., 2009; Golicic and Smith, 2013); nonetheless, dynamic capability development is necessary to guarantee advantages from a firm's sustainability initiatives (Reuter et al., 2010). However, it is difficult for businesses to implement a sustainability performance measurement system due to the multifaceted nature and focus on the long-term that sustainability requires (Searcy, 2012).

The operationalization of the notion is rigorous, and it is challenging to define and measure sustainability performance in either business or academic settings. Also, although measuring sustainability performance is crucial for effective corporate performance management, scholars have paid scant attention to this topic (Searcy, 2012; Schaltegger and Burritt, 2014). Research into the correlation between a company's sustainability initiatives and bottom-line results has received considerably greater attention. For instance,

Waddock and Graves (1997) found a correlation between a performance's social performance and its financial results. They said that companies doing well financially are more committed to sustainability or have more resources to devote to doing so.

According to Gualandris & Kalchschmidt (2014), using environmentally friendly supply chain management practices can help forward-thinking businesses increase their profits. If innovation opportunities are taken advantage of, performance can be improved, and supply management is essential to achieving this (Azadegan and Dooley, 2010; Mazzola et al., 2015). A company's capacity to adapt its supply management in response to shifting consumer needs is a valuable strategic asset, according to the DCV, and might give it a competitive edge. These opinions form the basis of the following hypothesis:

To better understand the connection between supply management innovation and a firm's overall sustainability performance, Katrina et al., (2019) undertook a study. Finnish large- and medium-sized manufacturing companies provided data for the study. According to the study's findings, there is a strong correlation between Finnish companies' supply chain management innovation and their sustainability performance.

Wagner (2010) similarly identified a link between a company's “sustainability performance and financial performance, however, he claims that this is only the case for big firms and that the influence of social performance is offset by the amount of advertising intensity. According to sustainability by Pullman et al. (2009), the advantages of enhancing sustainability aren't often immediately obvious, making it difficult to measure the return on investment in such projects”. According to Paulraj (2011), a company's market share and reputation may rise if it is the first to market with a sustainable business plan. According to Pagell and Wu (2009), “the triple bottom line (Elkington, 1997) is a metric for evaluating sustainability performance that takes into account not just financial but also social and environmental aspects of a company's supply chain. To enhance sustainability performance and obtain a competitive advantage, the upstream supply chain must be included in the process (Montabon et al., 2016)”. If a firm wants to improve its sustainability performance, it must ensure that its supply management is organized,

controlled, and reporting on sustainability concerns and activities under its sustainability strategy and vision.

2.2.2.2 Financial Performance

Broadly speaking, financial performance is the degree to which financial goals are being or have been achieved, and it is a crucial part of financial risk management. It's the practice of assigning monetary values to the outcomes of a company's decisions and actions. As well as comparing similar businesses within the same industry or between industries, it serves as a metric for measuring the overall financial health of a corporation over a specified period. Among many financial measures, the following are predominant:

Increase in sales: The better utilization of chain capital may contribute to a successful supply chain on the market, which will lead to reduced commodity prices, an increased product output, a quicker response and ultimately a higher market share. Via a supply chain benchmarking method, the business would be able to boost revenue as a pioneer in the market. In order to measure the efficiency of the supply chain against best practices in the market, a leadership role in the market will offer motivation for more changes which will ultimately contribute to improved revenue.

Utilizing secondary data from Compustat and Bloomberg, Dong et al. (2020) looked into the connection between business success and supplier-based innovation. They specifically found that, with certain supply base complexity acting as a moderator, there is a positive correlation between the supplier base's intensity of R&D and the financial performance of enterprises. Interrelationships between suppliers, the sheer quantity of suppliers, and supplier differentiation were the three main supply base complexity factors. They found that the three supply base complications adversely influenced the relationship between the level of firm financial success and R&D intensity. By demonstrating a link between supply base research and development and business financial performance, their research advances the body of knowledge.

Using a linear regression model created with the Statistical Package of Social Sciences software, Jan and Christopher (2018) investigate the relationship between Danish manufacturing businesses' market and operational success and innovation in their supplier chains. The supply chain was represented by technology, business procedures, and network structure in the study's conceptual model, which was used to analyze the data obtained from a questionnaire given to 187 respondents. According to the data, supply chain innovation and the operational effectiveness of Danish manufacturing companies are closely related. Aside from supply chain innovation, it also highlights several significant elements that can affect how well businesses operate on the market. In the end, the research found a correlation between supply chain innovation and the market and operational performance of businesses.

Cash flow variations are the amount of cash available at the beginning of the year and the quantity at the end of the period are referred to as the ending balance in accounting terminology. The exchange of commodities and services generates more cash flow. Cash outflows are induced by the requirement for the corporation to fund expenses such as goods, distribution, jobs and electricity. Net cash flow differentiates between the two. Search engine marketing (SEM) liquidity is generated by a stable cash-flow situation which is constant. This helps small and medium-scale enterprises (SMEs) to manage activities that contribute to higher profit production (Seens, 2015).

2.3 Theoretical Literature

This section of the study focuses on the theories that are used in this study and how these theories explain the relationship between the variables.

2.3.1 Resource Based View Theory

The resource-based view (RBV) of the firm serves as the theoretical underpinning for our investigation. The RBV's basic idea is that successful businesses are those that create, acquire, and fully leverage their strategic resources. These are intangible assets that are difficult to replicate and must be activated by the company as a whole (Barney, 1991; Wernerfelt, 1984). According to the tenets of the resource-based perspective, businesses

should prioritise investing in resources that have the aforementioned qualities so that they can create a competitive edge. The tangibility of resources is another crucial aspect that determines how they might contribute to a company's competitive advantage. In contrast to intangible resources, which are nebulous and hard to pin down and transfer, tangible ones tend to have physical substance and be easily triggered across context and location (Barney, 1991; Villalonga, 2004). Intangible assets are more valuable than material ones because of their intangibility and difficulty in duplicating or replacing them. Hence, intangible resources are considered to be the foundation of a company's competitive advantage (Villanlonga, 2004).

The study of resource bundling is another significant and timely development in RBV studies. According to studies on "resource bundling" (Teece et al., 1997), businesses can gain an edge in the marketplace by merging different types of assets to produce a more potent whole. Using the lens of the capabilities approach, we postulate that supply chain orientation is a skill that can be honed by strategically allocating both material and immaterial resources, such as integrated information and knowledge management systems among supply chain partners to optimize operational efficiencies and information sharing. Because supplier orientation is founded mostly on intangible business resources, it offers participants the opportunity to forge sustainable-term competitive advantages. Based on the above arguments, the RBV theory is used in this study to explain the extent to which a firm resource supply management innovativeness can positively influence the performance of firms.

2.3.2 Dynamic Capability View

Sustainability is an intricate idea that may be understood in a variety of ways. “The dynamic capability view (DCV) (Teece et al., 1997) provides a theoretical framework and assumptions that meet present demands, yet the current economic situation necessitates a dynamic approach to the development of firms' capacities (Eisenhardt and Martin, 2000). By studying the dynamics of the business environment, the DCV recommends reorganizing an organization's internal and external resources and developing a new strategy (Teece et al., 1997). A company's long-term success depends on its agility to respond to changing

market circumstances, and this adaptability is enabled by dynamic capabilities that allow it to rapidly reallocate its resources (Eisenhardt and Martin, 2000).”

Teece (2007) categorizes dynamic capacities as "sensing," "capturing," and "reconfiguring" or "transforming". Understanding latent demand, structural shifts in markets, and reactions from suppliers and rivals is essential for developing a "feeling" of new possibilities and risks. Since suppliers are often the ones to pioneer new innovations (Teece, 2007), companies can gain insight into their overall business environment by monitoring supply markets. This allows them to detect not only the resource base shifts necessitated by environmental change, but also the emergence of new opportunities for innovation. A strategic supplier orientation requires that a firm's supply management anticipate the kind of innovation possibilities that may present themselves in its supply marketplaces. In order to stay ahead of the competition in the field of sustainability, organizations must integrate their suppliers with robust management and development processes and encourage collaboration at all stages of the supply chain (Reuter et al., 2010). To be able to exploit chances, it is necessary to establish procedures and habits that promote prudent judgment (Teece, 2007). The ability to seize innovation opportunities is essential for supply management, which sits at the crossroads of the supply base and product development. Resource reconfiguration can be greatly impacted by seizing opportunities found in the supply chain.

Aligning and repositioning assets to facilitate renewal and maintain resource base consistency with changes and opportunities discovered is what reconfiguration is all about (Teece, 2007). In order to maintain profitable growth in the face of fluctuating markets, the ability to reorganize and reallocate resources is essential (Teece, 2007). In this way, organizations that are capable of change are better able to respond to market shifts and develop a competitive edge by making optimal use of both internal and external resources. The ability to innovate and skill in developing and implementing sustainable strategies based on the requirements and values of firm stakeholders are both necessary for innovation in today's fast-paced business climate. Firms require both internal and external resources to generate profits from sustainability; more crucially, however, the capacities to

identify and grab opportunities and reconfigure resource bases are highly critical in the long run. This theory alludes to the fact that supply management innovativeness is an internal resource that firms can capitalize on to drive sustainability and financial performance.

2.4 Empirical Literature

Kirchoff et al. (2016) "use resource-based and strategic choice theories to the adoption and results of green SCM approaches to examine the causal links between supply chain orientation (SCO) and environmental orientation (EO). Structural equation modeling is used to examine the survey data from 367 supply chain managers. A combination of SCO and EO capabilities is shown to increase the adoption of green SCM practices, which in turn improves business performance. Also, the results suggest that SCO, EO, and green SCM integration should be adaptable to suit the requirements of various business environments."

The impacts of different supplier orientations (SO) on supply chain performance have not been differentiated by Jadhav (2018), and it has not been established whether SO has a direct impact on SC performance. Data from supply chain managers were examined using structural equation modeling, and it was discovered that the SO construct of supply chain collaboration and communication has the potential to have a major impact on the supply chain's social and environmental performance. Internal supply chain coordination was the only SO component to affect supply chain performance, and it did so only via the mediation of the company's own supply chain practices. In addition, internal supply chain sustainability practices were found to mediate the supply between improved environmental performance and increased collaboration and communication inside the supply chain. These results show that various SO architectures contribute to supply chain performance in various ways.

