

DURAN UNIVERSITY OF TECHNOLOGY

**THE INFLUENCE OF SUPPLY CHAIN MANAGEMENT (SCM)
PRACTICES ON SMALL AND MEDIUM MANUFACTURING
ENTERPRISES (SMES) PERFORMANCE IN GHANA**

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AUGUST 2024



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AUGUST 2024

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DECLARATION

I hereby make a declaration that this thesis is my own piece of work, and would like to state that any additional sources of information have been duly cited. I confirm that this work has not been submitted nor accepted for any degree at any other tertiary institution. I make a declaration that any additional information from any sources I may have quoted in this thesis have been correctly referenced in full in both the text and contents lists.



Mitchell Dodzi Morvey

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ABSTRACT

Supply chain management practices play a crucial role in determining the performance and competitiveness of small and medium-sized enterprises, as they do in businesses around the world. Effective SCM can help SMEs all over the world to enhance their competitiveness, reduce costs, improve product quality, and increase customer satisfaction. SMEs have been highlighted as a significant source of employment on a global scale. Due to their substantial contribution to the GDP of any nation, SMEs can also act as a catalyst for economic change. For every nation seeking change, poverty reduction, employment redistribution, company development, and robust economic growth, SMEs have been identified as essential resources.

Several countries around the world have a significant number of SMEs and have fostered environments that encourage entrepreneurship and SME growth. However, numerous unique challenges and opportunities exist for SMEs to consider when implementing SCM practices. The manufacturing growth attributable to SMEs in these countries has strengthened, suggesting any anticipated industrial production decline on a worldwide scale may be tempered by their contribution. This proves, beyond a shadow of a doubt that manufacturing SMEs play a crucial role in every nation, and perhaps more so in emerging nations, such as Ghana. SMEs comprise more than 90 percent of formal businesses, operate in almost every industrial area of the economy, and are responsible for more than 50 percent of employment and GDP.

Manufacturing SMEs are, nonetheless, faced with a number of difficulties, which have basically influenced their growth and development, resulting in numerous SMEs compelled to close down in the recent past. The ability to overcome these barriers are among the critical SME success factors. Elements that contribute to manufacturing SME success in becoming established have been extensively researched with a variety of variables identified. Furthermore, while extensive research on SCM has been undertaken, gaps remain in the area of how best practices in the field impacts the work of manufacturing enterprises on a micro, small and medium scale. Therefore, research on how SCM practices affect SME performance is crucial, with the ability to advance the existing state of manufacturing SMEs in Ghana. The manufacturing SMEs in eight southern areas of Ghana are specifically mentioned in this study.

In order to offer a prototype model for enhancing the performance of SMEs, the study set out to determine the essential aspects affecting SCM practices on SCM performance across Ghanaian manufacturing SMEs. The high failure rate currently observed in the manufacturing sector, linked to a number of important obstacles manufacturing SMEs face in Ghana, serves as justification for the study.

The study was conducted within the southern regions of Ghana, employing a mixed research method. The population of the study consisted of 363 manufacturing SME leaders, owners and managers. A non-probability, convenience, and purposive sampling technique was adopted, while a closed and opened-ended questionnaire was used as primary data collection tool. Inferential and descriptive statistical analysis of the data was undertaken using the SPSS (v 27.0) computer package.

According to the study findings, numerous issues seriously affect manufacturing SMEs, and they must overcome sizable obstacles that have a detrimental impact on their productivity. These have an impact on SME capacity to implement elements to encourage, support, and sustain the expansion of their business. It was found financial access is one of the main elements that positively contribute to sustainability, growth, and performance, while infrastructure, technological progress, market accessibility, and competitiveness, in addition to education and training, were also mentioned as important drivers of firm success.

Improved comprehension of SCM techniques and their theoretical and practical consequences for manufacturing SMEs is offered by the study, which aims to also offer critical insights to this understanding. Additionally, it offers a wide range of suggestions and proposes a conceptual framework for those elements' corporate executives, public servants, and policy makers can understand, in order to assist the manufacturing sector, manage its current problems.

The study seeks to contribute to both theoretical and practical enhancement of knowledge on SCM practices that influence performance of manufacturing SMEs.

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ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
AGI	Association of Ghana Industries
AT	Agency Theory
CRM	Customer Relationship Management
CSCMP	Council of Supply Chain Management Professionals
CSF	Critical success factor
DUT	Durban University of Technology
EO	Entrepreneurial orientation
GDP	Gross Domestic Product
GEA	Ghana Enterprise Agency
GEBSS	Graduate Business Support Scheme
GSCM	Green Supply Chain Management
GSS	Ghana Statistical Service
HSCM	Humanitarian supply chain management
IM	Inventory Management
ICT	Information and Communication Technology
IS	Information Sharing
IT	Information Technology
IB	Islamic Bank
KMCs	Knowledge Management Capabilities
LE	Large Enterprise
LMICs	Low- and middle-income countries
LSP	Logistics Service Provider
MSME	Micro, Small and Medium Scale Enterprise
NBSSI	National Board Small Industries
NGO	Non-government Organization
1D1F	One District One Factory (flagship policy)
OMS	Outsourcing and Multiple Suppliers
RL	Reverse Logistics
SCA	Sustained Competitive Advantage

SCLP	Strategic Collaboration and Lean Practices
SCM	Supply Chain Management
SCMP	Supply Chain Management Practice
SM	Supplier Management
SME	Small and Medium Enterprise
SSP	Strategic Supplier Partnership
TCA	Transaction Cost Analysis
TCE	Transaction Cost Economics
TCT	Transaction Cost Theory

CHAPTER ONE

INTRODUCTION AND OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This thesis is an outcome of a research conducted on the topic “The Influence of Supply Chain Management Practices (SCMPs) on Small and Medium Manufacturing Enterprise (SME) Performance in Ghana”. Much research work has been done on SCM; however, gaps remain in the area of how best practices in the field impacts the work of Micro, Small and Medium Scale Enterprises (MSMEs), also often called Small and Medium Enterprises (SMEs), dedicated to manufacturing. Gaps also remain in the area of how the unique cultural capital/cultural wealth of the best performing manufacturing MSMEs adapt the best SCMPs to improve their work, particularly in low- and middle-income countries (LMICs).

In Ghana, the study setting of this research, where approximately 90 percent of businesses are said to be in the informal sector, for instance, are there any unique cultural wealth/cultural capital that give/could give manufacturing SMEs any competitive advantages (Ofori-Atta 2020). The study examines the knowledge and practices related to Supply Chain Management (SCM) within the manufacturing SME value chain/value system in Ghana; determines SCM needs of manufacturing entities; access barriers affecting utilisation of export services as facilitated by various external programmes, such as those from the government of Ghana; and measures/reviews the outcomes of any such interventions on SCM practices (SCMPs) through internal or external support received by manufacturing SMEs.

The study setting is, thus, selected manufacturing SMEs across Ghana, dedicated to quality production, to ensure growth and continuous performance, leading to wealth and job creation. However, manufacturing SMEs are faced with a number of difficulties, which have basically influenced their growth and development, compelling many SMEs to close down in the last few years (Ngibe 2020). The ability to overcome barriers posed by competition, economic factors, access to raw materials, and transformation challenges, as well as the capacity to adapt to an ever-changing business environment, are among

the critical SME success factors (Douglas *et al.* 2017; Lekhanya 2015: 215; Ramukumba 2014). Other critical success factors (CSFs) include management skills, leadership ability, innovation, and financial access, along with technology adoption.

1.2 BACKGROUND OF THE STUDY

SMEs play important role in the economic development of many countries. The performance of SMEs is not meeting the expectation of stakeholders especially governments, owners and development agencies Oppong *et al.* (2014). Application of SCMPs is supposed to facilitate SME performance. SCM as a concept is being used in many organizations particularly in the Large Enterprises (LEs) and the LEs are performing very well in their operations (Oppong *et al.* 2014). Governments and development organizations both local and international have in one way or the other tried to assist SMEs by providing training, loans and other incentives to ensure that the SMEs will survive, grow, operate and performs competitively. With these interventions and support, SMEs are not performing as they should (Oppong *et al.* 2014).

A number of studies have been conducted on SMEs in relation to SCMPs. There seem to be understanding that SCMPs impact positively on the performance of SMEs. The limitations in those studies are the motivation for this study by exploring and describing why, how and what are the limitations and then try to come out with a solution by generalizing the result (Angmor *et al.* 2014). This study focuses on how SCMPs affect the performance of manufacturing SMEs in Ghana. It proposes a prototype model for the development of the manufacturing sector and aims to identify key elements influencing SCMPs and sustainability, growth, and performance of manufacturing SMEs in Ghana.

According to the National Industrial Census (NIS) report, SMEs account for approximately 92 percent of all firms in Ghana and comprise 70 percent of all industrial facilities (GSS 2003). SMEs are expected to contribute roughly 22 percent of the Gross Domestic Product (GDP) for Ghana. Additionally, Ghana Statistical Service (GSS) highlights the prediction that the SME-sector will account for 85 percent manufacturing jobs, as well as a larger overall employment growth portion (GSS 2003). As a driver of innovation, competition, and economic dynamism, SMEs make a substantial contribution to the economic growth of a nation. Compared to big businesses, they have more locations developed, including in rural areas. As a result, SMEs are crucial to improve income distribution (Madanchian

et al. 2015; Muriithi 2017; Obi *et al.* 2018). SMEs make up more than 90 percent of formal businesses, operate in almost every industrial area of the economy, and are responsible for more than 50 percent of employment and GDP (Akinboade 2015).

Several studies have been undertaken to determine whether SCMPs positively impact firm performance (Zailani *et al.* 2012). Furthermore, Söderberg and Bengtsson (2010) asserted when maturity indicators are used to improve processes in supply chain operations reference areas, it is likely to have positive effects on supply chain and financial performance. According to research by Lii and Kuo (2016), focused on Taiwanese manufacturing firms, it was concluded supply chain integration (SCI) can have a mediation effect on innovation orientation and business performance. Kim and Park (2018), stated that efficient SCI can play a critical role for sustainable SCM competitiveness in the case of Korean firms, while in Japanese firms, the close interrelationship between the level of SCMPs and competition capability may more significantly impact SCM competitiveness.

The characteristics of SME management, which frequently lack the awareness, expertise, skills, financial knowledge, and qualified personnel required to build the changes required for sustainable growth within an organization, are generally blamed for the lack of a serious focus on sustainability within this sector (Lekhanya and Visser 2016: 80; Singh, Olugu and Musa 2016: 610; OECD 2018: 06). In addition, Inadequate government support can affect the ability of SMEs in Ghana to compete effectively. When SMEs do not receive sufficient support from the government, they face several challenges that can hinder their competitiveness. Without government support programmes that facilitate access to resources such as capital, skilled labour and technology; to mention a few, SMEs in Ghana may find it challenging to adopt and integrate new technologies into their operations. Insufficient and lacking government initiatives to promote market development and provide support in market research, as well as market linkages and market information dissemination, further hinders the ability of SMEs to identify and tap into new market opportunities (GEPA 2021; World Bank 2019, 2020).

Lack of government support will, additionally, limit SME capacity to expand their customer base and compete with larger enterprises. Inadequate government support has the potential to affect SMEs in Ghana significantly. SMEs play a crucial role in the economy by driving innovation, creating jobs, and contributing to economic growth. However, they

often face various challenges, and the absence of adequate government support exacerbates these difficulties. Insufficient infrastructure, including reliable power supply, transportation networks, and internet connectivity, can hinder SME operations in Ghana.

The lack of government investment in infrastructure development directly affects SME productivity, increases their operating costs, and limits their competitiveness (OECD 2019: US Dept. of State 2021). Limited access to broader markets beyond local areas is a recurring challenge for Ghanaian SMEs. Insufficient distribution networks, constrained marketing budgets, and lack of exposure hinder the ability of SMEs to tap into larger customer bases (Aryeetey *et al.* 2019). Inadequate infrastructure, including road networks and telecommunications, also negatively impacts SMEs in Ghana. Furthermore, poor infrastructure can lead to logistical challenges and increased costs for transporting goods and materials (Gyimah-Brempong *et al.* 2020). According to Irjayanti and Azis (2012), the negative trend of lacking infrastructure development and investment has persisted, as more manufacturing SMEs are closing their doors due to poor management, a lack of innovation in both products and administrative processes, insufficient business management skills, and low output levels. Other factors that have contributed to the closures include restrictive government regulations and a lack of access to financial capital.

These challenges collectively create a complex environment for SMEs in Ghana, affecting their growth potential and overall contribution to the economy. The mortality rate of SMEs in their early years is often attributed to challenges such as limited access to finance, regulatory complexities, and competition. These hurdles, particularly prevalent during the initial stages of business development, can impede SME growth and sustainability (Adom, Williams and Boateng. 2018). Ghana, similar to many other countries, witnesses some SMEs flourishing for extended periods, while others struggle to survive. In this regard, studies suggest a significant portion of SMEs may experience closure within the first few years of operation, due to challenges in navigating the business landscape (Gyimah-Brempong *et al.* 2020). The ability to overcome these initial challenges often sets the tone for SME longevity.

One of the most significant and pervasive challenges SMEs face in Ghana is the limited access to financing. This challenge stems from a complex interplay of factors, with the

African Development Bank (AfDB) pointing out these challenges can hinder the growth, innovation, and overall success of SMEs operating in the country (AfDB 2019). The issue of limited access to financing has been cited in many studies (Brixiová and Kangoye 2019; Msomi and Olarewaju 2021; Sibiya and Kele 2019).

1.3 PROBLEM STATEMENT

Manufacturing SMEs are, nonetheless, faced with a number of difficulties, which have basically influenced their growth and development, resulting in numerous SMEs compelled to close down in the recent past. The ability to overcome these barriers are among the critical SME success factors. Supply chain management (SCM) practices play a crucial role in the performance of small and medium-sized enterprises (SMEs) in Ghana, as they do worldwide but some of the SMEs failed to survive in the dynamic business environment with a low survival rate (Bowler et al. (2007). According to Abor and Quartey (2010), SME development is seriously impeded by lack of access to appropriate technology, access to the international market, laws and regulations, as well as weak institutional capacity, no management skill and training, and lastly, finance. Tagoe, Nyarko and Anuwa-Amarh (2005) highlight financial problems as the main difficulty for SMEs, with this challenge reflected in their performance. Many studies on SCM have been conducted on SMEs, particularly on their growth and sustainability. However, the studies were done with SCMPs, such as strategic supplier partnership (SSP), customer relationship, level of information sharing (IS) and quality of information, to mention a few. Watiri and Kihara (2017) stated that other SCMPs, such as postponement, green procurement and outsourcing are likely to influence a manufacturing firm's competitiveness. Angmor *et al.* (2014) assert SMEs in Ghana face numerous challenges that include lack of credit schemes, globalisation, competition, and low research and development capacity, as well as lack of managerial knowledge and skills.

Financial institutions in Ghana are willing to assist SMEs with credit facilities, however, SMEs are unable to meet the qualifying conditions or requirements. Another problem is the high interest rates charged by financial institutions, in addition to short loan repayment times and high loan defaulting rates by SMEs (Ackah and Vuvor 2011).

In Ghana, 90 percent registered businesses are SMEs, which contribute roughly 70 percent of the country's GDP. It is, furthermore, estimated SMEs in the manufacturing

sector employ approximately 85 percent of the country's workforce, yet, SMEs in Ghana are faced with many problems. The main problem Ghanaian SMEs encounter is how to obtain credit to finance their business.