De et al. (2018) investigated the impact that focused innovation and lean methods had on the productivity of supply chains serving small and medium-sized businesses. Using a paradigm adapted from Data Envelopment Analysis, the research examines a large number

of SMEs in Eastern India (DEA). Input criteria in the proposed framework include lean and sustainability-focused innovation, while output criteria include economic, operational, environmental, and social factors. DEA identifies ineffective SMEs and recommends a minimum of one credible expert as a reference point in its study. After this quantitative analysis, we will conduct a qualitative assessment to offer strategies for improving the performance of underachieving SMEs. The results suggest that lean and SOI may help small and medium-sized enterprises (SMEs) enhance the effectiveness of their supply chains. The findings can be used by policymakers as well as by the owners and managers of specific SMEs to develop performance-boosting measures.

Supply, ecology, and society are the three pillars upon which a management's performance rests, and Cankaya and Sezen (2019) investigate the performance of GSCM's eight pillars. This analysis considers eight factors crucial to a sustainable economy: green purchasing, production, distribution, packaging, marketing, education, internal management, and recoupment of investments. Plant-level surveys are used to examine the connections between GSCM characteristics and performance. Data from cross-sectional face-to-face and email surveys administered to Turkish manufacturers are used to assess a specified study model and hypotheses. The theories are put to the test by using structural equation modeling. Each GSCM dimension, with the exception of "green purchasing," is found to correlate with at least one of the performance aspects.

In order to determine whether innovative supply management and supplier orientation enhanced the sustainability performance of enterprises, Lintukangas et al. (2019) performed a study. When surveying large and medium-sized Finnish enterprises, researchers found that the level of innovation in supply management had a substantial impact on the companies' overall sustainability performance. Increased sustainability outcomes have been connected to creative supply management and a focus on suppliers. So, supply management works as a barrier against sustainability risks from the supplier base and a filter for ideas that seek to modify supply markets and the sustainability of organizations.

Christmann (2000) states that the future of a company's supply chain management depends on the degree to which its employees are able to think creatively. To wit: (Pagell & Wu, 2009). Large-scale product innovation, product or service system upgrades, and value chain redesigns, all informed by sustainability standards, are necessary to promote economic and social sustainability (Schaltegger and Burritt, 2014). Adhering to sustainability principles has several advantages, one of which is that it encourages process innovation, which in turn aids employees in gaining support from the company when they implement unique ways to do their job (Porter and van der Linde, 1995; Hollos et al., 2012). Supply chain management that makes use of cutting-edge ideas may help a business survive and thrive in the long run (Gualandris & Kalchschmidt, 2014). Increased sustainability may also result from supply management's ability to anticipate and find creative opportunities in the supplier market (Azadegan and Dooley, 2010; Mazzola et al., 2015). (Teece, 2007). According to the DCV, a company's ability to innovate in its supply management in response to changing customer needs is a valuable strategic asset that may provide it an advantage in the marketplace.

Jermsittiparsert and Rungsrisawat (2019) analyze the interactive impact of IS and SCM practices factors that enable and inhibit SCM-IS on the OPER of SMEs in EC. The key dimensions of IS and SCM practices are attempted to be identified by this research study along with the inhibiting and enabling factors related to SCM-IS. Moreover, the study is based on a set of research hypothesis, which are tested and the findings are comparatively discussed specifically to the SMEs working in Indonesia. The role of practices related to IS and SCM as well as inhibitors and enablers of SCM-IS in OPER of SMEs in Emerging Countries has been examined timely relying on data obtained from executives of SMEs. The research contributes to the identified research gap on IS and SCM practices in a comparative aspect. Therefore, the study is among the pioneering studies on the issues. So, the current study has used SEM-PLS as a statistical tool to answer the research questions raised in this study and the research objectives envisaged in the current study.

Lim et al. (2017) proposed a set of measures and interpretive structural modeling methods to identify the driving and dependence powers in sustainable supply chain management

within the context of knowledge management, to improve the performance of firms from the textile industry in Vietnam. The research result indicated that learning organisation, information/knowledge sharing, joint knowledge creation, information technology and knowledge storage are amongst the highest driving and dependence powers. These attributes are deemed to be most-effective to enhance the performance of firms.

Aray et al. (2020) investigate firm-level and supply chain drivers that stimulate sustainability implementation in Russian firms. Using the sample of 273 large Russian firms the paper explores how firm-level drivers such as innovativeness, risk-taking and internationalization, as well as collaboration and integration in the supply chain are related to sustainability performance and sustainability transformation in the supply chain. The hypotheses are tested using regression analysis and the bootstrapping technique. The study indicates the positive association between sustainability performance and sustainability transformation of the firm and such strategic drivers as a firm's innovativeness and internationalization. The positive moderating effect of environmental uncertainty was found for innovativeness indicating that innovative firms show better sustainable performance in the supply chain under uncertain conditions. Also, the findings indicate that environmental uncertainty positively moderates the relationships between a firm's transformation for sustainability, its internationalization and supply chain integration and coordination.

Studies have proven that innovation is a fundamental growth strategy tool that can help a company enter new markets, gain market share, and give it a competitive edge that can raise the likelihood of long-term business sustainability and performance in any capacity (Saxena 2012). The majority of agribusiness and purely agriculturally related companies have embraced innovation due to the increasing competition among global agribusiness firms or enterprise markets. This is because rapidly evolving technologies and fierce global competition typically reduce the value added by already existing products and services. For a variety of reasons, including the use of highly productive manufacturing processes, evaluating market performance, and building a favorable reputation among consumers to outlast rival brands in the race for financial performance, innovations constitute a crucial

component of corporate strategy (Abou-Zeid and Ben-Akiva 2014). Considering its practical importance, innovativeness has drawn the attention of scholars over the past 20 years who have attempted to define, categorize, and explore its performance implications (Wanvoeke et al. 2015). According to Al-Sulaiti et al. (2010), innovations offer businesses a strategic posture that helps them overcome obstacles in their quest for sustainability in the face of rival brands.

Ntiamoah et al. (2019) explore the relationship between supply management innovation practices and the performance of Ghanaian agribusiness and agricultural companies in terms of innovation, production, marketing, and financial performance. These practices include product, process, marketing, and organizational innovation. Survey questionnaires were used to gather data from 1526 respondents, the majority of whom were from agribusiness production, marketing, and input supply organizations. PCA, as well as exploratory and confirmatory factor analysis, were used to evaluate the data. In order to ascertain the correlations between the variables, they also used structural equation modeling, or SEM. The findings show that innovative supply management techniques improve the financial and sustainable performance of agribusinesses.

According to Gunday et al. (2011), organizational growth, sustainability, and profitability are the results of technological and administrative innovation, which is categorized under innovation performance on businesses. They also stress that innovativeness is the missing piece that connects organizational strategic orientations with sustainable performance. Innovative technology items have a statistically significant favorable effect on operational performance, according to Gunday et al. (2011). Businesses can adapt to changes in the business environment by incorporating technical and administrative tasks into their company structure. Businesses engage in innovation activities to assist them in expanding into new areas, gaining market share, improving production flexibility, and maximizing return on investment and sales (Epstein and Buhovac 2014).

Ghisetti and Rennings (2014) investigate the impact that initial investments and internal resource usage, innovative performance on companies' production, market, and financial performances can have on businesses, regardless of the industry they may operate in, to lose money or break even in the near term and subsequently turn a profit or gain in the long run. The adoption of new technologies for innovation has consequences. Businesses require sufficient time to evaluate the benefits of innovations on company performance. For this reason, companies associate creative performance with non-financial components of business success, such as raising customer satisfaction and speeding up production, both of which will eventually result in increased profits. Production and marketing performance both rise when inventive performance does, and this eventually results in higher financial performance. According to Ghisetti and Rennings (2014), innovative performance especially that which is linked to the success of new products has been linked in the literature to an increase in sales and market share since it has a major role in both obtaining new and retaining existing customers.

Schaltegger and Burritt (2014) Examine the relationship between supply chain innovation and manufacturing companies' market and operational performance by running a linear regression model with the Statistical Package of Social Sciences program. The supply chain was proxied by technology, business procedures, and network structure in the study's conceptual model of data analysis, which was applied to a survey that was given to 187 respondents. The results showed that the operational effectiveness of the manufacturing companies is highly correlated with supply chain innovation. In addition, it highlights certain important variables that, aside from supply chain innovation, might affect how well businesses operate in the marketplace. In summary, the study found that supply chain innovation positively correlated with enterprises' market and operational performances.

In contrast to learning orientation, which is unimportant, firms' innovativeness has a substantial association with sustainability performance, according to Crossan and Apaydin's (2010) study on the relationship between learning orientation, sustainability, firm innovation, and firm performance among US firms. Innovation strategy is a major factor in SMEs' performance, according to a follow-up study by the Journal (2010) on 600

manufacturing companies in the manufacturing sector regarding innovation practices and their impact on SMEs' performance in Australia. They came to the conclusion that when strategy and innovation culture are achieved during the innovation process, the performance of SMEs will improve. Crossan and Apaydin (2010) conducted an analysis of 320 small and medium-sized enterprises (SMEs) involved in the ICT industry in Malaysia. The results also showed that innovation is positively correlated with business success and that innovation capability is influenced by organizational learning.

A study by Augusto, Lisboa, and Yasin (2014), which examined 184 Turkish manufacturing enterprises through an integrated innovation-performance analysis, found a clear and positive correlation between innovations and firm performance. Additionally, there is a link between an organization's performance and growth as well as profitability. Most organizations integrate competency and usefulness by adapting to the external environment in response to competitive forces from the business environment. The opportunities that their external environment presents have an impact on how well businesses perform their innovation operations. This explains why companies in growing areas prioritize new initiatives that enhance their brand inside the industry. The majority of companies use innovation to boost their competitive advantage and operational efficiency, which eventually leads to sustainability (Easterby-Smith, Thorpe, and Jackson 2012).

The performance of the company was gauged by sales in a study conducted by Kim Man (2009) that examined the connection between organizational structure and innovation of Taiwanese SMEs in the manufacturing and services sectors. Companies with fewer than 200 employees in the northern region of Taiwan were the population from which empirical data were gathered by telephone survey. 80 percent of the organizations examined, according to the data, innovated in some capacity. It was discovered that; however, technological innovation was not as significant in explaining business performance as administrative innovation.

In 2008, van Auken, Madrid-Guijarro, and García-Pérez-de-Lema conducted a study to examine the correlation between a sample of 1091 Spanish manufacturing SMEs' performance and their level of innovation, as evaluated by innovations in processes, products, and administrative systems. The empirical evidence about the relationship between four performance indicators (human relations approach, internal process approach, open systems approach, and rational goal approach) and three types of innovation (product, process, and managerial/systems) is a significant contribution of the study. The study's conclusions show that innovation has a positive effect on SMEs' success in both high- and low-tech industries. The study also discovered that, for high-tech organizations compared to low-tech firms, innovation is more crucial to gaining a competitive edge. The idea that innovation is essential to a company's long-term competitive advantage is supported by these findings.

Li (2017) looked at how two different kinds of business innovation activities exploratory and exploitative affect output. Interest-worthy data were gathered from 397 businesses in China's east, middle, and west. The study used hierarchical regression analysis to find that firm performance is positively impacted by both exploitative and exploratory innovation, and that firm performance is significantly impacted by the match between the firm's business strategy and innovation activities. These empirical research papers, taken together, contribute to the corpus of information that suggests that organizational performance is predicted by innovation at the business level.

The table below summarizes the literature on the relationship between the variables:

Table 2. 1: Summary of Literature Review

Author(s)	Year of Publication	Key Results/Findings
"Kittisak Jermsittiparsert and Somdech Rungsrisawat"	2019	The study's findings corroborate its theoretical underpinnings and its working hypothesis. Policymakers and practitioners can use this research to better comprehend supply chain risk, supply chain integration, and supply chain performance.
"Masood Nawaz Kalyar, Imran Shafique and Bashir Ahmad"	2019	The efficiency and efficacy of SCs are impacted positively by innovativeness because of their effect on the dimensions of SC integration.
Chih-Jou Chen	2018	The research shows that a firm's competitive advantage can be boosted through increased supply chain agility and innovativeness achieved through both IT integration and confidence among supply chain members.
Santanu Mandal	2020	The findings suggested that TMS might help to increase SC resilience. There were some positive benefits of SI and SS, but they were not statistically significant. The study hypothesizes that this is because OC functions as a potent precursor to SI, TMS, and SS. SI, TMS, and SS were found to be significantly predicted by OC.
Ming K. Lim, Ming-Lang Tseng, Kim Hua Tan and Tat Dat Bui	2017	The study's findings revealed that a learning organization, information/knowledge exchange, joint knowledge development, information technology, and knowledge storage are among the most influential forces. To improve a company's performance, these qualities are considered to be the most important.
Yulia Aray, Anna Veselova, Dmitri		According to the results, strategic factors like a company's innovativeness and internationalization are positively correlated with sustainability performance and sustainability transformation. Uncertainty in the environment was found to have a

Knatko and Anna Levchenko		positive moderating effect on innovativeness, suggesting that sustainable performance in the supply chain is enhanced for innovative enterprises in times of uncertainty.
Syed Awais Ahmad Tipu	2021	The results show that the connection between KD and SSCP is fully mediated by innovativeness and proactiveness. The mediating effect of risk taking on the link between KD and SSCP is moderately favourable, despite the fact that KD is adversely connected to risk taking and has a negligible indirect influence on SSCP via risk taking.
Minkyun Kima and Sangmi Chaib	2017	In order to better understand how supplier creativity affects supply chain management, this research developed a theoretical framework.
Ricardo Machado Leo, Guilherme Freitas Camboim, Ariane Mello Silva Avila, Fernanda Maciel Reichert and Paulo Antônio Zawislak	2021	The findings demonstrated that agribusiness enterprises' performance in undeveloped value chains can be boosted by enhancing their transactional, management, and development capacities.
Kwamega, Michael, Li, Dangmei, Abrokwah and Eugene	2018	It found that performance in both financial and internal processes may be attributed to the use of SCPM.
Fabíola F. Brito, Flávio de São Pedro Filho, Irene Y. T. Sakuno, Carolina Y. V. Watanabe, Maria B. A. C. Tourinho, Sâmia L. M. Benevides	2017	According to this study, business owners who aren't familiar with the concept of strategic alliance are missing out on significant cost savings that can be realised through pooling resources and forming partnerships with other businesses.

Mary-Ann Mallet, Kwame Owusu Kwateng and Dorcas Nuertey	2021	Trust was found to be a moderating factor between the sustainability of the supplier-buyer relationship and the longevity of the supply chain. In addition, the research discovered that SBR has a substantial and favourable effect on supply chain sustainability.
Golnar Behzadi, Michael Justin, Tava Lennon Olsen and Abraham Zhang	2017	The study shows that there will be more written on agribusiness supply chain risk management in the coming years 1.
Golnar Behzadi, Michael Justin, Tava Lennon Olsen and Abraham Zhang	2018	The research showed that the best way to reduce the effects of supply chain disruptions is to employ a mixture of both robust and resilient solutions.
Paul W Hyland, Richard Santa	2019	The two forward-thinking supply chain operators both view supply chain synchronisation as a relatively unimportant factor in determining a company's strategic supply chain competence.
Ketchen and Craighead	2021	A new effective business technique, agribusiness diversification has been used by farmers as entrepreneurs to increase agribusiness income.
MD Qamruzzaman	2021	The importance of Bitcoin's (BTC) central position in the digitalization of convention procedure and agricultural sector innovation cannot be overstated.
Walter odongo moanoj, Dora adrienn molnar, Duncan ongeng, xavier Gellynck	2017	Positive effects of relationship quality on supply chain performance are supported empirically.
Walter odongo moanoj, Dora adrienn molnar, Duncan ongeng, xavier Gellynck	2017	It's clear that there are wide variations in how people think about power consumption and its effect on supply chain performance. This points to the presence of power imbalances within the supply chain's constituent parts.

Simonov Kusi Sarpong, Himanshu Gupta and Joseph Sarkis	2018	Industrial managers and decision-makers can use the study's findings to guide their prioritisation of implementation efforts across multiple sub-criteria.
Surajit Bag	2018	According to the findings, there are 13 critical industrial enablers that contribute significantly to the sustainability of the supply chain.
Masood Nawaz Kalyar, Imran Shafique and Bashir Ahmad	2019	The efficiency and efficacy of SCs are impacted positively by innovativeness because of its effect on the dimensions of SC integration.
Ming K. Lim, Ming-Lang Tseng, Kim Hua Tan and Tat Dat Bui	2017	The study's results showed that among the most influencing factors are a learning organization, information/knowledge interchange, cooperative knowledge development, information technology, and knowledge storage. These characteristics are seen to be the most crucial in order to boost a company's performance.
Kwamega, Michael, Li, Dangmei, Abrokwah and Eugene	2018	It found that performance in both financial and internal processes may be attributed to the use of SCPM.
Mary-Ann Mallet, Kwame Owusu Kwateng and Dorcas Nuertey	2021	The duration of the supply chain and the viability of the supplier-buyer relationship were found to be moderated by trust. The study also found that SBR has a significant and positive impact on supply chain sustainability.
MD Qamruzzaman	2021	The importance of Bitcoin's (BTC) central position in the digitalization of convention procedure and agricultural sector innovation cannot be overstated.
Simonov Kusi Sarpong, Himanshu Gupta and Joseph Sarkis	2018	Industrial managers and decision-makers can use the study's findings to guide their prioritisation of implementation efforts across multiple sub-criteria.

Source: Author's Construct, 2022

2.5 Conceptual Framework

The framework below shows the relationship between the variables being studied in this work, further contained in this section are the arguments on the relationships between the variables used. Below is the framework for the study:

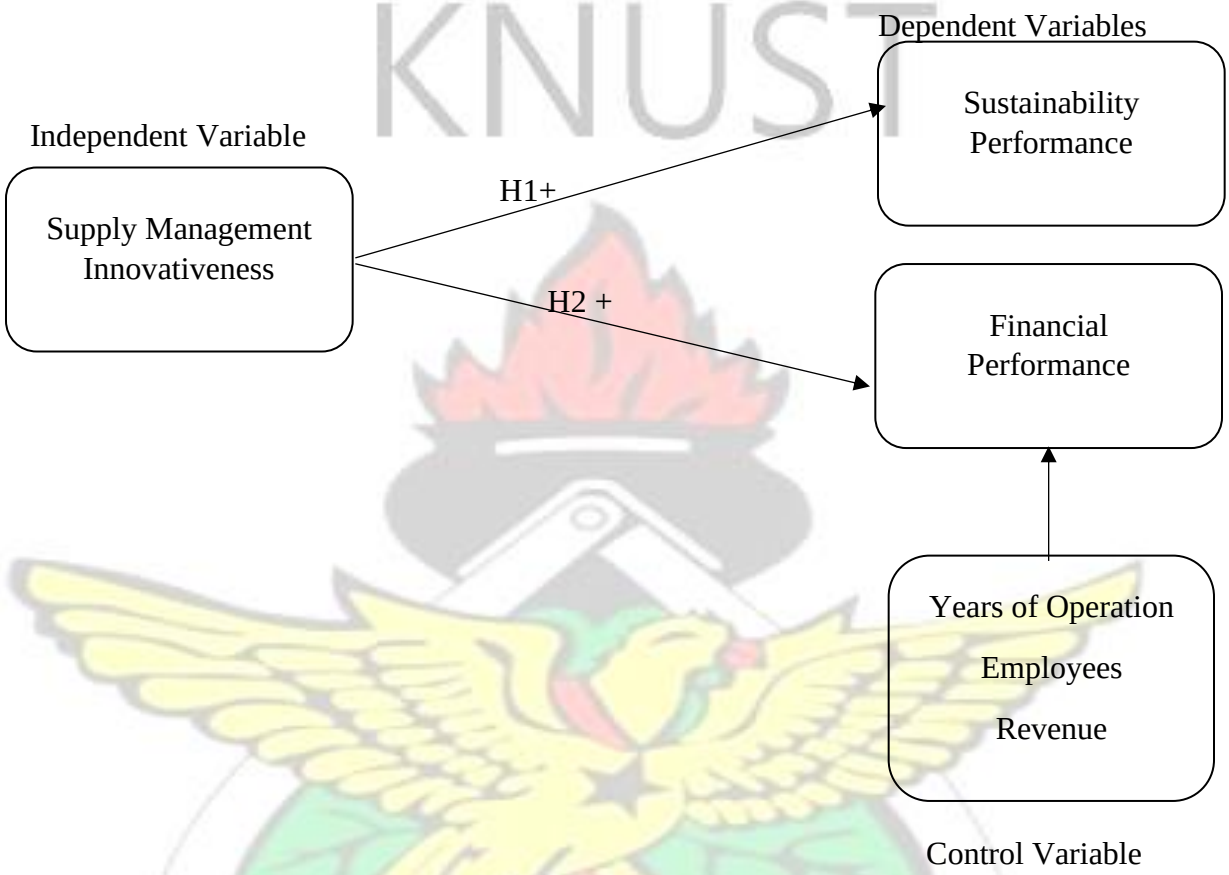

Figure 2. 1: Conceptual Framework

Source: Author's Construct, 2022

2.5.1 Supply Management Innovativeness and Sustainability Performance

Environmentally friendly innovation has a lot of potential with sustainable supply-chain management (Isaksson et al., 2010). "This has made the capacity of corporations to innovate and solicit ideas from their suppliers an increasingly important source of collaboration and leverage in supply chains. The effects of supplier involvement in product development projects and buyer-supplier cooperation on company performance and the success of product development have been the subject of several research, with varying findings (Hoegl and Wagner, 2005; Van Echtelt et al., 2008)".