Supply Chain Management is crucial for the competitiveness and efficiency of manufacturing SMEs in Africa. Despite its importance, there are significant analytical gaps in understanding SCM practices and their impact on the performance of these enterprises. One major gap is the lack of context-specific research. Much of the existing literature on SCM practices is derived from studies conducted in developed countries, which may not be directly applicable to African contexts due to different economic, social, and infrastructural conditions (Gereffi, 2019). Local context significantly affects SCM practices and their effectiveness. Factors such as infrastructure quality, regulatory environments, and cultural attitudes towards business can influence how SCM practices are implemented and their outcomes (Murphy & Knemeyer, 2018). Without context-specific studies, SMEs in Africa may adopt practices that are not optimal for their specific conditions, leading to suboptimal performance. Another analytical gap lies in the integration of technology within SCM practices. Many SMEs in Africa face technological barriers, including limited access to advanced SCM software and technologies (Nwani, 2016). The adoption of digital tools and technologies is essential for enhancing efficiency and competitiveness, yet the current state of technology adoption is poorly documented and analyzed. The lack of technological integration impacts the performance of SCM in terms of speed, accuracy, and cost-efficiency. Studies have shown that technology can significantly enhance SCM performance by improving data accuracy, enabling real-time tracking, and facilitating better decision-making (Gunasekaran et al., 2017). However, the extent to which African SMEs have adopted these technologies and the resulting impact on their performance remains underexplored. Infrastructure is a critical factor that influences SCM performance. Many African countries face significant infrastructural challenges, such as poor transportation networks, unreliable power supplies, and inadequate logistics facilities (Ambe, 2014). These challenges hinder effective SCM practices and impact the overall performance of SMEs.

This study is, therefore, intended to generate or propose a construct in SCMPs to determine SCM influence on SME performance in Ghana, to show how SMEs can grow and be sustainable.

1.4 AIMS AND OBJECTIVES

The aim of this study is to explore and investigate factors influencing SCMPs on SME performance in Ghana. The study aims to introduce more constructs of SCM that will enhance SME performance, allowing them to play an important role in the economic development of Ghana as expected, by growing and expanding to create more jobs and produce quality products. With the study aimed at understanding the critical factors that create difficulties for SME growth and sustainability, the study aims to find ways to improve how SMEs operate, in order to ensure these enterprises are viable.

1.4.1 Research Objectives

The main objective of this study is to examine the influence of SCMPs on the performance of SMEs and to develop a prototype model that will help in manufacturing SME performance in Ghana. Therefore, the study intends to identify the critical factors influencing SCM in manufacturing SMEs and to develop a prototype model to assist manufacturing SMEs in Ghana.

In order to achieve the main objective, the underlisted sub-objectives will be examined:

Sub-objective 1: To identify critical factors affecting the growth and sustainability of manufacturing SMEs in Ghana.

Sub-objective 2: To identify the characteristics of manufacturing SMEs in Ghana in relation to how they are managed by regulatory bodies.

Sub-objective 3: To identify the relationship between government support through National Board Small Industries (NBSSI) and management of SMEs for the growth and sustainability of manufacturing SMEs in Ghana.

Sub-objective 4: To examine the existing supply chain model used by manufacturing SMEs in Ghana.

Sub-objective 5: To suggest a prototype model to assist manufacturing SMEs to ensure their sustainability, growth and future expansion in Ghana.

Sub-objective 6: To identify environmental factors that influence manufacturing SME growth and sustainability in Ghana.

1.4.2 Research Questions

The study, in an attempt to find answers and solutions to the above objectives, will seek answers to the following questions:

Question 1: What are the critical factors affecting the growth and sustainability of manufacturing SMEs in Ghana?

Question 2: What are the characteristics of manufacturing SMEs in Ghana in relation to how SMEs are managed by the regulatory bodies?

Question 3: What is the relationship between government support through National Board Small Industries (NBSSI) and management of SMEs for the growth and sustainability of manufacturing SMEs in Ghana?

Question 4: What is the existing supply chain model used by the manufacturing SMEs in Ghana?

Question 5: What prototype model can be suggested to help manufacturing SMEs ensure their sustainability, growth and future expansion in Ghana?

Question 6: Which environmental factors influence the growth and sustainability of manufacturing SMEs in Ghana?

1.5 SIGNIFICANCE OF THE STUDY

The study is seeking to know and understand the influence of SCMP on the performance of manufacturing SMEs in Ghana. Governments in Ghana have policies on SMEs that seek to make SMEs perform very well in order to boost the economy of Ghana by producing more for both domestic consumption and for export as well as creating employment for the teeming masses but the SMEs have not been able to achieve much in those regards. Oppong *et al.* (2014) stated SMEs in Ghana have been unable to create employment in order to reduce poverty in the country. However, there seems to be little or no work done on the influence of SCMPs on the performance of manufacturing SMEs in Ghana.

The study aims to determine characteristics of SCMPs that can influence performance of manufacturing SMEs in Ghana, by adopting SCMPs in their operations. The study will assist in the steady performance and growth of the Ghanaian economy, as the findings or outcome of the study will be used to provide SMEs with an improved understanding of the influence SCMPs have on their performance. The study will also be of interest to entrepreneurs in learning more of SCMPs, their influence on SME performance and their adoption in business operations. The study is expected to contribute to new knowledge on the performance of manufacturing SMEs in Ghana.

1.6 DELIMITATIONS

The study concentrated on SCM practices for manufacturing SMEs in particular regions of Ghana, despite the fact that there are many SMEs in the country. The study's purview was limited to eight regions in Ghana's southern sector. The southern sector was selected because it is Ghana's industrial hub for SMEs, has a high population density, and is where the main players in the country's economic development are concentrated. The findings of the study may have been impacted by the inability to regulate the respondents' usage of structured questionnaires and interview responses.

1.7 STUDY LIMITATIONS

SMEs frequently work in settings where procedures for gathering and storing data are not followed consistently. It's possible that many SMEs lack the tools or infrastructure necessary to keep thorough and accurate records of their business dealings. Competition and privacy concerns are making this problem worse. Small and medium-sized business owners may be reluctant to divulge confidential information to researchers for concern that it would be obtained by rivals or utilized improperly (Amankwah-Amoah, 2014).

The challenge of obtaining a sufficiently big and representative sample size is another important problem. Researchers frequently find it difficult to collect data from a big enough cohort because of the previously noted problems with data access and the dispersed nature of SMEs across different locations. Because it might not fully capture the diversity and heterogeneity of the SME sector in Ghana, a small sample size can restrict the generalizability of the study's findings (Osei et al., 1993). The sample size is further limited by the expenses and logistical difficulties of reaching SMEs in isolated or rural areas. Because SMEs in metropolitan areas may not be representative of the overall population,

researchers frequently have to rely on convenience sampling or focus on them (Amoako, 2013).

1.8 OVERVIEW OF CHAPTERS

This study consists of six chapters.

Chapter One: Introduction and overview of the study

The study introduction and context were covered in detail in chapter one. The study significance as well as the research goal, objectives, problem description, delimitation and limitation of the study were discussed, with the framework for the research also presented and illustrated in this chapter.

Chapter Two. Literature Review: background and introduction

Chapter two provides a comprehensive overview of relevant recent literature pertaining to the SME sector, with specific reference to manufacturing SMEs. The chapter further presents a detailed conceptual framework in support of the study. The manufacturing SME contribution to Ghana's GDP and the potential influence on economic transformation are presented. The challenges and hindrances confronting manufacturing SME managers in seeking SCMPs required to attain sustainability, growth, and performance, will also be addressed, with empirical evidence in this regard also presented.

Chapter Three. Literature review: the internal/external environment and manufacturing SMEs' performance

In the third chapter, a review of the literature is provided, and it is explained how internal and external environmental factors may aid or, more frequently, impede manufacturing SME performance and the effort to achieve sustainable growth. According to the study goals, these difficulties have been assessed critically and recognised.

Chapter Four: Research Methodology

The research technique and design are presented and discussed in this chapter. The procedures followed to carry out this study are examined and defended, along with the study goals and objectives, the research methodology, demographic, sample, and data gathering tool are discussed. The ethical considerations of the research are also outlined in this chapter.

Chapter Five: findings and interpretation

The whole range of the collected data is presented in this chapter, along with an interpretation and discussion of the data, in light of the study goals and objectives. In addition, the findings are evaluated with regard to the secondary information.

Chapter Six: Conclusions and recommendations

This chapter offers a thorough review of the study findings, detailing the practice recommendations that can help maintain sustainable growth and performance among manufacturing SMEs. The guidelines are also meant to be helpful to government officials, policymakers, and manufacturing SME owners in general. This chapter will, furthermore, examine a prototype model in more detail.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter describes a review of the literature that explored major themes under SCM. All discussions centre on how SCM impacts the work of SMEs. Relevant theories that impact SCM are also reviewed, with the goal of developing a conceptual framework, within which to situate the objectives/research questions and, consequently, the findings.

2.2 RELEVANT THEORIES

The theories relevant to the study are listed in the following sections.

2.2.1 Resource Dependency Theory (RDT)

One of the theories underpinning this study is Resource Dependency Theory (RDT). This theory is founded on the idea that an organisation, such as a corporation, must participate in transactions with other individuals and organisations in its environment in order to acquire resources (Pfeffer and Salancik 2003). It is these daily transactions that shape the supply chain decision-making process. Thus applied, the researcher will use ethnographic studies to understand and describe the persons, institutions and every other element within the ecosystem of the manufacturing SMEs that influence the final choice in SCM.

Matthews, Marzec and Wallis (2018) stated the resources created by each organisation affect how they develop a competitive position, using RDT as an analytical lens. Each of the businesses is categorised as a SME, which means they frequently collaborate with larger organisations. As a result, it is important to understand how these partnerships are forged to preserve a competitive edge. The authors suggest tight client contact may not always be the optimal strategy and internal resources need to be explored, developed, and improved (Matthews et al. 2018). The administration of the incubator (SMEs) should thus employ strategies such as integration and coordination to strengthen partnerships, develop mutual dependence, and secure resources, in order for tenants to receive high-

quality services. Business incubators provide opportunities to promote sustainable business development through connections with appropriate partner organisations, for example, universities, business centres, and public research groups (Hernandez and Carra 2016). The RDT is, therefore, significant as a company's capacity might be essential to success, such as that of SMEs to acquire, transform, and utilise raw materials more quickly than competitors. This is to enable SMEs to perform effectively and grow, thereby ensuring their sustainability.

2.2.2 Resource-Based View (RBV) Theory

RBV theory states a firm is best positioned for long-term success if it has access to resources that are valued, uncommon, challenging to duplicate, and non-replaceable. By connecting resources' strength, capability, and ability to take decisive action with the achievement of long-term competitive advantages that result in higher profits than rivals, the RBV conceptual framework makes it possible to identify corporate resources that could potentially drive company performance (Barney, Ketchen and Wright 2021). The RBV of the firm has a significant impact on the discipline of strategic management, where the existence of this special issue serves as sufficient proof. The theory is still being improved, despite its theoretical sophistication and empirical validity (Freeman, Dmytriiev and Phillips 2021).

The resource-based paradigm has, according to Barney et al. (2021), had the biggest impact on human resource management outside strategic management. Such a focus is similar to that frequently espoused by executives

As highlighted by Dionysus and Arifin (2020), market orientation has little impact on SME performance, however, entrepreneurial orientation (EO) does. It was concluded RBV theory, which claims EO and SME performance are related, is accurate; since EO improves SME performance. According to the RBV theory, each organisation has a distinct set of resources (tangible and intangible) that vary in quality and quantity, thus affecting an organisation's condition and success, regardless of its nature, aims, or methods of operation (Wojciechowska 2016).

The RBV is a concept that suggests, in designing the supply chain process of a business, management should make decisions based on the resources available to the company. Where such resources are not available but collaborating businesses have these, there is the need to cooperate with them, which also implies cooperating with potential partners as a strategic management decision to obtain the needed resources (Boon-itt and Yew Wong 2011). The RBV emphasises sustainable use of competitive advantages in the strategic management of supply chains. Further to this, the RBV also suggests firms identify their unique products and/or services for their collaborators and potential collaborators to use the same to negotiate (Boon-itt and Yew Wong 2011). The implications of the RBV for this study are that SMEs in manufacturing will seek to negotiate for collaboration, based on their areas of competitive advantage.

Porter (1985) was a proponent of the RBV while it was emerging as an addition to the industrial organisation (IO) paradigm. The IO view placed the factors affecting company performance outside of the firm, in the structure of its industry, by focusing on the structure-conduct-performance paradigm. The RBV is positioned in opposition to this viewpoint and specifically searches for internal causes of sustained competitive advantage (SCA) to explain why businesses in the same sector may perform differently. As a result, the RBV enhances, rather than replaces the IO view (Peteraf and Barney 2003). The primary RBV metaphor is Ricardian, since it relies on the variety and immobility of resources that produce competitive capabilities and generate rent (Barney 1991, cited in Kraaijenbrink et al, 2010: 350). The authors propose businesses are viewed as “atom-like entities” that compete directly with one another for market share in order to achieve above-average earnings “in unmediated competition with other firms in a shared market” (Kraaijenbrink et al. 2010: 350).

The RBV further presupposes businesses are entities focused on profit-maximising, with managers engaged in different, yet largely predictable market dynamics to establish and maintain balanced operations (Bromiley and Papenhausen 2003, cited in Kraaijenbrink et al. 2010: 350). Knowledge of the potential worth of a resource is, nonetheless, allocated unevenly. Ex ante sources of SCA are available to a firm when its managers are fortunate enough to outperform their rivals in estimating the future worth of a resource. The creation of isolation measures that stop other companies from taking the firm's above-average

profits away, thereafter provides the company ex post sources of SCA (Bromiley and Papenhausen 2003). The RBV is overtly reductionist due to its emphasis on the resource as the crucial element of the company and its straightforward view of firms as a collection of these resources. It opposes holistic or emergent theories that compare businesses to living things, with intricate feedback-controlled, boundary-maintenance processes (Kraaijenbrink et al. 2010: 351).

The main development of RBV theory took place between 1984 and the middle of the 1990s. In this regard, the criticisms of Priem and Butler (2001) and the answers of Barney (2001) are particularly helpful for those looking to advance the RBV, because they highlight areas in which improvements could be made. However, the definition of the term “resource” is unworkable. Hence, the research will focus on key attributes of a business that make it competitive, so they can at least outperform within their industry and have above average performance. The RBV theory will enable SMEs to identify and protect important resources, while it will also assist SMEs to focus on sustainable performance in order to gain competitive advantage. This means, for SMEs to be sustainable in growth, they must adhere strictly to this theory.

2.2.3 Transaction Cost Theory (TCT)

The theory of transactional cost analysis or TCT is one of the simplest models that could be used to understand supply chain decisions made by SME leaders in Ghana, since the concept derives from viewing transaction costs as paramount in supply chain decision-making. TCT is a popular model for understanding and analysing a broad array of strategic decisions of manufacturing firms (Madhok 2002). According to Ketokivi and Mahoney (2020), the connection linking economic entities is a shared interest between transaction cost economics (TCE) and SCM. The make-or-buy decision, often known as the canonical transaction, is given particular attention by TCE, despite it being a broad theory of the regulation of trade relationships and economic structure (Ketokivi and Mahoney 2020). TCE is easily adaptable and pertinent to studies on operations and SCM, because of its focus (Ketokivi and Mahoney 2020). The economics of TCT is one of the organisation theories most frequently mentioned and utilised in operations and SCM research, due to its potential to guide future research (Ketokivi and Mahoney 2020).