Azadegan and Dooley (2010) discovered a favorable correlation between suppliers' innovativeness (the capacity to generate and launch new items and processes) and buyers' manufacturing performance. Businesses are looking outside the firm for help managing innovation, and since suppliers may be the driving force behind innovations (Teece, 2007), it's crucial to recognize which ones can provide the most boost to a business's ability to be creative and inventive (Schiele, 2006). Opportunity sensing through knowledge of supply chains and the ability to implement decision-making frameworks and processes are prerequisites for this (Teece, 2007).

In addition, Multaharju et al. (2017) state that working together with suppliers is a great method to increase supply chain visibility and lessen performance-related risks. In order to influence supply markets and improve overall performance, businesses should acknowledge suppliers' innovative potential and take use of the flexible innovation of supply management.

Companies that are innovative are more likely to succeed and endure in the supply chain management sector, according to Christmann, 2000; Pagell and Wu, 2009). The differentiation of products and services is required to improve economic and social performance, and these efforts must be driven by performance criteria. There has to be a lot of effort put into developing new goods, improving old ones, and modifying the value chain (Schaltegger and Burritt, 2014). Employees' creative initiatives often get greater support from senior management as a consequence of a positive association between performance practices and an increase in process innovations (Porter and van der Linde, 1995; Hollos et al., 2012).

Gualandris & Kalchschmidt (2014) indicated that using environmentally friendly procedures in supply chain management is one way that forward-thinking companies may boost their bottom line. Improved performance is possible if innovation possibilities are grasped, and supply management plays a crucial role in doing so (Azadegan and Dooley, 2010; Mazzola et al., 2015). According to the DCV, a company's ability to innovate in its supply management in response to changing customer needs is a valuable strategic asset

that may provide it an advantage in the marketplace. Based on these views, the hypothesis is proposed:

Katrina et. al., (2019) conducted a study to investigate the relationship between supply management innovativeness and the overall sustainability performance of firms. The study gathered data from large and medium scale manufacturing entities from Finland. The findings of this study concludes that there is a significant relationship between the sustainability performance of firms and the supply chain management innovativeness of firms in Finland.

H1: Supply management innovativeness has a positive influence on sustainability performance.

2.5.2 Supply Management Innovativeness and Financial Performance

Scholars have delved into the effects of resource allocation, technical competence, managerial attitudes, pay structure, and organizational culture on the success of organizations in relation to the issue of domestically created innovations (Rosenbusch et al., 2011). Due to the general recognition that suppliers are a major source of information and technological know-how, researchers have begun looking at how a company's supply chain could affect a company's innovation efforts (Adner, 2006; Dhanaraj & Parkhe, 2006).

According to this body of research, a company's supply network can boost its R&D performance and financial outcomes by facilitating the sharing of information and ideas (Ahuja, 2000) and allowing for more rapid adaptation to shifting market demands (Bernardes, 2010). According to Narasimhan and Narayanan (2013), a company's R&D and innovation outcomes may improve if it has access to a supply network that is open to new and different types of information and ideas. Therefore, a higher rate of return on investment can be expected when a company's supply chain includes a greater proportion of R&D-intensive suppliers (Henke & Zhang, 2010).

Dong et. al., (2020) investigated the relationship between firm performance and supply base innovation using secondary data from Bloomberg and Compustat. Specifically, they

established a positive relationship between intensity of research and development within the supply base and the financial performance of firms with the moderating role of some supply base complexities. These supply base complexities were inter-relationships among suppliers, number of suppliers, and differentiation among suppliers. Their revelations were that all the three supply base complexities negatively moderate the nexus of intensity of research and development and financial performance of firms. Their research adds to literature by establishing a nexus of supply base research and development and financial performance of firms.

Jan and Christopher (2018) examine the nexus of supply chain innovation and the market and operational performance of Danish manufacturing firms using a linear regression model done with the Statistical Package of Social Sciences software. The study adopted a conceptual model to analyze data collected using a questionnaire administered to 187 respondents in which supply chain was proxied with technology, business processes, and network's structure. The findings revealed that supply chain innovation has a very strong relationship with operational performance of the Danish manufacturing firms. It also indicates some crucial factors that can impact the market performance of firms aside supply chain innovation. Bottom line, the study concluded on a positive relationship between supply chain innovation and the market and operational performances of firms. Based on these views, the hypothesis is proposed:

H2: Supply management innovativeness has a positive influence on financial performance.

CHAPTER THREE

RESEARCH METHODOLOGY AND PROFILE OF STUDY AREA

3.0 Introduction

The part examined the techniques embraced in completing the investigation. The specialist talked about the examination reasoning, research plan, the investigation region, populace, testing methodology and information assortment instruments and information examination of the investigation. Other issues including validity, reliability and ethical considerations were also addressed in this chapter.

3.1 Research Strategy

Selecting a solid research method is crucial to the success of any study (Jupp, 2006). Research involves a number of steps, one of which is developing a plan. The research plan lays out not just the overall direction of the study, but also the methodology that will be used to conduct the research (Remenyi et al., 2003). Both qualitative and quantitative approaches to study design are necessary. Qualitative research is an approach to studying markets that places a premium on in-depth, open-ended interviews. In contrast, in-depth interviews and other closed-ended techniques of inquiry form the backbone of qualitative research, a subset of market research. The quantitative research approach is used in this study. The use of quantitative techniques in illustrating concerns in the analysis to support speculation outcomes is enabled by the quantitative approach (Creswell and Ph, 2016). The method is scientific, quick, and uses numerical values collected from surveys and questionnaires as data collecting approaches to draw logical conclusions (Cresswell, 2014). Considering causes and effects correlations between and among the variables is crucial in this study, the quantitative strategy is deemed appropriate (Creswell & Creswell, 2017).

3.2 Research Design

A research design is a systematic procedure or concept used to carry out various research study activities (Miloler and Brewer, 2003). The goal of research design is to make it possible for the researcher to move forward appropriately without deviating from the duties (Maggetti et al., 2012). It is a comprehensive, in-depth research process strategy. The

researcher has a range of options, including surveys, experiments, histories, archival record analyses, and case studies (Yin, 2003). This research was conducted using a questionnaire. The objective of doing a survey study is to characterize a population or a group (Fraenkel et al., 2012). In this kind of study, either a representative sample of the population as a whole or the whole population as a whole is surveyed and their responses analyzed quantitatively to define their views, opinions, habits, experiences, and so on (Creswell, 2005). The survey is judged appropriate because this research is primarily quantitative in nature.

3.3 Study Population

The population consists of every person who could take part in the study. Population, in the context of Burns and Grove's (2010) definition, is the sum of all eligible individuals for a given study's sample. Research populations, which are the primary participants in most scientific investigations, are often very large groups of people or items. The term "study population" is used to refer to a specific group of individuals or objects that are thought to have commonalities. In most cases, there will be one characteristic or quality that all individuals and objects in a group have in common (Bhattacherjee, 2012). All Agribusinesses in the Greater Kumasi Area are included in the study's population. The researcher has concluded that there are around 550 agricultural enterprises operating in the Kumasi Metropolitan Region.

3.4 Sample Size and Sampling Technique

As defined by Babbie (2010), sampling is the process of selecting a subset of a population to act as a stand-in for the whole population. Anthony-Krueger and Sokpe (2006) agreed that a sample is a selection of individuals from a larger group that is meant to be representative of the total. In order to acquire data that may be indicative of the community as a whole, sampling allows the researcher to examine a small selection of units rather than the whole population. This study's sample was selected using a mix of systematic and random techniques. In the case of convenience sampling, sometimes called accidental sampling or grab sampling, researchers choose a sample without regard to statistical likelihood (Sedgwick, 2013). Non-probability sampling allows researchers to avoid the

appearance of bias by selecting a subset of the population to participate in the study, rather than offering everyone in the population an equal chance of being included. Due to the sensitive nature of the data, they control, this research employed convenience sampling to recruit senior and middle management from agricultural companies.

The extent to which a sample is representative of the whole population may depend on the size of the sample. The sample size refers to the number of categories that are measured. It is difficult to say how much of a sample size will be required (Malhotra, 2012). To determine the sample size, a mathematical formula proposed by Tabachnick and Fidell (2007) was used. The formula was N > 50 + 8m. N represents the sample size, while m represents the number of independent variables. This study has two core dependent variables supply management innovativeness, and sustainability performance hence the sample is estimated to be 50 + 8(2) = 66. Based on the above, the study uses a sample expected to be greater than 66, for some degree of freedom should some respondents destroy or choose not to respond to the questionnaire, the researcher settled on a sample size of 110 agribusiness top and middle managers since this is greater than the estimated sample size.

3.5 Types and Sources of Data

According to Ward and Barker (2013) definition, data are the evidence used to support an argument or hypothesis. Primary data are those obtained directly from the responder by the researcher, whereas secondary data are those collected by a third party and processed by the primary data collector. This investigation made extensive use of primary sources. This was done so that the study could explain the problem and the various aspects that went into finding a solution in great detail. In order to perform a study, researchers require primary data, which are the actual replies they obtain from individuals in the field through a questionnaire. Direct responses to questionnaires were the primary data source for this study.

3.6 Data Collection Method

Instruments of data collection are how the information is gathered. Tools for data collecting include things like questionnaires, tests, scheduled interviews, and checklists (Muchesa, 2015). Quantitative data for this inquiry was gathered using a survey questionnaire. According to Creswell (2003), a questionnaire is "a form for collecting information from a sample of people for use in research" (Creswell, 2003). There was less opportunity for answer manipulation with a larger sample size when using questionnaires, thus researchers could get more accurate results (Saunders et al., 2009). The use of a questionnaire in this thesis' quantitative analysis allowed for the collection of enormous amounts of data with essentially no response distortion. According to Saunders et al. (2009), questionnaires are frequently employed in large-scale data collection, with each responder responding to the same group in a predetermined order.