Based on Adam Smith's concept of how wealth is accumulated through specialisation, Ketokivi and Mahoney (2020) argue accumulating theoretical wealth necessitates a similar combination, whereby scholars must engage in both their own specialised fields of study and intellectual contact with experts in other subjects. Hence, Ketokivi and Mahoney (2020) advocate cross referencing ideas from other management domains with that of operations/SCM researchers. There should be a give-and-take, as Williamson (2010) stated, in relation to the partnership between TCE and operations and SCM research (Ketokivi and Mahoney 2020). The framework for TCE, with respect to other theories, is provided by three theoretical lenses on supply chain: competence, power, and efficiency (Ketokivi and Mahoney 2020).

The assembly of automobiles is an empirical example of the theory of supply chain efficiency (Ketokivi and Mahoney 2020). Automobile assembly is a particularly helpful example, since it has been the subject of a significant amount of TCE research, as well as being a setting that operations and supply chain experts are well-versed in (Ketokivi and Mahoney 2020). Fortunately, there is an automobile industry in Ghana that, judging by the number of employees for each firm, could be said to belong in the SME category.

A fundamental tenet of TCE is that contracts are inescapably incomplete (Ketokivi and Mahoney 2020), thereby emphasising the need for cross fertilisation of ideas. Williamson (2010, to whom much credit is given for TCE, highlighted human limitations in language and cognition. In addition, one cannot simply cast psychology and other disciplines overboard and establish the theory of the organisation only on an economic basis due to constrained rationality (Ketokivi and Mahoney 2020).

The need to organise transactions so as to economise on restricted rationality, while also shielding the transactions against the perils of opportunism, is a key tenet of TCT (Ketokivi and Mahoney 2020). Thus, the researcher does not aim to find perfect systems in any of the SMEs; rather, thriving manufacturing SMEs are expected to have a decision-making approach that incorporates ideas from the environment, while acknowledging bounded rationality, and the inability to foresee all the risks in business forecasting. TCE refers to different ways of structuring transactions (governance structures including markets, hybrids, enterprises, and bureaus) that reduce transaction costs (Young 2013).

According to the notion of transaction costs (Williamson 2010, the ideal organisational structure is one that maximises economic efficiency, while minimising exchange costs (Young 2013). The hypothesis states monitoring, controlling, and managing transactions incur coordination costs for each type of transaction (Young 2013). Williamson characterised transaction costs, generally, as associated with maintaining the firm's economic structure (Young 2013). He claimed these expenses should be differentiated from production costs and a decision-maker might choose between using a firm's structure and obtaining goods from the market, by weighing transaction costs against internal production costs (Young 2013). Cost is, therefore, the main factor in the transaction cost decision-making model.

The term transaction cost was first used in 1937 in the landmark study "The Nature of the Firm" by Ronald Coase (Shahab 2021). Numerous well-known, new institutional economists, including Williamson, North, and Cheung, have since developed the idea (Shahab 2021). Transaction cost is defined in various ways, where one of the most popular definitions describes transaction costs as all costs associated with a transaction not related to production costs (Shahab 2021). The early examination of Coase's "costs of using the price mechanism" is paralleled by this term. People pay these costs when performing a variety of actions, such as gathering data, negotiating, contracting, or paying bills; in other words, transaction costs result from people's limited reasoning and the uncertainty that surrounds transactions (Shahab 2021).

Asset specificity, environmental uncertainty, behavioural uncertainty, and transaction frequency are the four main independent factors of TCE. Due to the inherent higher level of uncertainty present in a foreign market, environmental uncertainty is the one of these that is most impacted by the global context. There is an inherent level of uncertainty in the foreign market that does not exist per se in the local market, despite the fact that a management may feel reasonably at ease making forecasts in the domestic market (Seggie 2012).

Considering that high levels of transaction costs can result in decreased levels of policy effectiveness, efficiency, and equity, accounting for transaction costs is particularly crucial in the context of public policies. High transaction costs can discourage people from using a policy tool, while also decreasing the effectiveness of that policy (Shahab 2021).

Additionally, given that actors' allocation of transaction costs is frequently uneven, the size and distribution of these charges have a significant impact on the equality of economic systems (Shahab 2021). In comparison to other policy-related fields, the idea was only recently introduced to planning literature.

The central claim of TCE asserts that there are expenses involved with employing a market-based governance structure. The TCE perspective postulates the ideal kind of affiliation that a business should have in a free market (McIvor, 2009).

In order to legitimise planning interventions, New Institutional Economics, and TCT in particular, offer an alternative to the welfare economics theory (Shahab 2021). The idea that externalities and other types of market failures should be solved by direct government intervention in the market is contested by New Institutional Economics (Shahab 2021). According to new institutional economists, governments would be better able to deal with market failures by strengthening private decision-makers' property rights and designing better institutional arrangements that lower transaction costs and foster greater market certainty (Shahab 2021).

A strong assignment of property rights defines duties that deal with externalities, in addition to explicitly defining ownership of all resources (Shahab 2021). The work of internalising externalities is, subsequently, influenced by the assignment of property rights. However, Cyril et al. (2021) found defining, transferring, and enforcing property rights are actions that incur costs in their study on food and beverage companies in Port Harcourt's supply chains, which were heavily impacted by cost management. The authors, subsequently, concluded cost management greatly affects supply chain performance and advised Port Harcourt's management to use proper cost management techniques to raise their level of supply chain performance (Cyril et al. 2021).

In Ghana, information management is generally poor, it is expected data and information regarding past, current and future manufacturing inputs and outputs will be difficult to establish for various reasons, even for an individual firm that has invariably maintained the same management. In such cases, transaction cost comparisons and hence, predictions, will be difficult to determine. Therefore, the way transaction costs are determined and analysed by manufacturing SMEs will be key to decision-making (Madhok

2002). Frequency of the transactions, their volumes, and spread of delivery of transactions are all important points to consider when using this model to make decisions (Madhok 2002). However, the unique data set and context within which decision-making takes place in Ghana's SMEs will help configure how the transaction cost model is applied in the Ghanaian context. Transaction costs are significant as they impact the potential net return of an organisation.

A business can maximise its profits from selling products or services when transaction costs are low. Institutional elements (transaction cost value) have an immense impact on how economically efficient SMEs are. The average economic efficiency of conducting operations in high transaction cost industries (metallurgical production, agricultural, and wholesaling) is very low or negative. The highest economic efficiency values—up to 20 percent on average—are found in the transportation and communications sector, where the level of transaction costs is nearly two times lower (Nikolaeva and Pletnev 2016). The TCT theory is important for SME operations, by serving as a guide for firm performance and growth.

2.2.4 Agency Theory (AT)

Agency Theory is a conceptual framework used to understand and address the conflicts and problems that arise in relationships where one party (the principal) delegates work to another party (the agent), who performs that work. This theory is particularly relevant in economics, finance, and organizational studies, where it is used to analyse the behaviour of individuals or entities within organizations and their impact on organizational outcomes (Jensen and Meckling 1976). Fayezi, O'Loughlin and Zutshi (2012) stated, although AT has been extensively employed over the previous five decades in a variety of areas, little research has been done on how it may be used to explain relationships between organisations in the supply chain. In order to identify the gaps in the body of existing literature, Yusof (2016) provided an overview of the trend or focus in corporate governance research in emerging nations. The review points out the economic perspective, particularly AT, dominates corporate governance research in emerging nations, where scholars copy the lines of inquiry developed in more developed nations, particularly the US and the UK (Yusof 2016). AT is, nevertheless, insufficient for

comprehending many practice-related concerns, because corporate governance does not take place in a social vacuum (Yusof 2016); it is, instead, influenced by a variety of other institutional elements and local context. According to Forslund, Bjorklund and Ulgen (2020), AT aids in identifying multiple roles, such as that of an agent who reports to the principal and works with other agents to fulfil needs.

Aslam and Haron (2020) asserted to resolve agency problems and foster an open and transparent culture, corporate governance is crucial. These authors sought to investigate how corporate governance practices impact the performance of Islamic Banks (IBs), by surveying 129 IBs from 29 Islamic nations (Middle East, South Asia, and Southeast Asia) from 2008 to 2017. The results indicate the Shariah Board (SB) and Audit Committee (AUDC) have a favourable effect on the performance of IBs, namely return on assets (ROA) and return on equity (ROE). Board size and the composition of the risk management committee, however, have a negative and considerable impact on IB performance, whereas non-executive directors and CEO duality have conflicting effects on IB performance (Aslam and Haron 2020). These findings provide credence to the claim that IBs must enhance their financial performance through effective governance mechanisms (Aslam and Haron 2020). The relationship between corporate governance mechanisms and performance can, therefore, be explained using the concept of agency (Aslam and Haron 2020).

Maestrini et al. (2018) conducted an empirical investigation into the connection between two important methods for managing supplier performance—monitoring and incentives—and the operational activity efficiency of suppliers. According to a theoretical framework built on AT, there is a direct correlation between monitoring and incentives on the one hand, and operational supplier performance on the other. Goal congruence and supplier opportunism thus act as mediators in this relationship (Maestrini et al. 2018). In contrast to supplier opportunism, which mediates both the monitoring-performance link and the incentives-performance relationship, goal congruence does not prove to be a significant mediator (Maestrini et al. 2018; Forslund et al. 2021).

Contrary to expectations, offering incentives to suppliers raises the likelihood of opportunistic behaviour, which in turn, lowers the operational supplier performance (Maestrini et al. 2018). Incentives appear to be a double-edged sword, because of their

propensity to have the opposite desired effect of encouraging supplier opportunism, even when the main empirical evidence supports the general good influence of monitoring and incentives on performance (Maestrini et al. 2018). This implies AT is critical for the success of business enterprises such as SMEs. However, this theory leaves a gap as to how SMEs can contribute to closing the economic gap through AT application, to enhance sustainable SME development and growth.

2.2.5 Approaches to Internationalisation

Several problems of SMEs in Ghana were outlined in the problem statement. Among these are the lack of affordable finance, restrictive legislations and lack of international exposure (Ackah and Vuvor 2011). On the point of international exposure, it is pertinent to compare the network and stages models of internationalisation to determine how they could explain the exposure of SMEs in Ghana to supply chain markets.

The construction, maintenance, and development of relationships with network players in foreign markets, are described as the process of firm internationalisation, according to the network model of internationalisation (Brucker 2014). The internationalisation process is characterised by the entity's diverse foreign environment and the establishment of formal and informal relationships with the entities in it, which is why this model emphasises the value of creating long-term interactions with entities from a foreign environment. The extent to which a corporation occupies certain positions in national (foreign) networks, as well as the significance and integration of those roles are, furthermore, shown to represent the degree of internationalisation of the company (Brucker 2014). Additionally, one's position within a network affects how they engage with other members and is largely the product of prior encounters.

Firms have the knowledge base through their human resources, to exploit knowledge gained within their industry for growth and gaining footholds into new markets. This is how knowledge transfer within an organisation takes place. Due to its development at the University Uppsala in Sweden in the mid-1970s, Brucker (2014) stated the stage model

of Johanson and Vahlne (2009)—often referred to as the Uppsala model—may be used to answer the question of how businesses might expand their commercial operations in foreign markets.

The stage theory uses five stages to conceptualise the internationalisation process: 1) domestic marketing, 2) pre-export, 3) experimental involvement, and 4) active involvement, as well as 5) committed involvement. The length of time that should be considered while advancing from one level to another is means tested (Gankema et al. 2000). In this regard, Cavusgil's stage theory holds for European manufacturing SMEs within specified bounds, with a two-year time-frame almost ideal for European SMEs. Empirical findings from a database of Swedish-owned subsidiaries overseas, as well as from a variety of industry studies of Swedish enterprises in international marketplaces, are the foundations on which their stage model is built (Gankema et al. 2000).

According to Johanson and Vahlne (2009) cited by Brucker (2014), the stage model derives from the fundamental notion that a company's internationalisation is a gradual, dynamic process. The two components of their model are the patterns and the model of internationalisation, where the model of internationalisation is a theoretical foundation, whereas the patterns of internationalisation are based on results from empirical studies. As stated by Johanson and Vahlne (2009), entering a foreign market may always be thought of as a series of four distinct stages, with each defined by a rising market commitment and a larger input. The end result, known as the Establishment Chain, is a procedure valid for every international market. A company has only sometimes, if at all, engaged in export activity during the first stage. In the second stage, it is possible to identify a company's consistent export efforts, with most carried out by independent agents or trade representatives. The development of a personal distribution network in the international market is a hallmark of the third stage. The final stage is achieved by building up foreign production plants (Johanson and Vahlne 2009, cited in Brucker 2014).

Based on the scholarly references reviewed, it is clear the network model best explains internationalisation for several reasons. First, human and business relationships are not linear; they form concurrently across various levels of natural organic growth among persons and firms. Second, the model is more realistic than the stages model that suggests a learning curve in a linear fashion, implying when learning is not complete,

organisations and individuals cannot move on - an erroneous notion. Third, people and firms can leapfrog technologies, hence, one should not expect everyone and every firm to start from developing domestic markets first. In Ghana, many free zone companies produce directly for the export market at the outset. The present study will explore the issue of local and international networks built over time by SMEs through the questionnaire design.

2.3 DEFINITION OF SMALL AND MEDIUM-SCALE ENTERPRISES (SMES)

Depending on the number of employees and annual turnover, different definitions for SMEs could be identified in developed, and LMICs (Auzzir et al. 2018; Qalati *et al.* 2021; Wellalage and Fernandez 2019). SMEs are classified as having less than 500 employees by the European Commission and the Organization for Economic Cooperation and Development (OECD) (whose members include European and Asian nations) (OECD 2021). In Ghana, an SME is defined under the Venture Capital Fund Act 2004 (Act 680) as a business, project, enterprise, or economic activity in the country that employs no more than 100 people and whose entire asset base, excluding land and buildings, does not exceed the cedi equivalent of \$1 million in value. However, the National Board for Small Scale Industries (NBSSI) - now renamed Ghana Enterprise Agency (GEA) - describes Micro and Small Enterprises (MSEs) as those enterprises employing 29 or fewer workers. Micro enterprises are those that employ between one and five people, with fixed assets not exceeding USD 10 000, excluding land and buildings. Small enterprises employ between six and 29 persons or have fixed assets not exceeding USD 100 000, excluding land and buildings (NBSSI 2003).

The GEA further classifies SMEs as follows: Micro enterprise: less than five employees; small enterprise: 6–29 employees; medium enterprise: 30–99 employees; and large enterprise: 100 and more employees (NBSSI 2003). The NIS reports roughly 92 percent of all firms in Ghana consist of SMEs, encompassing 70 percent of all industrial facilities (GSS 2003). Not only are SMEs expected to contribute roughly 22 percent of Ghana's GDP, it is further predicted the SME-sector will account for 85 percent of manufacturing jobs and a bigger portion of the country's overall employment growth (GSS 2003). As a result, there is no accepted definition of SMEs.

Extensive research has been undertaken in respect of SCM, which includes the historical changes in the supply chain industry over the years (Jones 2018). Supply chain has been used in the developed world, particularly by larger firms or enterprises for many years (Jones 2018). Relatively recently, however, efforts are being made to ensure firms such as SMEs in the developing world are optimising SCM in their operations, in order to reduce cost, maximise profit and stay in business (Jones 2018). The concept of SCM has been developed over the past few decades, with organizations developing supply chain systems to increase their competitive advantage (Jones 2018). Individual organisations no longer compete as purely autonomous entities in modern business management, but rather as supply chains (Lambert and Cooper 2000).

SMEs generally contribute to the economy in five ways, namely by: 1) creating jobs, 2) quickly adapting to new circumstances thanks to their flexibility, 3) fostering entrepreneurship, 4) differentiating their products through boutique production, and 5) serving as a sub-sector in large corporations. Among these, the most significant characteristic of SMEs is their contribution to employment. In general, SMEs that employ labour-intensive production methods are quite significant both socially and economically (Erdin and Ozkaya 2020; Ndubisi, Zhai and Lai 2021). SMEs play a critical and strategic role in every government's pursuit of economic growth, and Ghana is no exception.