In this study, the questionnaire had four main sections with each focusing on an important aspect of the research. The first section was on the demographics of the business and respondents, the second part focused on supply management innovativeness of the agribusiness whiles the third and fourth focused on sustainability and financial performances of these firms. The questionnaires were self-administered to the managers, top or middle managers of these agribusinesses, the researcher ensured that each firm received only one questionnaire since this is a firm level analysis. Below is a table showing the variables, their measurements and sources:

Table 3. 1: Variables, Measurement and Sources.

Variable	Number of Measurement Items	Source(s)
Supply Management Innovativeness	12 Items	(Lintukangas et al., 2019; Espino-Rodriguez and Taha, 2022)
Sustainability Performance	12 Items	(Kahkonen et al., 2018; Lintukangas et al., 2019; Espino-Rodriguez and Taha, 2022)
Financial Performance	10 Items	(Vickery et al., 2003)

Source: Author's Construct, 2022

3.7 Data Analysis Method

An integral part of every study, data analysis entails a series of steps—from collecting and organizing raw data to analyzing it in order to draw conclusions and answer research questions (Cramer and Howitt, 2004). Data was processed systematically by choosing, classifying, comparing, synthesizing, and analyzing raw data after it was collected to offer explanation and meaning. After being filled out, edited, and categorized, the questionnaires were imported into SPSS 23. In order to filter and remove disinterested replies, preliminary data analysis was performed. The data's demographic answers were also evaluated using descriptive methods. The connection between the dependent and independent variables was then determined by the use of regression analysis.

3.8 Data Validity and Reliability

The reliability of a measuring device is defined as the consistency with which it provides correct results while measuring a certain attribute (Fraenkel & Wallen, 2001). How well a measurement holds up over time and across various kinds of studies is what we mean when we talk about its dependability (Sekaran & Bougie, 2013). Trustworthiness was calculated using Cronbach's alpha. In general, a Cronbach's alpha of 0.7 is regarded to be reliable, however, values as low as 0.6 are often accepted (Hair, et al., 2010).

The other side of the coin is that a measuring gadget is trustworthy if and only if it reliably measures the thing it is supposed to measure (Patten, 2004). The findings of research may only be considered reliable if they are also plausible, comprehensible, and useful. The researcher used exploratory factor analysis as a means of ensuring the reliability of the results (EFA). While doing exploratory factor analysis, the goal is to identify the underlying variables, or factors, that explain the observed pattern of association between a set of variables. Factor analysis is often used in data reduction methods to identify a manageable fraction of underlying explanations for the observed variance across a large number of independent variables. Two further uses for factor analysis are the testing of hypotheses concerning causal processes and the elimination of irrelevant variables (for example, to identify collinearity prior to performing a linear regression analysis).

3.9 Research Ethics

While performing valid research and supplying relevant data for analysis, the use of ethical procedures is very necessary (Zikmund, et al., 2003). According to Leedy and Ormrod (2010), in order to legally collect data, researchers need to seek permission from the appropriate authorities and adhere to certain ethical criteria. These requirements include anonymity, confidentiality, and informed consent. As a direct consequence of this, the procedures for gathering the data were meticulously developed to ensure that none of the study's ethical requirements were violated (Zikmund et al., 2003).

This study adhered to standards that attempted to preserve the dignity and privacy of every individual who replied to the questionnaire. This included those individuals who supplied information that was personally or commercially sensitive about themselves or others. Before participating in the study as a subject, a volunteer will get information on the objectives, procedures, anticipated advantages, and any risks associated with the investigation. In addition to this, complete confidentiality maintained at all times. No one was forced to participate in the study against their choice, and only those who actively participated in the examination were expected to reply to the questions.

3.10 Profile of Agribusiness Sector

Ghana's economy is known to be predominantly agricultural. More than 55% of Ghana's population works in the agriculture related sector, which also generates about 25% of the country's gross domestic products (GDP) and export revenue (Christiaensen et al., 2011).

Agribusiness in Ghana refers to all activities carried out by farms and firms that gather, process, and turn raw agricultural commodities into finished goods for sale in Ghana and other nations (World Bank, 2012). These economic operations include fixing machinery, making fertilizer, farming, processing and manufacturing food, making food packaging, distributing goods in wholesale and retail, and operating marketplaces. The development of agriculture companies has aided in raising revenue and employment in recent years. Over the past few decades, there have been raised expectations for food supply chains (Porter and Reay, 2016). Consumers are concerned about the safety and quality of the food

they eat, but they also want new products, sustainable practices, fair prices, and good value (Tell et al., 2016). Reducing food loss and waste throughout the supply chain has severe negative repercussions for the environment, society, and economy (Devin and Richards, 2018). Systems for food production and distribution must be greatly upgraded in order to increase the efficiency of the food supply chain (Dania et al., 2018). Yet, small and medium-sized businesses (SMEs) dominate the world's food supply chain (Vandeplas et al., 2013).

The Ghana Statistics Service (2015) reports that the percentage of GDP derived from agriculture is steadily decreasing, while the percentage derived from services is steadily increasing. The absence of meaningful assistance from the government and commercial enterprises has been recognized by several efforts aiming to improve the agricultural sector's persistent underperformance. To encourage investment and provide support to regional, small and medium-sized agricultural businesses, the Ministry of Food and Agriculture set up an Agribusiness Unit. The West Africa Agricultural Development Fund and Youth in Agriculture are two programs that aim to encourage and help the agricultural community. Moreover, agricultural productivity increased. The term "agribusiness" refers to the industry that encompasses the provision of agricultural inputs, the generation and transformation of agricultural commodities, and the final distribution to consumers (FAO, 2017). Agribusiness corporations supply farmers with the inputs they require for harvesting, processing, and selling their crops.

Agribusinesses seek to transform farming into a business, boost productivity, generate revenue, create jobs, strengthen food security, and boost competitiveness in both the domestic and global markets. The agriculture industry is continually evolving and growing. Agribusiness is seen as a useful tool for the country's economic development, but it is now facing a crisis due to a lack of cutting-edge technology, innovative thinking, and market integration. The agricultural industry has undergone modest internal improvement. 2012 World Bank research provided specifics on the initiatives, which required cooperation between the public and private sectors. The United States Agency for International Development (USAID) supported Financing for Ghana's Agricultural Project (FinGAP)

sped up financing and provided cost reductions throughout the supply and value chains for soy, rice, and maize. Agribusiness is hampered by several factors, including technological, operational, management, marketing, human resource, accounting, and financial problems.

CHAPTER FOUR

PRESENTATION OF DATA, ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter of the study presents the data that were collected by the researcher from the respondents. Furthermore, the descriptive statistics on the variables are also presented here. The chapter also presents the EFA analysis and reliability test needed to verify the data. This is followed by the analysis of the data to achieve the research objectives and finally the discussion of the results in relation to prior studies.

A survey instrument was designed and disseminated to top and middle managers of agribusiness enterprises operating in the Kumasi metropolis. After the businesses were conveniently chosen and provided with the questionnaire, only 109 valid responses were obtained from the 110 sample sizes that were approved.

4.1 Background and Demographic Data

The background information on the individuals who responded to the questionnaires are presented here. This is in addition to the background information on their respective Agribusiness Firms that they work in. The results are displayed in Table 4.1:

Table 4. 1: Demographics of Respondents

Variables	Items	Frequency	Valid Percent
Gender:	Male	78	71.6
	Female	31	28.4
Age:	24–29 years	19	17.4
	30–35 years	19	17.4
	36–40 years	34	31.2
	41 years and above	37	33.9
Educational Background:	Basic/Primary	2	1.8
	Secondary	17	15.6
	Bachelor's Degree	69	63.3
	Master's Degree	20	18.3
	Ph.D./Doctorate	1	0.9
Position in the firm	Supply Chain Manager	19	17.4
	Operations Manager	37	33.9
	Sales Manager	15	13.8

	Marketing Manager	16	14.7
	Others	22	20.2
The sector of Agribusiness firms operates	Agrochemical & Seed Production	29	26.6
	Food & Feed processing	28	25.7
	Farm Machinery Sales/Supply	14	12.8
	Marketing & Distribution	17	15.6
	Others	20	19.3
Number of years in operation:	Less than 1 year	1	0.9
	1-5 years	13	11.9
	6-10 years	16	14.7
	11-15 years	14	12.8
	16-20 years	27	24.8
	21 years & above	38	34.9
Number of employees in the firm:	Less than 6 employees	7	6.4
	6-9 employees	19	17.4
	10-29 employees	29	26.6
	30-50 employees	17	15.6
	More than 50 employees	37	33.9
Type of ownership:	Fully locally owned	68	62.4
	Fully foreign owned	26	23.9
	Jointly Ghanaian & foreign owned	15	13.8
Annual revenue (in Ghana Cedis)?	Less than 100,000	30	27.5
	100,000 - 200,000	38	34.9
	200,000 – 300,000	37	33.9
	Above 300,000	4	3.7
Total		109	100

Source: Field Study (2023)

The gender of the respondents showed that the majority of them were male respondents and represented 71.6 percent and 78 respondents. In addition, 28.4 percent representing 31 respondents were female respondents, showing that the majority of the respondents of these companies were male respondents. This implies that there were more males in the Agribusiness sector than females.

The age of the respondents was the second question. From the analysis, it was evident that the majority of the respondents were above 41 years and these were 37 respondents and

represented 33.9 percent. Followed by 31.2 percent which were 34 respondents who were between 36 to 40 years. 17.4 percent representing 19 respondents were all within the ages of 24 to 29 years and 30 to 35 years respectively. This implies that the majority of the respondents in the Agribusiness sector are old enough to understand what the research is about and answer accordingly.

The educational background of the respondents showed that 63.3 percent of the respondents were bachelor's degree holders and this represented 69 respondents. Also, 18.3 percent which were 20 respondents were Master's Degree holders while 15.6 percent which were 17 respondents were secondary school certificate holders. Another 1.8 percent and 2 respondents were basic/primary school certificate holders while 0.9 percent and 1 respondent had a PhD or Doctorate. This implies that the study has enough respondents with higher education and would be able to answer the questions accordingly.

For the position of the respondents in their firms, it was evident that 33.9 percent representing a majority of 37 respondents were operations managers. Also, 20.2 percent and 22 respondents were holding other positions, whiles another 17.4 percent representing 19 respondents were supply chain managers. The analysis further indicated that marketing managers were 14.7 percent and represented 16 respondents with the least being 13.8 percent and 15 respondents represented as sales managers. This implies that the respondents to the questionnaires hold positions that provide them with adequate knowledge of the study area.