Not only are SMEs seen as a crucial strategy for job development and reducing impoverishment in industrialised countries, the existence of SMEs also encourages the efficient use of local resources and strengthens economies all over the world. SMEs are increasingly seen as effective engines of economic development and prosperity for African countries (Zafar and Mustafa 2017; Obi *et al.* 2018). Evidence from both established and emerging countries shows entrepreneurship in general and SMEs in particular, are important forces behind economic and social well-being (OECD 2017).

The International Trade Centre (ITC) research from 2016 found SMEs in Ghana generate almost 70 percent of GDP. Research further shows 85 percent of enterprises in Ghana are SMEs, with more than 90 percent of private businesses in most African nations are SMEs, which also accounts for more than 50 percent employment and GDP (Abor and Quartey 2010). The conclusion reached by Abor and Quartey (2010), is SME progress, particularly those in Ghana, has frequently been halted by factors such as access to

finance for expansion, access to appropriate technology, ability to be innovative to produce unique products, and muscle for commanding competitors, which is also supported by the ITC report (2016, cited by Issau *et al.* 2021).

As stated by Mohammed and Bunyaminu (2022), previous research on the challenges facing SMEs suggests a major barrier limiting their performance is a lack of managerial expertise. Ngibe (2020) asserted economists are of the opinion the success of a country's SMEs has a significant impact on that country's wealth. However, SMEs are experiencing increased difficulties worldwide in general and in emerging nations in particular; despite their critical role in creating a competitive private sector and their major contribution to economic growth and employment creation. As with other countries in Africa, Algerian SMEs were found to face a variety of significant obstacles to their expansion, including onerous legal and regulatory requirements, a lack of access to outside financing, limited human resource capabilities, and a lack of management expertise and training, as well as limited technological capabilities (Bouazza *et al.* 2015; Nikolić *et al.* 2015; Ihua 2009).

As a driver of innovation, competition, and economic dynamism, SMEs make a substantial contribution to the economic growth of a nation. Compared to big business, they have more locations developed, including in rural areas. As a result, SMEs are crucial to improve income distribution (Madanchian *et al.* 2015; Muriithi 2017; Obi *et al.* 2018). Additionally, SMEs propel many economies, such as the Turkish economy, similar to the economies of other developed and emerging nations. In comparison to large businesses, they have more flexible production opportunities, which allows these small enterprises to quickly adjust to changes in demand and enter full competition circumstances. As a result, SMEs support the economy, employment, productivity, and entrepreneurship education.

The largest contributor to the rise in employment is SMEs; accordingly, it is believed SMEs are essential to attaining "growth" and "employment" goals (Erdin and Ozkaya 2020; Razak, Abdullah and Ersoy 2018). Having shown successful SCM as a potentially key aspect in the success of Indian SMEs in the fast-paced global market, Singh and Kumar (2020) further highlight three core SCMPs, namely managing customers, organisational resources, and inventory that should be implemented effectively. In addition, it has been established SMEs can perform very well to ensure sustainability and growth by practising SCM effectively (Khalil *et al.* 2019; Utami *et al.* 2019). Therefore, SMEs are essential to

the development of the rural economy, the manufacturing sector, the alleviation of poverty, and the creation of jobs, as well as entrepreneurship (Khandelwal *et al.* 2017).

2.4 DEFINITION OF SUPPLY CHAIN MANAGEMENT (SCM)

Myerson (2012) points out the Council of Supply Chain Management Professionals (CSCMP) defines SCM as all activities related to sourcing and procurement, conversion, and logistics management that must be planned and managed. Coordination and collaboration with channel partners might include suppliers, intermediaries, third-party service providers and customers (Myerson 2012). The Global Supply Chain Forum (GSCF) also defines SCM as the integration of important business processes from the end user to the original supplier, resulting in products, services, and information that offer value to customers and other stakeholders (Lambert and Cooper 2000). The transfer of tangible materials from suppliers to manufacturers, and then via the distributor to end users, has traditionally been the focus of SCM (Li and Liu 2019).

Variously defined by numerous authors, SCM is further described as an activity that involves many partners including manufacturers, processors, importers, and exporters, as well as retailers, working together to achieve a common goal (Chong *et al.* 2011). Saxena and Sircar (2008) further posited SCM is a network of business operations used to deliver items and services, including raw materials, to customers as finished commodities, via an orchestrated flow of distribution, information, and financing. A supply chain is made up of companies and business activities required to design, make and use a product or service (Hugos 2018). Businesses rely on their supply chains to provide whatever they require to operate and survive. These SCM activities, as Koh *et al.* (2007) point out, are contained in SCMPs; a set of activities carried out by a company to ensure its supply chain is managed effectively.

Organisations have been pushed to rearrange their business operations due to technological breakthroughs and rapid evolution. However, in order to develop an error-free infrastructure, businesses demand an uninterrupted flow of information, commodities, services and funds (Saxena and Sircar 2008). In addition, SCM is typically concerned with the management of supply chains, which includes all other parties involved in the delivery of specific goods or services and originates at the very heart of enterprises (Frohlich and Westbrook 2015). Moreover, a supply chain does not comprise only manufacturers and

suppliers, but includes retailers, warehouses, transporters and customers. Mentzer *et al.* (2001) highlighted some authors define SCM as an operational concept involving the flow of materials and products, while others see it as a management philosophy or a management process.

Part of the supply chain processes in a manufacturing organisation could, additionally, also include receiving and completing customer requests, in addition to new product development, marketing, and operations, along with distribution, finance, as well as customer service (Chopra and Meindl 2016, Saxena and Sircar 2008). Considering SCM was defined by Hugo (2003) as the coordination of production, inventory, location, and transportation among partners in a supply chain; to achieve the right blend of responsiveness and efficiency for the market being served, management of the supply chain is also understood as the integration of all operations related to the flow and transformation of goods. This includes associated information flows, from raw materials to end user through enhanced supply chain relationships (SCRs), in order to generate a sustainable competitive advantage (Handfield and Nichols 2002).

From the Ghanaian perspective, Nsiah Asare and Prempeh (2016) state the main goal of SCM is to meet consumer expectations by making the best use of available resources, such as distribution capacity, inventory, and labour. Demberere and Kasongo (2021) also observed managing a supply chain competently results in increased efficiency and cost effectiveness across the board.

Reverse Logistics (RL) has steadily evolved into a distinct skill set in today's supply chain and has garnered widespread industrial relevance, with Ghanaian manufacturing enterprises being no exception (Afum *et al.* 2021). This concept comprises 5-Rs – returns, reselling, repairs, repackaging and recycling (Jenkins 2021). Due to both economic and environmental concerns, RL is gaining traction and growing in size and quantity (Kazancoglu *et al.* 2021; Pushpamali *et al.* 2021). Environmental consequences of RL operations in SCM should be extensively examined from a managerial perspective, because they can contribute considerably to green performance management by reducing waste and loss (Kazancoglu *et al.* 2021; Pushpamali *et al.* 2021).

In conclusion, there are several definitions of SCM by scholars and debates over the definition, thereby making it difficult to appreciate the most acceptable description. Despite each supply chain having its own set of market needs and operational constraints, the concerns are essentially the same in every situation. Companies in any supply chain must make judgments with regard to their operations, both individually and collectively (Hugos 2018). However, before employing SCM as an analytical tool, it must first be defined in the appropriate context; it is frequently used in logistics and strategic management literature (Carbone and Gouvernal 2017). SCM is a well-known component of most firms, which includes SMEs, and is emphasised by the CSCMP as crucial to both business success and meeting consumer expectations, through reduced operating costs, improved customer satisfaction and enhanced financial positions (Myerson 2012).

2.5 SMALL AND MEDIUM ENTERPRISE (SME)

There have been several definitions of SMEs by many authors. However, there is no one acceptable definition. Some definitions use the number of employees and level of turnover, while others use assets and legal status. Manufacturing SMEs play a crucial role in the economic development of many countries. Hong and Jeung (2006) define SMEs by using number of employees as the fundamental criterion for SME classification; enterprises with less than 500 employees fall under SMEs. Abor and Quartey (2010) state the European Union (EU) defines SMEs by the number of employees in an organisation as follows:

- Firms with 0 to 9 employees as Micro Enterprises
- Firms with 10 to 99 employees as Small Enterprises
- Firms with 100 to 499 employees as Medium Enterprises

As they participate in value creation activities, SMEs are increasingly playing essential roles in SCM. These enterprises have a critical role in driving growth, employment creation and contributing to poverty alleviation (Abor and Quartey 2010; Fiseha and Oyelana 2015; Erdin and Ozkaya 2020). Moreover, the SME sector in LMICs is considered an industrial base and the backbone for creating jobs (Kankisingi and Dhliwayo 2022).

In Ghana, small-scale firms have been variously defined, with the most generally used criterion the number of employees (Kayanula and Quartey 2000). Several government

sources, such as the GSS, consider companies with fewer than 10 employees as small businesses, while businesses with more than 10 employees are classified as large businesses. The value of the firm's fixed assets has also been employed as an alternate criterion for determining profitability (Kayanula and Quartey 2000).

Nsiah-Asare *et al.* (2016) stated SMEs in Ghana are divided into two types: urban and rural. The first is separated into organised and unorganised businesses. The organised enterprises have paid staff and a registered office, whereas unorganised businesses mostly consist of craftsmen who operate in open spaces, temporary wooden buildings, or at home, and employ a small number of people. Conversely, in certain circumstances, there are no salaried employees; they mostly rely on family members or apprentices for subsistence. Family businesses, individual artisans, and women-owned businesses comprise the majority rural businesses in the production of food from farm products.

Soap and soap-making are two of the most important activities in the SME industry. Textile and leather, blacksmiths and tin-smithing, pottery, as well as wood and mining, and bricks and cement, along with electronics, and drinks, food processing, and bakeries, in addition to wood furniture, are some of the manufacturing activities found among SMEs in Ghana. These activities help in creating jobs, thereby reducing pressure on the government for extensive unemployment in the country. The NBSSI of Ghana uses the number of employees and fixed assets as criteria for defining SMEs. As Ghana's principal governmental entity responsible for small business development, the NBSSI uses a variety of criteria, including fixed assets and employment size, to define SMEs (NBSSI 2003).

2.6 PURPOSE OF MANUFACTURING SMEs

The importance of the SME sector is widely acknowledged around the world, because of its considerable contribution to a variety of socio-economic goals, including increased employment, output, export promotion, and supporting entrepreneurship (Keskin and Senturk 2010). SMEs, which have grown in importance in developing economies, have become advantageous as economic firms with the ability to quickly adapt, work with less capital but more intense labour, and have low management costs, resulting in low-cost production (Keskin and Senturk 2010; Savlovski and Robu 2011; Deijl, de Kok and Veldhuis-Van Essen 2013; Manzoor *et al.* 2021). Despite their flaws and, because of their

flexibility and ability to adapt to changing situations SMEs are less affected by economic crises.

A further factor to consider, is that technology innovations influence employment creation in small businesses positively and act as a driving force for economic development. The effective use of information technology (IT) in small businesses, therefore, has a major impact on their competitiveness and access to international markets. Thus, the need for the government to develop innovative strategies for small businesses to actualise their firm performance and enhance job creation is recommended (Chege and Wang 2020).

2.7 CONCEPTUAL FRAMEWORK

There are a number of works of SCMP and organisational performance by several researchers; notable among these are Li *et al.* (2006), Hashim *et al.* (2019), Sukati, Sanyal and Awaain (2020). The framework for this study (Figure 2.1) comprises the following SCMPs: SSP, customer relationship, IS, quality information and collaboration.

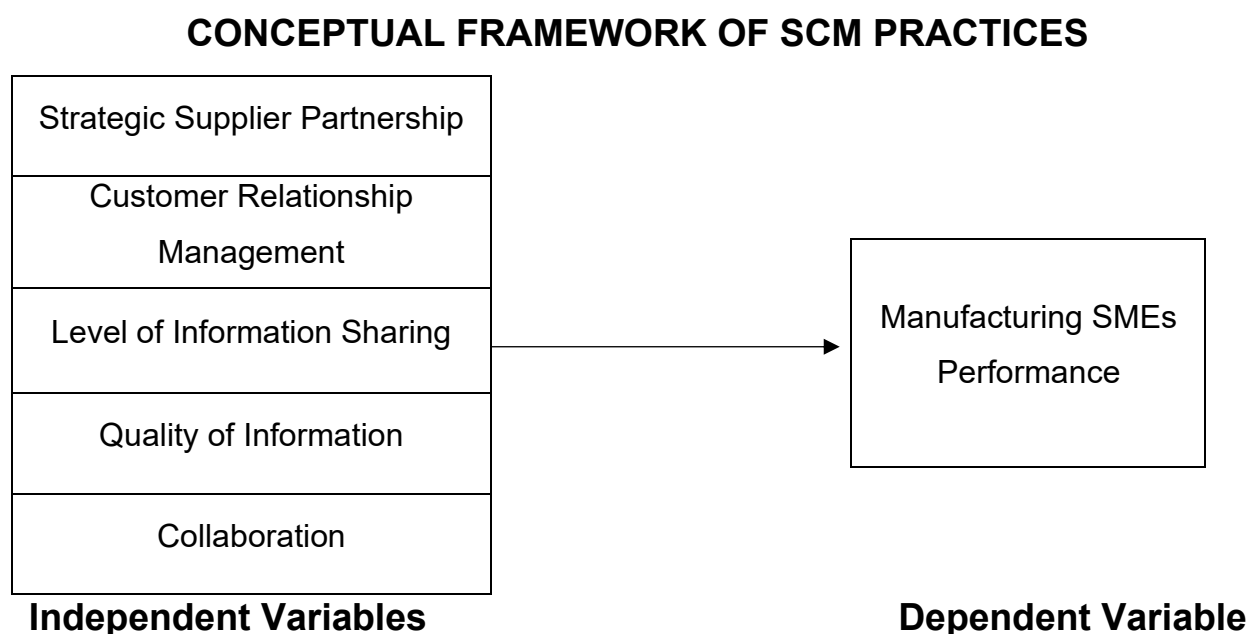


Figure 2.1: Study Framework for SCMPs

The illustrated conceptual framework (Figure 2.1) shows the relationship between SCMP and SME performance, where SSP, Customer Relationship, Level of IS, Quality of IS and Collaboration will act as the independent variables, while SME performance is the

dependent variable. The framework is based on the review of literature on SCM to enable practitioners, managers and researchers to gain a complete perspective of SCMPs and performance of manufacturing SMEs in Ghana.

2.8 REVIEW OF EMPIRICAL STUDIES

Empirical studies on the influence of SCM practices on the performance of SMEs in Africa have provided valuable insights into the unique challenges and opportunities within this context.

In Nairobi, Kenya, Wanjiku and Njiru (2016) investigated how SCM methods affected the performance of SMEs. The study discovered that SME performance was greatly enhanced by efficient quality control, logistics, and supplier relationship management. To improve overall corporate performance, the researchers emphasized the need of training and development in SCM techniques.

Chinomona and Pretorius (2011) investigated how supplier evaluation and selection affected the performance of small and medium-sized enterprises in Gauteng, South Africa. The study found that supply chain reliability and overall business performance were improved by SMEs that used strict supplier selection criteria and frequent performance reviews. The authors stressed that in order to promote long-term benefits, SMEs must establish strategic partnerships with their suppliers.