The respondents were asked to indicate the sector in which they operate with their agribusiness. The analysis showed that the majority which were 29 firms and represented 26.6 percent were operating in agrochemical and seed production. Furthermore, another 25.7 percent representing 28 companies were into food and feed processing. The analysis showed that 19.3 percent and 20 firms were in other sectors apart from the listed ones. Furthermore, 15.6 percent showing 17 firms were into marketing and distribution of Agricultural products whiles 12.8 percent representing 14 firms were into farm machinery sales and supply.

In terms of the number of years that the company has been in operation, the analysis showed that the majority of the firms which represented 34.9 percent have been in operation for more than 21 years and represented about 38 companies. This is then followed by 24.8 percent who have been in operation between 16 to 20 years and represented 27 of the companies. Another 14.7 percent has been in operation between 6 to 10 years and represented about 16 companies. Some 12.8 percent of the businesses have been in operation for between 11 to 15 years and represented 14 companies. Whereas 11.9 percent has been in operation between 1 to 5 years and also represented 13 companies. Finally, 0.9 percent representing 1 firm has been in operation for less than 1 year. This implies that the firms being used in this study have operated for long enough to be able to understand the supply management innovativeness and respond to them accordingly.

With respect to the number of employees, it was evident that the majority of the businesses had more than 50 employees and represented 33.9 percent of the respondents, that is 37 firms. This is then followed by 26.6 percent of the firms which had 10 to 29 employees and represented about 29 companies. The next batch were 19 companies representing 17.4 percent of the responding firms which had between 6 to 9 employees. Another 17 companies which represented 15.6 percent of the businesses had between 30 to 50 employees. The least represented 7 companies and 6.4 percent had less than 6 employees.

In terms of ownership, the majority of the firms appeared to be fully locally owned which represented 62.4 percent of the firms and 68 of the responses. The next was 23.9 percent of the firms that were fully foreign owned businesses and represented about 26 of the companies. The least was 15 companies representing 13.8 percent which were jointly Ghanaian and Foreign Owned agribusinesses.

From the data, it was evident that the highest revenue made by the majority of the respondents was an annual amount between 100,000 to 200,000 Ghana Cedis representing 34.9 percent and 38 companies. This is followed by those firms that made between 200,000 to 300,000 Ghana Cedis and represented 33.9 percent and 37 of the sampled firms. The

third ranking was those firms that made less than 100,000 Ghana Cedis accounting for 27.5 percent and 30 of these firms and only 3.7 percent made above 300,000 Ghana Cedis representing 4 firms.

4.2 Reliability, Validity Test and Correlation

Research data quality may be evaluated by considering two important principles in research methodology: reliability and validity. Although validity relates to the accuracy of loading of the measurement items, reliability describes how well those findings hold up over time. This study employs the exploratory factor analysis (EFA) and Cronbach's alpha to check the validity and reliability of the research.

The SPSS reliability analysis was performed using Cronbach's Alpha. Authors like Robinson et al. have proposed that a Cronbach's Alpha of 0.70 be used as a minimum reliability threshold (1991). Cronbach's Alpha values for all variables were over 0.70, as shown in Table 4.2, indicating that the questionnaires would perform well in similar future investigations.

Table 4. 2: Cronbach's Alpha Test

Variables	No. of Items	Cronbach's Alpha
Supply Management Innovativeness	12	0.862
Sustainability Performance	10	0.842
Financial Performance	10	0.898

Source: Field Study (2023)

For this reason, we used exploratory factor analysis (EFA) to examine the reliability of the survey and its underlying components. Using principal component analysis for data extraction and the varimax criteria for rotation, an exploratory factor analysis (EFA) was performed on dependent variables. Where possible, remove non-factorial pure objects (Cheng & Choy, 2007). Variables are deemed sufficient for a given factor if their factor loadings on that factor are larger than 0.50. All of the variables were removed from the load that was below the minimum. Items that were also loaded on more than one factor (cross loading) were also deleted. A KMO value of 0 shows that the pattern of correlation

is non-existent, since the sum of partial correlations is considerable in comparison to the total correlations (Field, 2005). If the value is near 1, the correlation patterns are good, and the results of the factor analysis should be credible. According to Field (2005), satisfactory results may be expected from KMOs between 0.80 and 0.90; as a result of the analysis, it can be concluded that this EFA is suitable for this study since its KMO is larger than 0.80, specifically 0.859.

Table 4. 3: Exploratory Factor Analysis (EFA)

	Component			
	1	2	3	Extraction
SMI5		0.589		0.422
SMI6		0.799		0.664
SMI7		0.644		0.449
SMI10		0.638		0.474
SMI11		0.518		0.48
SMI12		0.58		0.425
SP5			0.773	0.676
SP6			0.606	0.54
SP8			0.752	0.672
SP10			0.783	0.702
FP4	0.7			0.592
FP5	0.795			0.679
FP6	0.805			0.704
FP8	0.796			0.66
FP9	0.739			0.667
Total	**3.654**	**3.021**	**2.515**	
% of Variance	**22.837**	**18.881**	**15.718**	
Cumulative %	**22.837**	**41.718**	**57.436**	
KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.859		
Bartlett's Test of Sphericity	Approx. Chi-Square	719.898		
	df	120		
	Sig.	0		

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Source: Field Study (2023)

Table 4.4 presents the correlation analysis table on the variables in the study. It can be observed from Table 4.4 that supply management innovativeness has a positive and

significant relationship with sustainability performance and financial performance with correlations of 0.788 and 0.667 respectively.

Table 4. 4: Correlation Analysis

		SMI	SP	FP
SMI	Pearson Correlation	1		
	Sig. (2-tailed)			
SP	Pearson Correlation	.788**	1	
	Sig. (2-tailed)	0.00		
FP	Pearson Correlation	.667**	.709**	1
	Sig. (2-tailed)	0.000	0.000	

Where: SMI= Supply Management Innovativeness, SP= Sustainability Performance, and FP= Financial Performance

Source: Field Study, 2023

4.3 Descriptive Statistics

4.3.1 Descriptive Statistics on Supply Management Innovativeness

After the validity test, 6 items were used to measure supply management innovativeness based on the scale measurement listed below; 1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Indifferent/Not sure, 5= Somewhat agree, 6= Agree and 7= Strongly agree. The results of their descriptive statistics are presented in Table 4.5:

Table 4. 5: Descriptive Statistics on Supply Management Innovativeness

Latent Variables	Min	Max	Mean	Std. Dev.
We satisfy our customers through supply management and innovative operations.	3	7	5.8716	1.08952
Our firm has an advantage over competitors through supply management innovativeness.	2	7	5.5688	1.24251
Our firm is resilient to change because of the adaptation of technological innovativeness.	2	7	5.8165	1.18763
We innovate to influence our market share	2	7	5.9083	1.06755
Our operational risk is minimal as a result of our openness to technological innovativeness	3	7	5.789	1.06348
Our firm is competing well in the market because of our innovative consciousness	2	7	5.8257	1.12088
Composite Mean: 5.876158				

Source: Field Study (2023)

From Table 4.5, it can be observed that "We satisfy our customers through supply management innovative operations", "Our firm has an advantage over competitors through supply management innovativeness" and "Our firm is resilient to change because of the adaptation of technological innovativeness" recorded means of 5.87, 5.56, and 5.89 which indicates that the respondents agree that these practices exist within their firm. The items "We innovate to influence our market share", "Our operational risk is minimal as a result of our openness to technological innovativeness" and "Our firm is competing well in the market because of our innovative consciousness" all recorded means of 5.90, 5.78, and 5.82 which indicated that the respondents agree to the statement. The composite mean was found to be 5.87 which indicates that overall, the firms in this study agree to practicing the statements under supply management innovativeness.

4.3.2 Descriptive Statistics on Sustainability Performance

After the validity test, the valid items used to measure sustainability performance were four items which were done based on the scale measurement listed below; 1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Indifferent/Not sure, 5= Somewhat agree, 6= Agree and 7= Strongly agree. Their descriptive statistics are presented below:

Table 4. 6: Descriptive Statistics on Sustainability Performance

Latent Variables	Min	Max	Mean	Std. Dev.
Our company has innovations and experiments related to sustainability	2	7	5.8165	1.10692
We actively communicate with end customers about sustainability values	2	7	5.9358	1.08248
We develop new services or improve existing services that are regarded as sustainable for society and the environment.	2	7	6.1101	1.00314
Compared to our competitors, we more thoroughly respond to societal and ethical demands on sustainability.	3	7	6.1193	0.92019
Composite Mean: 5.88901				

Source: Field Study (2023)

From the analysis, the items "Our company has innovations and experiments related to sustainability" and "We actively communicate with end-customers about sustainability values" recorded means of 5.81 and 5.93 respectively, and indicate that the respondents agree with these variables being practiced. Furthermore, the items "We develop new services or improve existing services that are regarded as sustainable for society and the environment" and "Compared to our competitors, we more thoroughly respond to societal and ethical demands on sustainability" also recorded means of 6.11 and 6.119 respectively and further indicates that the respondents agree to these statements being practiced under sustainability performance. The composite mean was found to be 5.88 which indicates that overall, the respondents agree to the statements under sustainability performance.

4.3.3 Descriptive Statistics on Financial Performance

The valid items left after the validity test were six items for financial performance which were measured based on the scale measurement listed below; 1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Indifferent/Not sure, 5= Somewhat agree, 6= Agree and 7= Strongly agree. Their results are presented below:

Table 4. 7: Descriptive Statistics on Financial Performance

Latent Variables	Min	Max	Mean	Std. Dev.
Growth in profitability	2	7	5.4037	0.99181
Return on investment (ROI)	2	7	5.3853	1.10477
Return on sales (ROS)	2	7	5.4128	1.05594
Market share	2	7	5.4862	0.99643
Growth in ROI	1	7	5.2477	1.18756
Growth in ROS	2	7	5.3761	1.0255
Composite Mean: 5.51743				

Source: Field Study (2023)

It can be observed that the items "Growth in profitability", "Return on investment (ROI)", and "Return on sales (ROS)" recorded means of 5.40, 5.38 and 5.41 respectively indicating that the firms agree that they have seen increases in profitability, ROI and ROS respectively. Also, the items "Market share", "Growth in ROI", and "Growth in ROS" recorded means of 5.48, 5.24 and 5.37 respectively, which indicates that the respondents

agree to their market share going up and also seeing growth in their ROI and ROS respectively.