A study by Asamoah et al. (2012) focused on the logistics management practices of SMEs in Accra, Ghana. The research found that effective logistics management, including timely delivery and efficient transportation, significantly contributed to improved customer satisfaction and financial performance. The study recommended that SMEs invest in logistics training and infrastructure to enhance their supply chain capabilities.

In Dar es Salaam, Tanzania, Kiura and Mwangangi (2017) looked into the performance of manufacturing SMEs and their inventory management procedures. According to the survey, SMEs who implemented strong inventory management strategies, like just-in-time (JIT) inventory and frequent stock audits, saw a rise in profitability and a decrease in operating expenses. To improve their supply chain operations, SMEs should implement inventory management best practices, according to the study.

Empirical studies across various African countries consistently demonstrate that effective SCM practices significantly enhance the performance of SMEs. However, these studies also highlight common challenges, including limited access to resources, technological barriers, and the need for capacity building. Addressing these challenges can further unlock the potential of SCM practices to improve SME performance in Africa.

2.9 RECENT TRENDS IN SCM

The concept of SCM was established to bring a new element to company management by breaking down boundaries, both within and outside the company, in the pursuit of integrated SCM (Alfalla-Luque and Medina-Lopez 2009). The supply chain encompasses all processes involved in satisfying a client's request, whether directly or indirectly, implying a supply chain includes not only the producer and suppliers, but also transporters, warehouses, retailers, and customers (Chopra and Meindell 2007; Blanchard 2019).

To achieve a fully integrated SCM process Lambert and Cooper (2000) developed an 8-point business process for SCM. These processes are RL; product development and commercialisation; procurement; and manufacturing flow management; as well as order fulfilment; demand management; customer service management; and CRM (Lambert and Cooper 2000). Despite these categorisations, Biggs *et al.* (2018) have urged the concept of a supply chain should no longer be seen as compartmentalised; SCM should be viewed as optimising labour operations for basic material handling and freight transportation, to more sophisticated ways for balancing cost and efficiency trade-offs.

SCM plays a significant part in manufacturing, hence, organisations must employ supply chains to allow for the acquisition and storage of raw materials, as well as the subsequent storage and distribution of final products (Fawcett and Waller 2013; Chopra 2019). Therefore, a supply chain could be viewed as a business operation process that includes the planning and administration of all operations involved in acquiring and converting raw materials into finished goods, until those goods and services reach the end user. Thus, the needs of consumers are met in an efficient manner and costs reduced at the end. The goal of SCM, according to Lisitsa *et al.* (2019), is to create optimal channels of interaction with distributors and end users, including: studying demand and offerings on the market products that best meet customer needs; quickly processing orders and requests;

planning optimised delivery times in such a way that goods "do not fall behind" or, conversely, with no unsatisfied demand for goods; and building long-term relationships with distributors; while constantly expanding sales networks (Lisitsa *et al.* 2019).

Making good SCM a strategic focus is one of the finest ways for firms to provide excellent customer service. Effective SCM enhances a company's financial position by producing value aligned with the company's business strategy. SCM contributes to customer satisfaction by facilitating the distribution of goods and services when deliveries reflect consumer values, which creates the need to use social media in monitoring customer values, purchasing habits, and expectations of diversity, sustainability and ethical procurement practices (Michigan State University 2021).

Management of supply chains is advancing at a breakneck pace; therefore, in order to thrive, organisations have been pushed to rearrange their business operations, due to technological breakthroughs and rapid evolution. SCM ensures operational excellence is achieved through increasing income, lowering expenses, and maximising the use of existing resources. When that happens, more profit, increased market share, and a positive consumer response are the ultimate results (Saxena and Sircar 2008). In addition, the efficient and effective delivery of raw materials, components, and finished items that meet customer and consumer needs, makes or contributes significantly to accomplishing supply chain efficiency and effectiveness goals (Langley *et al.* 2021).

It was highlighted by Croxton *et al.* (2016) that the processes of SCM have been widely explored among academics, and SCM may, thus, be considered as an effective strategy for establishing fruitful relationships and understanding among stakeholders in supply chains to meet customer needs. However, Arora and Gigras (2018) studied the importance of SCM in the HealthCare systems of LMICs in the Third World, finding optimal SCM guarantees the hospital departments, operations, and revenue cycle are all properly linked. The supply chain can be pictured as a back-end program that runs to connect all the separate processes. An effective supply chain system in place guarantees medicines/products are available at the correct moment, thereby minimising inventory waste, maximising patient care, and minimising human/medication errors (Arora and Gigras 2018).

A good SCM deployment will improve the interaction between upstream suppliers and downstream customers, resulting in higher customer satisfaction and the organisation's firm performance (Gharakhani and Mousakhani 2012). It is generally agreed effective SCM may provide enterprises with a significant competitive edge (Ibrahim and Hamid 2014). Moreover, Craighead *et al.* (2020) emphasised the importance of SCM, stating the COVID-19 epidemic immobilised the world and demonstrated, perhaps more than any other event in modern history, the crucial role of SCM in navigating crises. The COVID-19 pandemic's broad scale of disruption, widespread repercussions across countries and industries, and drastic adjustments in demand and supply, demonstrated pandemics as qualitatively distinct from usual disruptions (Craighead *et al.* 2020). Gharakhani and Mousakhani (2012) asserted good SCM deployment will improve upstream supplier interaction with downstream customers, which will lead to higher customer satisfaction and improved firm performance.

Concepts and definitions of SCM are discussed by Lemay *et al.* (2016), who argued theory and definition have a complicated relationship. Questions raised include how one goes about formulating a theory for something that has not been properly defined, and similarly, how to develop a definition without revealing something regarding the underlying theory. Lemay *et al.* (2016) focused on assessing constructs linked with SCM, allowing these to be empirically validated.

The first model Lemay *et al.* (2016) examined is a simple, linear model that depicts an internal supply chain, as well as external suppliers and customers. Physical supply networks and for-profit corporations are the foundations of this model. They tend to exclude, what have become typical expansions of the SCM concept, such as inclusion of services and non-profit organisations. However, SCM theory has been reinforced, according to Seric *et al.* (2014), with integrated and coordinated decision-making and information exchange across various levels in a supply chain, from the highest to the lowest.

2.10 GLOBAL PERSPECTIVE OF THE SCM CONCEPT

As globalisation progresses, all company activities must contend with the resulting influence, as well as the opportunity (Delfmann and Albers 2000). Globalisation concerns transactions involving individuals or firms in more than one country, with globalisation,

extremely competitive marketplaces, and rapid technological change increasingly driving the development of supply chains in which numerous enterprises collaborate, each focused on its core competencies (Hugos 2003). As the distances between product source and market consumption extended geographically, globalisation has intensified competition in pursuit of higher quality or lower cost (Min, Zacharia and Smith 2019). Moreover, due to developments in IT and the continuous improvement of courier giants such as UPS, FedEx, and DHL that can provide worldwide supply chain services at very reasonable fees, operating globally has become easier for individuals and small businesses (Langley *et al.* 2008).

SCM 4.0 is a new concept of smart SCM that emphasises the expanding importance of SCM. The most extensively researched concerns within smart supply chains, according to the primary keywords relevant to the subject, are Big Data, cloud computing, and the Internet of Things (IoT) (Frazzon *et al.* 2019). Smart supply chains, according to research, take advantage of communication and technical advancements to create an adaptive, efficient, and transparent network. However, to put such a notion into practice, Frazzon *et al.* (2019) assert knowledge must be developed, not only in the hardware and software disciplines, but also in the management field, to address the question of how to use information and communication technology (ICT) to benefit stakeholders. The configuration and management of a supply chain in a global environment are crucial factors that enable firms to reach a correct level of competitiveness, by enabling them to achieve improved performance (Borges 2015).

Many businesses cater to various worldwide markets, with products purchased and manufactured on multiple continents. The global influx of foreign commodities and trade rules affect even the tiniest rural farms. Additionally, businesses must have the desire to expand globally; otherwise, they will be constrained to only producing goods and services within their own boundaries. Going global allows businesses to tap into enormous and developing markets, take advantage of new economic trends, and make use of natural resources in different parts of the world (Sanders 2012).

Simchi-Levi *et al.* (2010) explained, for SCM to work with a global perspective, purchasing, production, shipping, and warehousing, as well as retailing, and delivery are all parts of a typical supply chain, also known as a logistic network, which focuses on the transportation

of commodities via various facilities that must be considered. However, according to Langley *et al.* (2008), SCM should manage three critical flows: materials, information, and financials. Companies have, therefore, changed their supply chains and business strategies, resulting in a substantial shift in the business landscape in the 21st century (Dwivedi *et al.* 2020). Globally, buyer-supplier relationships, supply chain conceptualisation, and supply chain modelling are all included under the umbrella of SCM (Ellram and Murfield 2019).

A new type of global rivalry emerges when SCM is properly implemented, one not based on company versus company competition, instead, its basis is supply chain versus supply chain competitiveness (el Shoghari and Abdallah 2016). The need for increased collaboration and mutually beneficial relationships among customers, suppliers, competitors and other stakeholders, has become evident in an increasingly interconnected global environment, which can positively benefit sustainability (Grant, Trautrim and Wong 2017).

2.11 THE SCM CONCEPT IN THE GHANAIAN CONTEXT

In a study conducted on agrochemical firms in Kumasi, Ghana, by Asare *et al.* (2016), it was realised that, although management employees at agrochemical firms in Kumasi seek to apply SCM, the practice is not widely applied. Apart from the good practice of logistics management, other practices, such as inventory management (IM), procurement, and distribution management, were not carried out effectively by the organisations, as reported by the management staff themselves. A study of supply chains in the mining sector in Ghana also revealed supply of low-quality products, unreliable or variable lead times, non-availability of international-standard local firms, and fluctuation in gold prices on the international market, along with high transportation costs, as well as violence and sporadic attacks from the mining communities, are among the major supply chain challenges found to be confronting the mining sector in Obuasi, a mining town in Ashanti Region (Agyei, Sarpong and Anin 2013).

Successful SCM necessitates the integration of all components into a variety of business processes within and between enterprises (Asare *et al.* 2016; Damoah 2021; Boakye *et al.* 2021; Kwamega and Abrokwah 2018). This necessitates integrating the organisational units in charge of each activity, as well as the external suppliers and customers involved

in the planning and execution process. For successful and efficient operations, all components in a supply chain must be controlled efficiently.

IM should, similarly, remain a strategic and complete business plan for manufacturing enterprises in developing economies, including Ghana. Inventory is estimated to account for more than 70 percent of overall production assets, necessitating special care and emphasis (Opoku *et al.* 2020). However, Kasim *et al.* (2015) found SMEs in Ghana's Northern Region are ineffective at managing inventory, since they do not seem to have embraced and implemented efficient IM processes in their operations. This was predicted by their poor IM efficiency levels and limited implementation of IM ideas in their operations.

SSPs and supplier development are the most prevalent and leading sustainable SCM methods among Ghanaian restaurants and food delivery services (Anokye-Wusu 2021). Additionally, several companies have implemented both internal and external supply chain strategies to guarantee resources are used wisely to decrease waste and protect the environment, resulting in cost savings and improved performance (Anokye-Wusu 2021). Minimal knowledge exists of the issues associated with integration into supply chain networks in Ghana, particularly in the industrial sector, where SCM is widely practised (Nartey and Anyanful 2015). This is understandable, considering the dearth of readily available empirical research on the subject from a Ghanaian perspective (Nartey and Anyanful 2015). An area that has been studied, is Ghana's pineapple industry, where most pineapple supply chains in the country are found to face severe risks, such as a lack of suitable planting material, timely availability of competent labour, electrical fluctuations, and ineffective pre-cooling and cold chain facilities. To address this, researchers suggested in-vitro planting facilities, personnel development, and a continuous improvement programme be developed through modernisation and retooling (Anin and Adzimah 2015).

Mensah *et al.* (2014) indicated suppliers of Kasapreko Company Limited (KCL), a beverage manufacturing company in Ghana, have adopted an open book concept to continuously explore areas of product and cost improvement, thus enabling the parties to sell products at competitive prices in comparison to their competitors. KCL employs SCM in its operational activities. Customer interactions from both upstream and downstream levels of their supply chain have influenced performance positively, with 97 percent

customer staff stating their relationships with KCL motivate them to purchase more of the company's products (Mensah *et al.* 2014).

SCM operations were also found to be familiar to many filtered water businesses in northern Ghana and a strong correlation between SCM and organisational performance was evident. Nevertheless, many more have yet to deploy or adopt SCM techniques and gain substantial advantages (Abbey *et al.* 2013). According to Kyeremeh (2019), the advantages of SCM should be harnessed to regularly update existing products to entice buyers. Additionally, product modifications should be made to avoid raw material shortages, and customer complaints handled strategically to attract customers and improve sales (Kyeremeh 2019).

2.12 IMPORTANCE OF SCM IN GHANA'S MANUFACTURING SME SECTOR

SCM has grown in importance as a result of the rise of globalisation and competitiveness, and is anticipated to be a major factor in the global competitiveness of organisations (Gharakhani *et al.* 2012). The present economic crisis, along with a more competitive economy, necessitate supply chain optimisation (Shakerian *et al.* 2016). When profits fall and new costs rise, these authors highlight that new exchanges emerge, and organisational structures evolve to facilitate decision-making and sustain a competitive advantage.

Developed economies with well-organised logistics and SCM capabilities have a distinct competitive advantage over other economies, implying that strengthening logistics infrastructure could be used as a competitive strategy to increase a nation's market share in the manufacturing sector (Kherbach and Mocan 2016). LMICs, therefore, require trade logistics and SCM to boost their competitiveness, since they will be able to address global shortage issues more efficiently when they take advantage of globalisation benefits (Kherbach and Mocan 2016).

Firms that manage their supply chains as they should, will see greater financial performance due to cost savings, with this financial gain potentially distributed to shareholders as well as customers. In the case of Ghana, a nation with many state-owned enterprises, the direct benefits to the Government of Ghana and the taxpayer are obvious

(Wahyuni 2010). Therefore, one of the key objectives of this research will be to examine the effects of SCM influence on manufacturing SMEs. Recently, many SMEs are being established under the government of Ghana's One District One Factory (1D1F) flagship policy, thus, an exploratory study into their operations will yield important teaching points for academia, financiers, and the general public alike.

According to Langley *et al.* (2021), in order to improve organisational efficiency, effectiveness, and competitiveness, logistics and SCM have become increasingly recognised at board level in a growing number of firms, with supply chains and logistics having become acknowledged as prerequisites for overall organisational success. It will thus be vital to understand the perceptions of some board members regarding SCM, as it has gained importance in many manufacturing organisations. Nonetheless, Agus (2011) asserted, as global competition grows, manufacturing companies should become more interested in how their suppliers and consumers do business. They should concentrate on SCM initiatives with a substantial impact on improving SCM activities, such as where high-quality raw materials are sourced, how products are developed and produced, how finished goods are distributed, and what consumers truly require.

Making and delivering products and services to customers is becoming the most effective and efficient way for businesses to be profitable, and it is at the heart of SCM. In the manufacturing industry; implementing SCM improvement processes can cut costs and enhance profits by optimising supply schedules (Lisitsa *et al.* 2019).

2.13 ECONOMIC BENEFITS OF SCM TO THE GHANAIAN ECONOMY

SCM that is effective can reduce costs, increase customer value, and expand competitive advantage. These benefits would greatly contribute to making goods and services available at affordable prices and improving the living standards of the citizenry. The GEA, formerly NBSSI, was established to facilitate the creation of a favourable business environment, expand financial and non-financial services, and set up supportive institutional infrastructure for SMEs in Ghana (GEA 2022).

While SCM allows businesses to cut costs, it also improves customer service, resulting in increased efficiency and effectiveness and, as a result, increased income. Inventories, accounts receivable, and cash are all affected by supply chains, which makes them a

significant factor in working capital usage. Supply chains that are effective and efficient can free up valuable resources and boost customer satisfaction, increasing return on investment (ROI) and shareholder value (Langley *et al.* 2020). In addition, every company, both public and private, relies on the efficient flow of materials, which results in cheaper costs, larger profits, better customer relations, and improved performance (Chase, Aguilano and Jacobs 2001; Saxena and Sircar 2008).

A market with well-organised logistics and SCM capabilities has a distinct competitive advantage over other economies, while strengthening logistics infrastructure can be used as a competitive strategy and can help increase market share. Successful logistics and SCM have, furthermore, been identified as critical opportunities for firms to improve their success and competitive performance (Kherbach and Mocan 2016). However, obtaining the product in the appropriate condition, on schedule, and at the lowest possible cost, is one of the principals aims of good logistics in SCM (Flint 2004).

The application of SCM has been beneficial, because all supplies, goods, complete information, and transactions pass around this circle; the supply chain begins and finishes with the customer. To deal with the problems of the technology and information era, supply chain is regarded as one of the current management strategies for improved organisational performance (el Shoghari and Abdallah). When done correctly, SCM ensures chain efficiency and effectiveness, as well as the delivery of high-quality, high-value products and services. It also ensures long-term stability and sustainability in order to meet customer needs, along with the ability to anticipate and capitalise on potential opportunities and financial success of businesses (Avetta Marketing 2021).

When SCM is correctly implemented, it develops a new kind of global rivalry, based on supply chain versus supply chain competitiveness, as opposed to company versus company competition. The main goal of SCM is to meet consumer expectations by making the best use of available resources, such as distribution capacity, inventory, and labour (Nsiah Asare and Prempeh 2016). Furthermore, managing the supply chain appropriately results in across the board increased efficiency and cost effectiveness. Thus, total costs integrate from transportation to distribution to purchasing of raw materials, to work in progress and to finished goods (Asare *et al.* 2016). Effective SCM can lower costs, increase customer value, and boost competitive advantage. The country will,

consequently, benefit from long-term job creation, revenue generation, and infrastructure development by numerous SMEs in Ghana.

2.14 FACTORS CONTRIBUTING TO THE SUCCESS OF SCM IN GHANA

One major goal of SCM is to provide consumers with the right product at the right price, at the right time, with the right quality, and in the right quantity. The short-term strategic goal of SCM aims to reduce cycle time and inventory, increasing productivity, while the long-term goal aspires to enhance profitability by increasing market share and providing excellent customer service (Mabrouk, Omri and Jarraya 2020). Any organization's overall internal performance is influenced by effective SCM, while its importance is heightened by the present economic crisis and the global organisation's competitiveness (Groznika and Turkman 2012). There are, however, some factors that affect SCM, which impact business performance.

Quesada, Gazo and Sanchez (2012) stated some factors that affect the success of SCM include government support, company environment, IT, and SCRs, as well as supplier market, supplier performance, material sourcing, and marketing strategy, in addition to innovation, to mention a few. The six most cited CSFs shared between countries and Modular Integrated Construction (MIC) projects, according to Wuni and Shen (2020), are (1) good working collaboration and effective communication among project participants; (2) effective SCM; (3) accurate design and early design freeze; (4) involvement of key project participants throughout the project; (5) appropriate procurement strategy and contracting; and (6) standardisation and benchmarking of best practices. These shared CSFs can be used to create decision support systems that allow for project success prediction. Dania, Xing and Amer (2018) stated joint efforts, sharing activities, cooperation value, and adaptation, in addition to trust, commitment, power, and continuous improvement, as well as coordination, and stability, are 10 important behavioural aspects that enable an efficient collaboration system for sustainable agro-food SCM.

According to Attia and Salama (2018), Knowledge Management Capabilities (KMCs) are essential for enhancing SCMP. In supply chains, KMCs are seen as crucial drivers and success elements. KMCs allow employees and companies to share information, in addition to enabling supply chain members to share information, cooperate, and create long-term connections, resulting in the development of value-added products and services

for customers (Attia and Salama 2018). Top management commitment, government legislation and standards, pollution prevention and hazardous waste management, along with environment management certification (ISO 14000), are all essential success elements for Green Supply Chain Management (GSCM) adoption (Banik *et al.* 2022). Some issues that hinder effective SCM, as pointed out by Gardas, Raut and Narkhede (2018), include insufficient infrastructure, poor handling of products at the farm and marketplace, lack of processing facilities, and linkage between farmers and processing units, as well as in the marketing channel, and an extensive number of intermediaries.

Provision of the above-listed factors will contribute to guiding various supply chain members and decision-makers in minimising post-harvest loss (PHL) and enhancing overall fruit and vegetable supply chain performance. According to Mabrouk *et al.* (2020) environmental uncertainty, business management, IT, and manufacturing, SCR, customer satisfaction, and SCM performance are all factors that influence the performance of supply chains in Saudi Arabia's SMEs.

The success of logistical operations supporting humanitarian efforts in southern Africa can be aided by strategic design, implementation, and control of agile, flexible, and responsive supply chain strategies (Ngwenya and Naude 2016). Four GSCM activities, namely green purchasing, RL, environmental collaboration with suppliers, and green manufacturing are factors that favourably impact operational performance (Mafini and Louri-Okoumba 2018). In turn, for SMEs in developing countries, operational performance was shown to have a significant beneficial impact on supply chain performance (Mafini and Louri-Okoumba 2018). According to Sharma *et al.* (2018), packaging and government policies have been discovered to be major success factors in the adoption of Sustainable Food Supply Chain Management (SFSCM) in terms of safety and security. Furthermore, in a study of SMEs in Gauteng, South Africa (SA), partnership, collaboration and integration were identified as factors that influence supply chain performance in a positive way (Mofokeng and Chinomona 2019).

There is limited literature on SCM success factors in Ghana. Anyanful and Nartey (2015) conducted a study on commercial banking operations, while Damoah (2021) and Botchie *et al.* (2021) researched humanitarian supply chain management (HSCM), believing when SCM is properly implemented, it can help and enhance the operations of both banking

and HSCM. The authors identified SCM success factors as planning, communication, management commitment, and motivation, along with competency, and benchmarking for banking operations and management practices. Further success factors are detailed as, education and training, materials and resources, infrastructure, as well as stakeholder involvement, administrative practices, socio-cultural factors, and innovation and technology, in addition to economic factors for HSCM. Som et al. (2019) indicates, while information and operational integration have a beneficial impact on supply chain performance, relational integration however, has a negative impact. The findings suggest, in order to achieve better supply chain results in Ghana, managers need to invest more in information and operations integration.

Green Manufacturing Practices (GMPs) have a substantial impact on long-term sustainability. As a result, GMPs not only assist enterprises in attaining direct financial gains, but also in achieving environmental excellence and improving the quality of life of both organisational members and the communities in which they operate (Afum *et al.* 2020). Agyabeng-Mensah *et al.* (2019), in a study of firms in Ghana, stated supply chain capabilities and performance improve when companies share their expertise, skills, information, and resources with their supply chain partners. Research on start-ups in Ghana, saw Amedofu, Asamoah and Agyei-Owusu (2019) determine that even in the extremely uncertain context of start-ups in LMICs, applying SCM helps firms better attract, please, and retain clients, while also improving their performance. Moreover, government support has the most direct impact on e-commerce intentions (Amedofu *et al.* 2019), even though managerial support, as well as the influence of enabling and regulatory conditions, are important factors in encouraging SMEs to use e-commerce in Ghana (Amedofu *et al.* 2019).

E-commerce enables firms all over the world to expand their supply chains and compete on a global scale, where client satisfaction, defined goals and objectives, essential personnel retention, and the utilisation of development tools are all important factors (Awiagah, Kang and Lim 2016). Nevertheless, with regard to the success of building construction consulting firms, this is determined by elements such as human capital and development, business structure and organisation, project management abilities, as well as collaborations, and management support (Owusu-Manu *et al.* 2017). Furthermore, Kusi

(2020) indicated commercial poultry farms that are SMEs should, to increase their operational effectiveness, continue to rely on SCI solutions, such as financial flow integration and internal integration, even though these are more effective at improving the operational performance of large-scale commercial poultry farms, than for small- and medium-scale commercial farms (Kusi 2020).

Government backing, product innovation, economic globalisation, and the introduction of new IT are only a few elements that can help supply chains succeed (Bowersox, Closs and Cooper 2010). These criteria include appropriate economic metrics such as inflation and the exchange rate, as well as government infrastructural support (Kristofik *et al.* 2012), which all play a crucial role in SCM success. Agrochemical companies, along with local and international suppliers, distributors, and customers, make up the supply chain, according to a study conducted in Kumasi, Ghana. The study also found evidence of weak SCMPs used by agrochemical companies (Nsiah Asare and Prempeh 2016). However, for SCM to be successful in the manufacturing sector of the Ghana economy, the following factors ought to be made available to ensure overall performance of organisations.

2.14.1 Networking Infrastructure as a factor affecting SCM

The hardware and software that enable network connectivity and communication between users, devices, apps, and the internet, as well as other devices, are referred to as network infrastructure. Hardware and software systems and devices make up network infrastructure, which enables computation and communication between users, services, applications, and processes. The IoT and the adoption of ICTs in SCM can greatly increase process-oriented performance, reduce energy consumption, and offer a supply chain with a ubiquitous information infrastructure (Gubbi *et al.* 2013).

Organisations are interested in enabling all members of their supply chain to connect via an information network, thus assisting managers in making better decisions, while implementing improved information management and system infrastructure. This also aids in the integration of various internal and external value chain activities among manufacturing firms in the company's supply chain network. As a result, manufacturing companies may be able to increase their long-term performance (Sundram *et al.* 2018). Worth noting is that supply chain information procedures are essential for synchronising data across supply chain network members (Sundram *et al.* 2018). Hence, one of the

objectives of this research is to explore the ways IS aids in improving supply chain routines and synergies across organisations with business to business (B2B) contacts and the selected SMEs that form the subject of this research.

2.14.2 Information Technology (IT)/ Information Sharing (IS)

According to Tseng *et al.* (2011), in today's business world, IT is critical to company success, as it allows information to flow freely, making the supply chain more stable and resilient, without sacrificing efficiency. In SCM, ICT plays a critical role in optimising supply chain network flow decisions for achieving organisational competitiveness, improving higher service levels, lowering inventory, along with supply chain costs, and reducing electronic risks (Varma and Khan 2017). These authors also observed globalisation, outsourcing, personalisation, and time to market, as well as pricing pressure, have compelled businesses to implement efficient and effective SCM.

Businesses have begun to focus on IT and supply chains to achieve anticipated cost reductions, according to de Barros *et al.* (2015), as a result of globalisation. This makes it preferable to utilise IT to identify and track the status of item flows and support the accompanying information interchange in a supply chain to ensure goods are delivered on time and at a reasonable cost (Lai *et al.* 2006). Furthermore, the global implementation of long-term collaboration and coordination has improved the efficiency of information exchange in supply chains, thus resulting in improved competitive advantages for enterprises (Lofti *et al.* 2013).

2.14.3 Level of skilled staff available in SCM

Skilled labour has remained scarce and has become a major challenge for many manufacturing SMEs (Ngibe 2020). Ellinger and Ellinger (2013) stated many companies place a greater emphasis on cost reduction and building connections with customers and suppliers, than on developing people to achieve SCM objectives. This has resulted in a lack of SCM managers with the required broad set of skills to meet ongoing demand. Employees who lack the necessary skills to perform at acceptable levels in a business may feel extremely incompatible and opt to leave (Goffnett *et al.* 2016). Nevertheless, in a study of SMES in Tanzania, Nkwabi and Mboya (2019) posited that SCM deployment in SMEs is hampered by a lack of SCM knowledge and untrained staff. Most SMEs are founded and run by people who may lack the necessary skills to efficiently manage the

entire operation. Although the founders may have specialised abilities such as sales, production, and product development, they may lack other crucial competencies necessary for the business to succeed. Hence, staff must be trained on a regular basis to keep their abilities up to date, so they may collaborate effectively in SCM (Gumboh and Gichira 2015; Musa and Chinnai 2016).

2.14.4 Financial strength of firms on SCM and performance of manufacturing SMEs

Companies are being forced to restructure and reengineer their operations in order to boost organisational effectiveness and satisfy key customers due to global competition (Brau *et al.* 2007). SCM has the potential to enhance not only sales, cost of sales, and invested capital, but also the capital cost rate, which has been a long-overlooked supply chain driver of shareholder value (Gomm 2010). As highlighted by Abor and Quartey (2010), factors such as firm size, ownership, the strength of legal rights, and the depth of credit information, as well as the organisation's export orientation, and the experience of the top manager, all influence access to finance. According to Ngibe (2020), firm ability to engage in a wide range of operations and activities is limited by its capital resources, which serves as a difficult task for SME performance and survival in part of SA; equally applicable to SMEs in Ghana.

2.14.5 Firm's Business Environment and SCM

Globalisation has been the key driver of change in supply chain structures of several industries, with Uluskan and Blanton (2018) adding that market competition today is no longer between enterprises but between supply chains. Muhammad *et al.* (2010) determined the most significant impediments to entrepreneurship are the lack of access to capital, and insufficient formal business and social networks. The business environment in which companies find themselves must be favourable for the businesses to thrive; this affirms earlier studies that businesses must manage their environment and supply chains very well.

2.14 SCMPs IN GHANA

The set of operations conducted by a business to guarantee successful SCM is referred to as SCMPs; described as a multi-dimensional notion. Many different elements of SCMPs have been examined in the past through various studies. Quynh and Huy (2018) analysed the SCMP literature and aggregated five distinct characteristics of SCMPs. These include

SSPs, customer relationship, level of IS, and quality of IS, as well as delay (Quynh and Huy 2018). These five constructs encompass the upstream (SSP) and downstream (customer connection) sides of a business (Quynh and Huy 2018).

2.14.1 SME Performance Measurement

SME performance refers to the assessment of how well a SME is performing in terms of achieving its business objectives and goals. It involves evaluating various aspects of SME operations, financial outcomes, growth potential, and overall effectiveness in the market (ChatGPT). Measuring SME performance is crucial for understanding the strengths and weaknesses of the business, identifying areas for improvement, and making informed decisions to enhance its success and sustainability. According to Nieman, Hough and Nieuwenhuizen (2003), a successful business was one that had been around for more than two years, employed between five and 30 people, turned a profit, and invested in new facilities and growth. Success was defined by Lau and Lim (1996) as the continuation of a business without incurring losses or having earned a profit, while failure was described as the cessation of operations with losses to creditors and stakeholders.

Saunila (2016), identified two types of performance namely, financial performance and operational performance. All facets of financial performance were covered in the results-based financial performance indicators. The operational performance measures, such as quality, resource use, and innovation, were those concentrated on how outcomes were achieved. Small business enterprises should take their company size into account, which affects their financial performance and lowers their danger of liquidation (Chindengwike 2021).

2.14.2 SCMPs and Organisational Performance

Several studies have been conducted to determine whether SCMPs improve company performance (Zailani *et al.* 2012). Consistent with Söderberg and Bengtsson (2010), when companies employ maturity indicators in supply chain operations reference areas to enhance their processes, they are more likely to increase supply chain performance, as well as financial performance. By concentrating on Taiwanese manufacturing enterprises, Lii and Kuo (2016) argued SCI can have a mediation effect on innovation orientation and business performance. In the case of Korean firms, the close interrelationship between

the level of SCMPs and competition capability was shown to possibly have a more significant impact on SCM competitiveness (Quynh and Huy 2018).