4.4 Regression Analysis

The regression model was used to determine and estimate the effects between supply management innovativeness, sustainability performance and financial performance. The summary of the regression is presented in Table 4.8:

Table 4. 8: Summary of Regression Analysis

Variables	Model 1 (SP)	Model 2 (FP)	VIF Statistics
Constant	1.260***	1.381**	
	(3.631)	(3.003)	
	Main Effect		
SMI→SP	0.779***		1.135
	(12.335)		
SMI→FP		0.646***	1.135
		(8.543)	
	Control Variables		
Years of Operation	0.150*	-0.136	1.699
	(1.938)	(-1.467)	
Employees	-0.058	-0.017	2.191
	(-0.664)	(-0.162)	
Revenue	-0.031	0.209**	1.788
	(-0.394)	(2.201)	
R-Squared	0.635	0.477	
Adjusted R-Squared	0.621	0.456	
F	45.167***	23.671***	

Source: Field Study (2023)

4.4.1 Model 1 (Supply Management Innovativeness and Sustainability Performance)

From the analysis, it can be observed in Model 1 that the model has a constant of 1.26 which was found to be significant, indicating that holding all other variables constant, sustainability performance would be expected to increase by 1.26 units. The major impact of supply management innovativeness on sustainability performance was found to have a significant (t=12.33) coefficient of 0.779, showing that supply management innovativeness has a positive and considerable effect on sustainability performance. For example, a unit

increase in supply management innovativeness should result in a 0.779-unit increase in sustainability performance. The study included the number of years in operation, the size of the employees, and revenue. Years of operation have a significant coefficient of 0.150 in the model, indicating that years of operation have a positive and significant influence on sustainability performance, and a unit increase in years of operation would be expected to result in a 0.150-unit increase in sustainability performance. Moreover, staff size and revenue had -0.058 and -0.031 coefficients, respectively, but were deemed inconsequential, indicating that employee size and revenue had no effect on sustainability performance. With an r-squared of 0.621, the model can explain up to 62.1 percent of differences in sustainability performance. This finding from the analysis conforms with previous studies that there is a positive and significant relationship between supply management innovativeness and the sustainability performance of firms (Katrina et. al., 2019; Gualandris & Kalchschmidt, 2014; Azadegan and Dooley, 2010; and Isaksson et al., 2010).

4.4.2 Model 2 (Supply Management Innovativeness and Financial Performance)

Model 2 was discovered to have a significant constant of 1.38, suggesting that if all other variables were maintained constant, financial performance would be predicted to grow by 1.38 units if the analysis is correct. This may be observed by looking at the analysis findings, which can be obtained here. A significant (t=8.543) coefficient of 0.646 was observed, demonstrating that supply management innovativeness has a positive and substantial influence on financial performance. Moreover, this research suggests that the major influence of innovative supply management on financial performance is connected to supply management innovativeness. To be more explicit, an improvement in the innovativeness of supply management by one unit is expected to result in a financial performance gain of 0.646 units. The study takes into consideration a company's number of years in existence, employee size, and yearly revenue. The model shows that the number of years in business has a coefficient of -0.136, which is deemed insignificant. This suggests that the number of years in operation has no influence on financial success. Additionally, staff size had a -0.017 coefficient, which was deemed to be inconsequential. Revenue, on the other hand, had coefficients of 0.209, which were deemed to be significant. This is consistent with the studies of previous scholars that the is a significant relationship

between supply management innovativeness and financial performance of firms (Jan and Christopher, 2018; Dong et. al., 2020; Henke & Zhang, 2010; Rosenbusch et al., 2011). This suggests that revenue has a considerable impact on the firm's financial performance, and it is realistic to expect a unit increase in sales to result in a 0.209-unit rise in financial performance. The model's r-squared score was 0.456, indicating that it can explain up to 45.6 percent of the differences in financial performance on average.

4.5 Discussion of Findings

4.5.1 Introduction

This section of the study presents the findings of the study and subsequently its discussion by the theories and empirical literature.

4.5.2 The Supply Management Innovativeness Practices of Agribusiness Enterprises in Kumasi Metropolis

The first objective of the study sort to identify the supply management innovativeness practices of Agribusiness enterprises in Kumasi Metropolis. From the analysis in the descriptive statistics in Table 4.4, it was evident that the 6 key items were qualified as being practiced by the Agribusiness enterprises in Kumasi Metropolis. The study found that the practices include “satisfying customers through supply management innovativeness”, “using supply management innovativeness to achieve competitive advantage over competitors”, “adaptation of technological innovativeness”, “innovating to influence market share”, “reducing operational risk through technological innovativeness”, and “using their innovative consciousness to compete in the market”. The above implies that Agribusinesses in Kumasi Metropolis engage in supply management innovative practices within their operations. This implies that agribusinesses do not just handle their supplier and suppliers without any laid down procedures however, they follow supply chain practices to select suppliers and manage their supply. They also use innovative measures when managing these suppliers. The results further revealed that agribusiness enterprises that engage in innovative practices have a competitive advantage over their competitors and are also more responsive in satisfying their customer’s demand.

According to Detre et al. (2011), agribusinesses are leveraging digital supply chain management tools such as blockchain, IoT, and big data analytics to track and manage their supply chains. These technologies can provide real-time visibility into the supply chain, enabling companies to make more informed decisions and optimize their operations. Mohezar and Nor, 2014) also stated that Agribusinesses are diversifying their supplier base to reduce the risk of supply chain disruptions. This can involve working with suppliers in different geographic regions or sourcing from different types of suppliers.

4.5.3 The Influence of Supply Management Innovativeness on Sustainability Performance of Agribusiness Enterprises in Kumasi Metropolis

The second objective was to examine the influence of supply management innovativeness on the sustainability performance of agribusiness enterprises in Kumasi Metropolis. From the analysis, in Table 4.6 the items "Our company has innovations and experiments related to sustainability" and "We actively communicate with end-customers about sustainability values" recorded means of 5.81 and 5.93 respectively and indicate that the respondents agree to these variables being practiced. Furthermore, the items "We develop new services or improve existing services that are regarded as sustainable for society and the environment" and "Compared to our competitors, we more thoroughly respond to societal and ethical demands on sustainability" also recorded means of 6.11 and 6.119 respectively and further indicates that the respondents agree to these statements being practiced under sustainability performance.

The results further showed that supply management innovativeness has a positive and significant influence on the sustainability performance of Agribusinesses in Kumasi Metropolis. This implies that supply management innovativeness can help agribusinesses reduce costs by responding to new demands on time, increase efficiency through active communication with the end users, and improve productivity (Kirchoff et al., 2016). This can improve the economic viability of the business and ensure its long-term sustainability. By prioritizing supply management innovativeness, agribusinesses can differentiate themselves from competitors and gain a competitive advantage (Jadhav, 2018). This can

help to attract customers who prioritize sustainability and socially responsible business practices.

In the context of supply management innovativeness and sustainability performance, the Dynamic Capability View (DCV) theory suggests that firms that can develop and deploy innovative supply management practices are better able to respond to sustainability challenges and improve their sustainability performance over time (Eisenhardt and Martin, 2000). In particular, firms that can develop and deploy innovative supply management practices are better able to respond to changing stakeholder demands and environmental regulations, and to take advantage of new opportunities for sustainability-oriented product and process innovations (Teece, 2007). This is because supply management is a critical area for addressing sustainability challenges, such as reducing carbon emissions, improving resource efficiency, and ensuring responsible sourcing practices.

Ju et al., (2016) found that firms that can innovate in supply management may develop new approaches to sustainability that are more efficient, effective, and responsive to stakeholder needs. For example, they may develop new supplier selection criteria that emphasize environmental and social responsibility, or they may implement new supply chain transparency and traceability systems that allow them to track the environmental and social impacts of their suppliers. Over time, these innovations can help firms improve their sustainability performance by reducing their environmental footprint, improving their social impact, and enhancing their reputational capital (Sun et al., 2021). In addition, by developing dynamic capabilities in supply management, firms are better able to anticipate and respond to future sustainability challenges, and to position themselves as leaders in sustainability performance (De-Moura and Saroli, 2021). This means that our first hypothesis that there is a positive relationship between supply management innovativeness and sustainability performance is confirmed.

4.5.4 The Effect of Supply Management Innovativeness on Financial Performance of Agribusiness Enterprises in Kumasi Metropolis

The next objective of the study was to examine the effect of supply management innovativeness on the financial performance of agribusiness enterprises in Kumasi Metropolis.

It can be observed from Table 4.7 that the items "Growth in profitability", "Return on investment (ROI)", and "Return on sales (ROS)" recorded means of 5.40, 5.38 and 5.41 respectively indicating that the firms agree that they have seen increases in profitability, ROI and ROS respectively. Also, the items "Market share", "Growth in ROI", and "Growth in ROS" recorded means of 5.48, 5.24 and 5.37 respectively

The findings show that supply management innovativeness has a positive and significant influence on the financial performance of agribusinesses in Kumasi Metropolis. Supply management innovativeness can have a positive and significant influence on the financial performance of agribusinesses by reducing costs, improving efficiency, providing a competitive sales advantage, improving customer satisfaction and market share, return on investment and mitigating supply chain risks (De et al., 2018). By prioritizing supply management innovativeness, agribusinesses can differentiate themselves from competitors and gain a competitive advantage (Cankaya and Sezen, 2019). This can help to attract customers who prioritize sustainability and socially responsible business practices, leading to increased sales and revenue.

In the context of supply management innovativeness and financial performance, the Resource Based View (RBV) theory suggests that firms that can develop and deploy innovative supply management practices are better positioned to create a sustainable competitive advantage and improve their financial performance over time (Yang et al., 2015). In particular, firms that can innovate in supply management may develop new approaches to cost reduction, quality improvement, and risk management that enhance their operational efficiency and effectiveness. These innovations may include new approaches to supplier selection and evaluation, logistics and transportation optimization, or inventory management that allow firms to reduce costs, improve product quality, and minimize

supply chain disruptions (Chatterjee et al., 2022). By developing these unique and valuable resources and capabilities, firms are able to differentiate themselves from their competitors and achieve a sustainable competitive advantage that translates into improved financial performance.

In addition, firms that are able to innovate in supply management may be better positioned to take advantage of new business opportunities and respond to changing market conditions, further enhancing their financial performance (Chae et al., 2014). Moreover, supply management innovativeness can help firms achieve strategic fit by aligning their supply chain operations with their overall business strategy. For example, if a firm's strategy is focused on sustainability, it may develop innovative supply management practices that emphasize environmentally responsible sourcing, transportation, and disposal practices (Li et al., 2020). This alignment between supply management and overall business strategy can help firms achieve better financial performance by enhancing their brand reputation, improving customer loyalty, and reducing supply chain risks. This indicates that our analysis and discussions confirm hypothesis two of the study that supply management innovativeness has a positive significant relationship with the financial performance of firms.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This last chapter offers a summary of the previous chapters' results and the inferences that may be taken from the study. This part of the study also includes proposals for further research and recommendations for companies and policy.

5.2 Summary of Findings

The overall objective of this study was to examine the influence of supply management innovativeness on the sustainability performance of Agribusiness enterprises in Kumasi Metropolis. The findings of the study are summarized in this section according to the objectives.

5.2.1 The Supply Management Innovativeness Practices of Agribusiness Enterprises in Kumasi Metropolis

The first objective of the study sort to "identify the supply management innovativeness practices of Agribusiness enterprises in Kumasi Metropolis." From the analysis in the descriptive statistics in Table 4.4, it was evident that the 6 key items were qualified as being practiced by the Agribusiness enterprises in Kumasi Metropolis. The study found that the practices include Agribusiness enterprises in Kumasi Metropolis that practice some level of supply management innovativeness in their operations.

5.2.2 The Influence of Supply Management Innovativeness on Sustainability Performance of Agribusiness Enterprises in Kumasi Metropolis

The second objective was to examine the "influence of supply management innovativeness on the sustainability performance of agribusiness enterprises in Kumasi Metropolis. The analysis showed that supply management innovativeness helps to improve the sustainability performance of Agribusinesses in Kumasi Metropolis". This implies that supply management innovativeness can help agribusinesses to reduce costs, increase efficiency, and improve productivity. This can improve the economic viability of the

business and ensure its long-term sustainability. By prioritizing supply management innovativeness, agribusinesses can differentiate themselves from competitors and gain a competitive advantage. This can help to attract customers who prioritize sustainability and socially responsible business practices.

5.2.3 The Effect of Supply Management Innovativeness on Financial Performance of Agribusiness Enterprises in Kumasi Metropolis

The next objective of the study was to "examine the effect of supply management innovativeness on financial performance of agribusiness enterprises in Kumasi Metropolis. The findings show that supply management innovativeness can be used by agribusinesses in Kumasi Metropolis to improve their financial performance." Supply management innovativeness can have a positive and significant influence on the financial performance of agribusinesses by reducing costs, improving efficiency, providing a competitive advantage, improving customer satisfaction, and mitigating supply chain risks. By prioritizing supply management innovativeness, agribusinesses can differentiate themselves from competitors and gain a competitive advantage. This can help to attract customers who prioritize sustainability and socially responsible business practices, leading to increased sales and revenue.

5.3 Conclusion

From the findings of the study, it can be concluded that Agribusinesses in Kumasi Metropolis engage in supply management innovativeness practices to some degree. Furthermore, agribusinesses in Kumasi Metropolis can use their practice of supply management innovativeness to gain a competitive edge over customers, manage and reduce risks and also offer competitive products to increase market share in order to improve upon their sustainability performance. More importantly, Agribusinesses in Kumasi Metropolis can benefit financially from the implementation of supply management innovative practices.

5.4 Recommendations

5.4.1 Recommendations for Management

The study found that supply management innovativeness has a positive influence on sustainability performance. For this reason, the study recommends that Agribusiness managers should encourage innovation in the management of their supply chains. This could involve investing in research and development to identify new approaches and technologies, and providing incentives and recognition for employees who develop innovative solutions.

Based on the positive influence of supply management innovativeness on sustainability performance, the study again recommends that Agribusiness managers should consider investing in technology to support sustainable supply chain management practices. This could include tools for monitoring and reporting on sustainability performance, as well as technologies such as precision agriculture and automation that can reduce environmental impact and improve efficiency.

Finally, this study found that supply management innovativeness has a positive influence on financial performance and hence it is recommended that Agribusiness managers should focus on building strategic partnerships with suppliers and other stakeholders. This could involve working closely with suppliers to identify opportunities for cost reduction and value creation and collaborating with other organizations to develop new markets and expand the customer base.

5.4.2 Recommendations for Future Studies

This study explored the direct influence of supply management innovativeness on both the sustainability and financial performance of Agribusinesses in Kumasi Metropolis. This study is therefore limited to only the direct effect of these variables; however, it is possible that this direct relationship can be influenced by some other factors which have not been explored in this study. Therefore, it is recommended that future studies should expand on this research by including other important variables that have the potential to improve upon this relationship.

This study used data from only Kumasi Metropolis-based Agribusinesses, hence making it difficult to generalize for other businesses outside of the metropolis. The study therefore recommends that future studies should try and broaden the scope of this study to cover other agribusinesses in other municipalities in order to ensure that a more generalizable finding could be obtained.

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APPENDICES

Appendix 1: Questionnaire

SURVEY QUESTIONNAIRE

My name is **YEBOAH ABEDNAGO**, a postgraduate student at the Kwame Nkrumah University of Science and Technology, Kumasi, Department of Supply Chain and Information Systems. This survey instrument has been designed to enable me carry out research on the topic: **"EXAMINING THE INFLUENCE OF SUPPLY MANAGEMENT INNOVATIVENESS ON SUSTAINABILITY PERFORMANCE AND FINANCIAL PERFORMANCE OF AGRIBUSINESS ENTERPRISES IN KUMASI METROPOLIS"**. Any information provided will be used for academic purposes ONLY. There are no risks associated with your participation, and your responses will remain confidential and anonymous.

SECTION A: RESPONDENT'S BIOGRAPHY AND COMPANY PROFILE

When completing this questionnaire, please tick **[√]** in the applicable box or provide an answer as applicable.

1. Gender: [ ] Male [ ] Female

2. Age: [ ] 23 years and below [ ] 24–29 years [ ] 30–35 years
[ ] 36–40 years [ ] 41 years and above

3. Educational Background:
[ ] No formal education [ ] Basic/Primary [ ] Secondary
[ ] Bachelor's Degree [ ] Master's Degree [ ] Ph.D./Doctorate

4. Please indicate your position in the firm [ ] Supply Chain Manager [ ] Operations Manager
[ ] Sales Manager [ ] Marketing Manager [ ] Others

5. Please indicate the sector of Agribusiness your firm operates in: [ ] Agrochemical & Seed Production [ ] Food & Feed processing [ ] Farm Machinery Sales/Supply [ ] Marketing & Distribution [ ] Others

6. Number of years the firm has been in operation:
[ ] Less than 1 year [ ] 1-5 years [ ] 6-10 years
[ ] 11-15 years [ ] 16-20 years [ ] 21 years & above

7. Number of employees in the firm:
[ ] Less than 6 employees [ ] 6-9 employees [ ] 10-29 employees
[ ] 30-50 employees [ ] More than 50 employees

8. Type of ownership:
[ ] Fully locally owned [ ] Fully foreign owned [ ] Jointly Ghanaian & foreign owned

9. Firm's annual revenue (in Ghana Cedis)?
[ ] Less than 100,000 [ ]100,000 - 200,000 [ ] 200,000 – 300,000
[ ] Above 300,000

SECTION B: SUPPLY MANAGEMENT INNOVATIVENESS (SMI) (SOURCE: LINTUKANGAS ET AL., 2019; ESPINO-RODRIGUEZ AND TAHA, 2022)

Indicate the extent to which you agree or disagree with each statement by checking the appropriate number from 1 to 7, using the following scale:

1 = Strongly Disagree	***2 = Disagree***	***3 = Somewhat Disagree***
4 = Indifferent/Not Sure	***5 = Somewhat Agree***	***6 = Agree***
7 = Strongly Agree		

Item	**Statement**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
SMI10	In this firm, our purchasing process supports finding technologically innovative solutions.							
SMI11	In this firm, we educate our staff and partners on the need for innovativeness in our operations.							
SMI12	We are capable to produce and adapt to new innovations in supply management.							
SMI13	We set goals and measures that encourage innovativeness in supply management processes.							
SMI14	We satisfy our customers through supply management innovative operations.							
SMI15	Our firm has advantage over competitors through supply management innovativeness.							

SMI16	Our firm is resilient to change because of the adaptation of technological innovativeness.							
SMI17	We are successful as a firm through the adaptation of innovative agility.							
SMI18	We innovate to preserve the environment in our operations							
SMI19	We innovate to influence our market share							
SMI20	Our operational risk is at minimal as a result of our openness to technological innovativeness							
SMI21	Our firm is competing well in the market because of our innovative consciousness							

SECTION C: SUSTAINABILITY PERFORMANCE(SP) (SOURCE: KAHKONEN ET AL., 2018; LINTUKANGAS ET AL., 2019; ESPINO-RODRIGUEZ AND TAHA, 2022)

Indicate the extent to which you agree or disagree with each statement by checking the appropriate number from 1 to 7 using the following scale:

1 = Strongly Disagree ***2 = Disagree*** ***3 = Somewhat Disagree***
4 = Indifferent/Not Sure ***5 = Somewhat Agree*** ***6 = Agree***
7 = Strongly Agree

Item	**Statement**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
SP22	Our company takes care of organizing and management of sustainability issues							
SP23	Our company takes care of the control and reporting of sustainability issues							
SP24	We act according to a sustainability strategy and vision							
SP25	Sustainable actions are seen in the results of the business							
SP26	Our company has innovations and experiments related to sustainability							
SP27	We actively communicate with end-customers about sustainability values							
SP28	Our competitors consider us a leading firm in the field of sustainability.							
SP29	We develop new services or improve existing services that are regarded as sustainable for society and the environment.							
SP30	Our reputation in terms of sustainability is better than the sustainability reputation of our competitors.							
SP31	Compared to our competitors, we more thoroughly respond to societal and ethical demands on sustainability.							

SECTION D: FINANCIAL PERFORMANCE(FP) (SOURCE: VICKERY ET AL., 2003)

Indicate the extent to which you agree or disagree with each statement by checking the appropriate number from 1 to 7 using the following scale:

1 = Very Bad	***2 = Bad***	***3 = Somehow Bad***
4 = Indifferent/Not Sure	***5 = Somewhat Better***	***6 = Better***
7 = Much Better		

Item	**Statement** (How does your company perform compared with your major competitors?)	**1**	**2**	**3**	**4**	**5**	**6**	**7**
FP32	Sales volume							
FP33	Profit levels							
FP34	Growth in sales							
FP35	Growth in profitability							
FP36	Return on investment (ROI)							
FP37	Return on sales (ROS)							
FP38	Market share							
FP39	Growth in ROI							
FP40	Growth in ROS							
FP41	Growth in market share							

Thank you for participating in the survey.

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SAMPLE TABLE

Population	Agribusiness Enterprises in Ashanti Region
Sample Size	110 Agribusiness Enterprises
Sampling Technique(s)	Convenience and Purposive Sampling Techniques
Unit of Analysis	Firm Level
Respondent types	Top & Middle Level Managers
Response per firm	1 response from one firm