2.14.3 Strategic Supplier Partnership (SSP) and Firm Performance

According to Li *et al.* (2006), SSP is the relationship that exists between an organisation and its suppliers. The term partnership refers to a connection between two legally independent entities that provides equitable risk sharing and mutual benefits through collaboration (Chicksand 2015). Since the partners are willing to share the benefits of the products, strategic alliances with suppliers provide efficiency or productivity (Li *et al.* 2006). Market-oriented objectives could be customer happiness or the company's market share, as two examples. Further to this, profit, ROI, and return on sales are all metrics used to evaluate a company's financial performance (Chang *et al.* 2016).

Agus and Hassan (2008) reveal the practice and implementation of SSPs substantially impact product quality and business performance. However, Ittner *et al.* (1999) determined where companies use extensive supplier partnership practices, without using appropriate supplier selection and monitoring practices, they earn significantly less money. In addition, these companies also have lower product quality, and a smaller proportion of acceptable long-term suppliers than companies with similar partnership practices, but more appropriate selection and monitoring practices.

2.14.4 Customer Relationship Management (CRM) and Firm Performance

CRM is at the heart of SCM procedures in dealing with customer complaints, developing long-term customer relationships, and increasing customer satisfaction (Li *et al.* 2006). Improving CRM can help sellers learn more regarding a linked buyer's utility, while also minimising coordination frictions (Shi 2016). According to Bettencourt *et al.* (2015), market success necessitates great customer exchanges, thus, businesses should cultivate intimate relationships with their clients. A good customer connection allows a business to differentiate its product from competitors, maintain customer loyalty, and provide value to its customers, resulting in a competitive advantage (Fathali 2016). Reimann *et al.* (2010) suggested CRM adds value to a company by enhancing its business strategies, which in turn, boosts performance.

CRM is the umbrella term for all operations that occur at the point where a company interacts with its clients (Chopra 2019: 26); “We have to earn the commitment in the connection by our interactions with the members of these networks.” This calls for openness, dependability, kindness, and innovative approaches to consumer engagement, as well as quick responses, cooperation, and foresight into one another's movements. CRM is a process by which a business looks for ways to satisfy its customer requirements and expectations in order to foster long-lasting and lucrative business relationships (Nasse 2019). Businesses must find novel ways to attract clients; they may need to forego persuasion, relax control, and rely instead on their principles, appealing or alluring concepts, and the influence these have in social interactions (Peelen and Beltman 2013: 35).

By tailoring their products, services, and marketing strategies to meet these specific demands, SMEs can improve customer satisfaction and loyalty, ultimately boosting their performance. CRM tools enable SMEs to manage their sales and marketing activities more efficiently. By streamlining lead generation, tracking customer interactions, managing sales pipelines, and analysing marketing campaigns, SMEs can target their efforts effectively in the African market (Oyedele *et al.* 2019). This leads to improved customer targeting, higher conversion rates, and increased sales revenues for SMEs in Africa.

Good customer service is crucial for SMEs in Africa to gain a competitive edge. CRM platforms allow SMEs to centralise customer service processes, track customer issues, and provide timely support (Ogao, Ngugi and Ngugi 2018). By resolving customer problems efficiently, SMEs can enhance customer satisfaction, build trust, and strengthen their reputation, resulting in improved performance. CRM systems help SMEs build stronger relationships with their customers. By maintaining comprehensive customer profiles and tracking past interactions, SMEs can provide personalised experiences and targeted offers to customers in Africa (Olugbade, Abasilim and Kehinde 2019). This enhances customer satisfaction, encourages repeat business, and reduces customer churn rates, thereby positively impacting SME performance.

Before making a choice that will be binding on their customers, SME operators should always treat them like Kings and Queens and ask for their opinion. Additionally, SME

owners should have a workable customer relationship strategy that can identify profitable and potential clients so that products and services can be tailored to meet their needs. CRM is a marketing approach that combines internal and external networks in order to provide value to chosen customers and accomplish both immediate and long-term goals (Bukola, Abosede and Adesola 2019). By facilitating information integration and sharing that influences simple and effective firm-customer interactions, appropriate analysis of customer data, and response customisation, CRM technology is expected to improve firm capacity to maintain beneficial customer relationships (Moriarty *et al.* 2008). It is essential to acknowledge the effects of CRM on SME performance can vary, based on factors such as the implementation strategy, organizational culture, and the commitment of SME owners and employees. Adequate training, ongoing support, and a well-defined CRM strategy are vital to maximise the benefits of CRM implementation in SMEs (Oyewobi *et al.* 2019).

CRM is becoming an increasingly important business approach for both large and small businesses. In order to build high performance and value added technological and inventive capabilities, as well as competitive advantages over competitors, SMEs must integrate CRM techniques into their business operations (Mohamad *et al.* 2014; Yadau 2013). CRM plays a vital role in SME performance in Africa by enhancing customer understanding, enabling effective sales and marketing, driving customer retention, and streamlining customer service, as well as supporting data-driven decision making, and facilitating collaboration and communication within the organization.

Quynh and Huy (2018) and Hwihanus *et al.* (2022) stated in order to improve firm competitive advantages, SMEs should manage customer relationships well, be willing to share information with their partners, improve information quality, and form partnerships with their suppliers and customers, while also gaining great performance through improved competitive advantage.

Finally, social CRM adoption has a considerable impact on SME performance (Ahani *et al.* 2017; Ullah and Narain 2020). In the freight forwarder service business, CRM is a critical source of competitive advantage and excellent performance. Understanding the linkages between customer reaction, IT, knowledge management application, and profit interaction, as well as organisational performance, can help freight forwarding companies

change their customer relationship creation procedures to maintain their performance (Shang and Lu 2012). From the above, it clearly shows CRM, when managed excellently, will impact well on the performance of a firm or business, particularly SMEs in LMICs.

2.14.5 Level of Information Sharing (IS) and Firm Performance

The level of IS can have a significant impact on the performance of SMEs. Effective IS enables SMEs to access valuable knowledge, resources, and market insights, which can enhance their decision-making processes, operational efficiency, and overall performance.

IS plays a crucial role in knowledge acquisition for SMEs. By sharing information with industry peers, participating in industry conferences or seminars, or accessing relevant research and reports, SMEs can gain valuable insights into industry trends, customer behaviour, and market dynamics (Li *et al.* 2020). This knowledge empowers SMEs to make informed decisions, develop effective strategies, and stay ahead of their competitors. IS facilitates smooth internal processes, effective SCM, and optimised decision-making within SMEs. By sharing information among different departments or teams, SMEs can ensure all relevant stakeholders have access to up-to-date and accurate information (Chen *et al.* 2020). This enables better coordination, reduces communication gaps, minimises errors, and streamlines operations, leading to improved efficiency and productivity.

IS fosters collaboration and networking opportunities for SMEs. By engaging in knowledge exchange with other SMEs, industry associations, or business networks, SMEs can leverage collective expertise and resources (Lin *et al.* 2019). Collaborative efforts enable dealing with shared challenges, exploring new business opportunities, and gaining access to specialised skills or technologies (Xiao *et al.* 2021). This collaboration can positively impact SME performance. Customisation, which ultimately affects the operation of the firm, benefits from the flow of information. In order to improve the performance of SMEs, good communication and IS regarding marketing strategies are crucial (Yadava *et al.* 2022).

There are two dimensions to IS: quantity and quality. Companies share demand-related data with their upstream and downstream partners to improve logistics, production

planning and coordination (Cooper et al. 1997; Glenn Richey et al. 2009). The impact of IS on supply chain participants' strategy and profits is a growing field of SCM research (Huang and Wang 2017). In this regard, the research will seek to understand whether SMEs are optimising IS tools to improve productivity. Agyei-Owusu et al. (2021) stated the adoption of a data-driven culture improved supply chain information exchange and quality, resulting in improved customer development and a firm's success.

2.14.6 Quality of Information Sharing and Firm Performance

In the context of a supply chain, IS refers to the extent to which critical and proprietary information is made available to supply chain members. Information that is shared can be useful in a tactical sense (Hsu *et al.* 2008). Other than the quantity of information shared, its quality is equally important for a company's success. The amount and quality of information provided across supply chain partners will lessen the good impact of general IS among businesses. According to Quynh and Huy (2018), IS among supply chain partners helps improve overall performance by enforcing SCMPs that promote information dependability and quality. Information exchange could, on the one hand, be aided by efficient and user-friendly IT systems (Yang and Maxwell 2011). Cost and complexity of technical solutions, on the other hand, are barriers to greater information exchange, particularly among SMEs (Brau et al. 2007).

In a study conducted in Malaysia by Sundram *et al.* (2020), IT and IS were found to have a considerable positive impact on performance. Firms that use IT and practice IS across supply chain partners are more likely to integrate their internal and external value chains, resulting in improved performance both within and across manufacturing firms in the supply chain (Sundram et al. 2020). These findings suggest firms should adopt IT and IS practices to strategically improve SCMPs. As a result, the supply chain network and firm performance will improve. Manufacturing enterprises rely on IT and IS to disseminate fast and accurate information to partners in the manufacturing supply chain, including suppliers, logistics providers, distributors, and sub-contractors, as well as network integrators, financial intermediaries, and business customers (Sundram et al. 2020). The information shared between manufacturers and suppliers is referred to as Manufacturer–Supplier (MS) IS. The level to which manufacturers and buyers share information is referred to as Manufacturer–Buyer (MB) IS.

Effective IS enables employees to make informed decisions, enhances collaboration and teamwork, and facilitates innovation. In today's rapidly changing business environment, firms need to be adaptable and agile. Quality IS enables organizations to respond quickly to market changes, customer needs, and competitive pressures. By sharing relevant information across departments and levels, firms can make faster decisions, adjust strategies, and seize emerging opportunities, contributing to improved performance. A study by Yoo et al. (2012) emphasises the role of IS in enhancing organizational agility and its positive impact on firm performance.

The sharing of information is closely linked to promoting innovation within a firm. By sharing insights, market intelligence, and best practices, employees can identify new opportunities, develop creative solutions, and adapt to changing market conditions. According to a study conducted by Ritala et al. (2014), IS positively influences innovation performance in organizations. High-quality information is crucial for effective decision-making at all levels of an organization. Access to accurate and timely data allows employees to assess different options, evaluate risks, and make informed choices that align with the firm's goals. Results from a study by Liang et al. (2007) show effective IS positively influences decision quality and contributes to better firm performance. Transparent communication channels and effective IS facilitate problem-solving within a firm. When employees have access to accurate information, they can raise issues, share perspectives, and collectively find solutions. This proactive approach to problem-solving improves operational efficiency and contributes to overall performance.

A study by Perry-Smith and Shalley (2003) highlights the importance of IS in problem-solving processes and its positive impact on organizational performance. Furthermore, the quality of IS within a firm has a significant impact on its performance. Effective IS enhances decision-making, promotes collaboration and innovation, facilitates problem-solving, and improves knowledge management, while it also boosts employee engagement, and enables adaptability. Firms that prioritise and foster a culture of high-quality IS are more likely to achieve better overall performance and remain competitive in dynamic business environments.

2.14.7 Collaboration and Firm Performance

Collaboration is defined as two or more organisations working together to address a common problem. It occurs when businesses realise working alone is insufficient to solve common problems. Collaboration among SMEs can result in greater inventory reduction, faster product-to-market cycle times, and lower costs and lead times (Prajogo and Olhager 2012; Zaridis *et al.* 2021). Collaborative advantage is an intermediate variable that enables supply chain partners to establish synergies and create superior performance, improves collaborative advantage and has a bottom-line impact on firm performance (Cao and Zhang 2011; Chakraborty *et al.* 2014; Solakivi, Töyli and Ojala 2015; Zulu-Chisanga, Chabala and Mandawa-Bray 2021).

Collaborative supply chain methods are good predictors of improved performance, while collaboration as a SCM technique, according to Omoruyi and Akuoma (2020), can assist SMEs to obtain long-term process planning and complete integrated processes, such as truckload usage, manufacturing scheduling, and warehouse management. Collaboration in SCM has to be executed at both tactical and strategic levels across the supply chain (Barratt 2004; Jeenanunta *et al.* 2013; Liao and Kuo 2014).

2.15 CHARACTERISTICS OF SMEs IN GHANA

SMEs in Ghana exhibit several characteristics unique to the country's business environment.

2.15.1 Size

In Ghana, SMEs are characterised by their relatively small size in terms of various parameters. The exact definitions and thresholds of SMEs can vary depending on the context and industry. SMEs in Ghana are typically characterised by their small size in terms of employee count, assets, and turnover. According to the GSS (2017), SMEs in Ghana typically have fewer than 100 employees. Furthermore, the GSS defines micro-enterprises as those with 1-4 employees, small enterprises with 5-19 employees, and medium enterprises with 20-99 employees. The annual turnover or revenue of SMEs in Ghana is relatively modest compared to larger enterprises, with turnover thresholds that may vary based on sector and industry. SMEs typically generate lower annual revenues compared to large corporations (GSS 2017); in Ghana these enterprises have relatively limited total assets compared to larger enterprises. Although the specific thresholds for

asset size may vary across sectors and industries SMEs are, however, generally characterised by their moderate levels of capital investment and asset-base (World Bank 2019).

2.15.2 Employment Generation

SMEs in Ghana are significant contributors to employment generation in the country. They play a crucial role in job creation and reducing unemployment rates. They provide job opportunities for a significant portion of the population, particularly in rural areas. According to the GSS, SMEs accounted for about 70% of total employment in the non-agricultural sector (GSS 2017). Job opportunities, rural employment, women's employment, youth employment and informal sector employment are some of the employment generations by SMEs in Ghana (GSS 2017; World Bank 2019; Asiedu-Appiah and Amponsah-Tawiah 2018).

2.15.3 Access to Finance

Access to finance remains a significant challenge for SMEs in Ghana. Several factors contribute to this challenge, limiting their ability to obtain affordable and long-term financing. SMEs in Ghana encounter difficulties in accessing affordable and long-term financing. According to a survey by the GSS, lack of access to credit was cited as one of the main constraints faced by SMEs in the country (GSS 2017). Limited collateral, high interest rates, limited access to formal financial institutions, lack of financial records and documentation, lack of alternative financing options and inadequate government support are a few reasons that makes it difficult for SMEs in Ghana to access finance (GSS 2017; World Bank 2019).

2.15.4 Informal Networks

Informal networks play a significant role in the operations and success of SMEs in Ghana. These networks refer to the relationships, collaborations, and connections that exist among individuals and businesses in the informal sector. SMEs in Ghana often rely on informal networks and relationships for business support and access to resources. These networks play a crucial role in knowledge sharing, collaboration, and providing a sense of community among SME owners (GSS 2017). Informal networks provide SMEs with access to vital resources such as information, knowledge, skills, and inputs. Through these networks, SME owners can learn from others' experiences, gather market

intelligence, and gain insights into business practices and opportunities. Informal networks facilitate collaboration and partnerships among SMEs. Business owners can team up to pool resources, share costs, and engage in joint ventures. This collaborative approach allows SMEs to tackle larger projects, expand their market reach, and leverage each other's strengths (Nunoo et al. 2017).

Informal networks offer a support system for SMEs in Ghana. Entrepreneurs can seek advice, guidance, and mentorship from experienced individuals within their networks. These networks provide a platform for sharing challenges, discussing solutions, and offering emotional support. Informal networks help SMEs access markets and customers. Through referrals and recommendations from network members, SMEs can establish relationships with potential clients and gain access to new market segments. These networks also enable SMEs to navigate local market dynamics and cultural nuances. Informal networks can help SMEs in Ghana overcome challenges related to accessing formal financing. In some cases, network members may provide financial support through informal lending or investment arrangements. The trust and personal relationships within these networks can facilitate access to capital that might otherwise be difficult to obtain (Asiedu-Appiah and Amponsah-Tawiah 2018).

2.15.5 Local Market Focus

SMEs in Ghana often have a strong focus on the local market. This focus on the domestic market is driven by various factors and has both advantages and challenges. Many SMEs in Ghana primarily target the domestic market. They cater to the needs of local communities and contribute to the development of their respective regions. However, there is also a growing number of SMEs engaged in international trade and export activities, particularly in sectors such as agriculture and manufacturing (World Bank 2019). Consumer demand, proximity and accessibility, local networks and relationships, as well as cultural and contextual understanding, and socio-economic impact, are some reasons SMEs in Ghana focus on the local market (GSS 2017; Asiedu-Appiah and Amponsah-Tawiah 2018).

2.16 FACTORS AFFECTING SCM IN MANUFACTURING SMEs IN GHANA

Christopher et al. (2006) cited by Agyei et al. (2013:34) stated that supply chain is "the network of organisations engaged in various processes and activities that create value in

the form of goods and services for the final customer through upstream and downstream linkages”.

There were an estimated 640 000 businesses in Ghana in 2015, of which 98 percent were micro or small-scale operations, with 90 percent being informal (World Bank 2019: para. 29). Furthermore, in that year, MSMEs were responsible for approximately 71 percent of business revenues in Ghana, but only 66 percent of profits, suggesting large-scale businesses usually fare better than small businesses (World Bank 2019: para. 29). MSMEs are often limited in their capacity to generate income due to their small scale, poor managerial skills and business models, as well as lack of innovation (World Bank 2019 para. 29). It is expected manufacturing SMEs will be among the 90 percent informal sector businesses, hence, many will have similar concerns. Successful firms with good prospects are found producing many types of products, and it is unwise to make predictions with regard to likely growth purely on a sub-sectoral basis (Steel and Webster 1991). This implies there is no need to place a special emphasis on the manufacturing sub-sector of SMEs but address SCM among manufacturing SMEs as an industry-wide problem.

All parties involved in fulfilling a consumer request, whether directly or indirectly, are included in a supply chain. Along with the manufacturer and suppliers, the supply chain also consists of transporters, warehouses, retailers, and even the actual customers. The entire process of receiving and fulfilling a client request is within the supply chain (Chopra 2019). According to Demberere and Kasongo (2021), in a study of MSME in Lusaka, Zambia, it was found although the manufacturing MSME sector values sound SCM procedures, they do not use them. The survey determined the industry has not built lasting bonds with its clients and suppliers. The industry was found to be facing a number of issues that endanger its long-term survival and growth, with the most concerning issues being a lack of financial resources, a failure to engage in continuous quality improvement, a low level of integration of process technologies, and difficulties with forecasting.

The study by Demberere and Kasongo (2021) also showed when SCMPs are used, MSMEs receive many advantages. For instance, better IS, cost-cutting in service delivery, increased customer responsiveness, and expanded ability to provide after-sales services. There is no doubt MSMEs would thrive when SCM activities are improved. In a study in

Nigeria, Akindipe (2014) concluded establishing stock levels, hiring knowledgeable store staff, and utilising computerised stock control would all contribute to effective stock management. The author went on to state the issues associated with abrupt stock shortages would be resolved by achieving optimal resource utilisation through effective stock management (Akindipe 2014).

In a study published in 2017, Ampadu (2017) found SMEs in Ghana's Cape Coast Metropolis use lean inventory systems, IT, and SSPs. Additionally, there was a favourable and significant correlation between the performance of SMEs in the Cape Coast Metropolis and IM techniques. Sales and operation planning, demand management, customer order management, and production planning, control, as well as execution, materials, quality, and IM, in addition to material procurement, distribution requirements planning, transportation and shipment management, along with integrated supply and demand planning, are some sub-processes Ampadu (2017) found that make up the supply chain process. High-quality customer service and low inventory and unit costs should be balanced in SCM.

All the components involved in the management of supply chains must be integrated into a variety of business activities, both within and between enterprises. This necessitates integrating the organisational components in charge of each activity, as well as the external vendors and clients involved in the planning and execution process (Nsiah Asare and Prempeh 2016). According to Kwamega and Abrokwah (2018), a positive correlation exists between SCMP and internal process performance, as well as financial performance. Additionally, it was found SCI, either fully or partially, mediates the effects of SCMP on the two variables of the firm's performance. This distinction may be explained by various cultural contexts.

It is clear, should SCMPs be enhanced and correctly used, SMEs would perform effectively. Moreover, when SMEs engage in strategic collaborations, customer relationships, high levels of IS, and high-quality information, as well as postponement, this can be accomplished. Additionally, there is an opportunity for performance to improve when management and employees constantly exchange information regarding customers. Should SMEs prioritise quality as their top criterion when choosing suppliers, there is evidence of a favourable association between SSPs and firm performance (Lawer

et al. 2014). The outcomes supported the beneficial effects of SCMPs on client development and start-up performance. It was also discovered customer development has a favourable effect on start-up performance. Additionally, customer development was noted to play a small but significant mediating role in the relationship between SCM procedures and start-up performance (Amedofu *et al.* 2019).

According to Mensah *et al.* (2014), Kasapreko Company Limited (KCL) of Ghana uses SCM principles in its operations. The study also revealed that KCL's sales success over time provided proof of SCMP substantially impacting KCL's company performance (2004-2010). In a different sector, Davies (2022) identified several factors affecting SCM in the furniture industry. These include stock control, technology, outsourcing, and quality management of materials, as well as product innovation, and logistics. Since furniture manufacturing is quite common in Ghana, it is fair to say most furniture firms in Ghana are SMEs by the number of employees and revenue earned, these factors should apply to them as well. Davies (2022) explained under technology, when firms invest in software, it could help in stock management, for example, assist with managing orders from customers. It will be interesting to investigate whether furniture manufacturing SMEs invest in any software and what the merits and demerits of such systems are. Moreover, it will be good should there be any similar software being shared by furniture manufacturing SMEs.

George and Pillai (2019) reviewed 54 different publications on SCM and concluded the major factors that affect supply chain are: supply chain structure, inventory control policy, IS, and customer demand, along with forecasting method, lead time and review period length. It is envisaged manufacturing SMEs will have the same concerns, since they also deal with inventory control policy, among other concerns.

According to Nsiah Asare and Prempeh (2016), the supply chain of agrochemical companies includes domestic and international distributors, customers, and suppliers. This is evidence of poor SCM procedures.

2.17 SCM CONTROL SYSTEMS IN GHANA

Management and cost accounting systems are examples put forward by Nartey *et al.* (2020) of such information systems, since they may assist basic supply chain control

procedures and boost organisational effectiveness and efficiency through cost reduction. Rehman et al. (2019) emphasise management control systems are strategic management strategies that enable businesses to succeed in today's market. Ismail et al. (2019) contend the goal of management control systems is to change employee behaviour, in order to produce information that will aid management in decision-making, planning, monitoring, and assessing organisational activities. The use of management control systems in managing business is seen to be a strategic tool for businesses to achieve competitive advantage and sustain business operations.

2.18 GOVERNMENT OF GHANA POLICY ON SCM IN MANUFACTURING SMES

The government of Ghana, in the year 2014, organised a National Economic Forum at Senchi, Akosombo in the eastern Region. The forum was organised in order to stimulate broad-based discourse among Ghanaians to find solutions to the country's economic problems. The aim was to develop policies to help the Ghanaian economy to grow, with some recommendations and policies developed, which include the following essential points: 1) to protect jobs, actions must be taken to support SMEs, with 2) a clear and simple policy framework needed to help grow and transform the informal sector businesses into the formal sector. As a result, 3) initiatives must be developed and implemented to streamline the company registration procedure, as well as non-mandatory Social Security and National Insurance Trust (SSNIT) contributions by informal sector operators, up to a certain number of employees, 4) promote high national productivity, and 5) the government, labour, and private sector must work together to launch a management and labour productivity crusade (ChatGPT).

The National Medium-Term Development Policy Framework 2022-2025 of Ghana is to ensure growth and prosperity for the citizenry. The economic development dimension's major purpose is to create a prosperous country, whereas some policy objectives are to: ensure improved fiscal performance and sustainability; promote international trade and investment; improve production and supply of quality raw materials; and improve the business enabling environment; while also formalising the informal economy; modernising and enhancing agricultural production systems; as well as improve post-harvest management; and ensure sustainable development and management of fisheries resources (National Medium Term Development Framework 2022-2025 n.d.). One policy

guideline objective of the Africa Continental Free Trade Area (AfCFTA) is to serve as a resource for local authority advisory services in SMEs and to partner with the Ghana Export Promotion Authority (GEPA) to provide export trade information to SMEs at district level.

2.19 SUPPLY CHAIN INFRASTRUCTURE IN GHANA MANUFACTURING SMES

The assets needed to operate a supply chain, both physical and digital, make up supply chain infrastructure. This includes the structures where a company produces and distributes its goods, the stationary and mobile equipment housed therein, the fleet of vehicles that transport goods throughout the manufacturing and distribution network, and the information technology required to organize, carry out, and monitor supply chain activities (CSCMPs). The assets and systems that drive the network of suppliers, manufacturers, and logistics operations make up the supply chain infrastructure. Transport, communication, utilities, and technology are all part of the infrastructure for global supply chains, but there are also many tangents and significant difficulties that go along with these fundamental components (<https://www.oreilly.com/library/view/global-supply-chain>). According to Appiah et al. (2021) macro-environment variables such as political, economic, environmental, and technological issues were substantially associated to SMEs' plans to participate in downstream oil and gas. Online sales by SMEs are essentially non-existent, email is the most popular e-Commerce application for communication, and the main purpose of having a website is to provide contact information and basic product and service information. Lack of appropriate technical skills, e-commerce security, the initial expense, resistance by people and culture, management disinterest, and a lack of an established legal and regulatory system are some of the challenges to e-Commerce adoption that have been noted (Iddris 2012). SCP is significantly benefited by SCR. Second, the authors discovered solid evidence that SCD, with the exception of supply chain catastrophic disruption, has a considerable positive moderating influence on the link between SCR and SCP. We can draw the conclusion that the SCD's constituent parts affect the SCR and SCP nexus in a variety of ways (Hamidu et al. 2023).

2.20 SUPPLY CHAIN INNOVATION STRATEGIES IN GHANA MANUFACTURING SMES

Organizations practising supply chains need to be innovative in order to be resilient, stay in business and be competitive. There is the need for SMEs, particularly manufacturing SMEs, to design supply chains that will strengthen SMEs to withstand future challenges, thus, adding value in whatever they do. Starting with the achieved performance, the business entity can redefine its enablers through an innovation and learning process, first revising its strategy. Understanding what intangible facilitators have led to positive business outcomes allows the company to concentrate its efforts on one resource rather than another (Verbano and Crema 2016).

2.20.1 On-demand Warehousing in Supply Chain as innovative strategy

On-demand warehousing connects online retailers with warehouses that have extra space and need to store inventory and fulfil orders on a temporary basis. This kind of warehousing is perfect for companies that require warehousing storage but do not want to engage in the management of a warehouse. It is also a low-cost and adaptable fulfilment option. According to Unnu (2020), consumers and decision-makers today expect businesses to be more responsive and provide more personalised services, tailored to their specific demands. On-demand warehousing is beneficial and needs to be inculcated in the operations of manufacturing SMEs to reduce cost.

2.20.2 Last-Mile Delivery in Supply Chain as innovative strategy

The stage where a carrier picks up items from a distribution hub or warehouse and delivers them to the final destination, is known as last-mile delivery, which aims to deliver products to customers as quickly and efficiently as possible. Due to the standards set by companies such as Amazon and Walmart Marketplace, faster shipping is no longer a mere possibility, but something customers anticipate. This makes it critical to ensure a company's delivery procedure is in control, for customer satisfaction to be assured. The sooner they receive their item, the happier a consumer is (Lopienski 2021).

2.20.3 Warehouse Management Systems (WMS) in Supply Chain as innovative strategy

The warehouse is an essential link in any supply chain, and in today's market, it serves as a competitive advantage. As a result, it is now crucial to manage warehouses effectively and allocate their resources effectively. For the purpose of monitoring, tracking, and controlling warehouse operations, warehouse management systems (WMSs) were

created. However, as the market became more dynamic, traditional systems became less effective and unsuitable for its demands, which is why new technologies have begun to appear for such applications (Hamdy et al. 2018).

2.20.4 Automation Potential in Supply Chain as innovative strategy

By automating time-consuming tasks, in-house operations processes save human labour and lower logistics costs. Automation also frees up time for logistics staff, allowing them to concentrate on ways to improve operations by incorporating automation; available in every step of the supply chain. Automated fulfilment, for example, can make the order fulfilment process more efficient. This logistics innovation entails the use of technology and resources to manage the process of fulfilment, which aids in speeding up operations, as well as reduction of human error and costs (Lopienski 2021). Essentially, this entails the automation of material, information, and financial flows, as along with business-to-customer relationships.

Artificial Intelligence (AI) has been proven to cut expenses, increase income, and improve asset utilisation across a wide range of industries (Dash *et al.* 2019). AI assists businesses in predicting and forecasting customer demand with near-perfect accuracy, optimising research and development (R&D), increasing manufacturing with lower costs and higher quality, as well as assisting in promotion (identifying target customers, demography, defining the price, and designing the right message, among other things), and providing a better experience to customers. AI-powered solutions are used by supply-chain leaders to create efficient designs that remove waste, provide real-time monitoring and error-free production, in addition to promoting shorter process cycle times (Dash *et al.* 2019). Akomea-Bonsu *et al.* (2012) stated the majority businesses that utilise the internet do so to find customers and contracts, as well as general business information and e-mailing, as opposed to sourcing raw commodities.

2.20.5 Use of Drones in Supply Chain as innovative strategy

Drones, also known as unmanned aerial vehicles (UAVs) or pilotless aircraft systems, are used for a variety of purposes, including industrial monitoring, photography, and military surveillance (Samad *et al.* 2007). They can be put to good use in minutes rather than hours, even though a vehicle's endurance is, at best, approximately an hour. The infrastructure required to operate these UAVs is minimal; ground stations can be as simple

as ruggedised computers with one or two operators (Samad *et al.* 2007). Support for humanitarian logistics, reduced delivery time, lower cost, and better flexibility, as well as higher sustainability, are all possible merits of using drones in SCM and logistics (Rejeb *et al.* 2021; Mora and Araujo 2021). At present, drones are employed all over the world for faster delivery, no matter how distant the site.

2.20.6 Geolocation Technology in Supply Chain as innovative strategy

Geolocation refers to a technology that uses connected devices or gadgets to pinpoint the location of a place, an item, or an asset in real time. Geolocation can be determined by a variety of devices, including GPS trackers and other tools. Modern mobile devices such as smartphones include geolocation capabilities as well. Furthermore, the supply chain and logistics management will be more complicated the larger the market and scope of reach. Serious delivery errors can, therefore, result from a lack of clear visibility into product movements and other crucial information, which could be disastrous for the company as a whole. Geolocation features include GPS, Google maps, and others (Ohene Bonsu-Simmons 2018: 6). The digitization process has an enormous impact on supply chain management in today's firms and places great pressure on them to adapt. Therefore, it is essential for managers to comprehend how digitalization will affect their business and workforce (Agrawal and Narain 2018).

Being blind to what is happening with the business would be like not having a clear and accurate view of the supply chain. Geolocation technology has been used in a variety of businesses, including e-commerce. Order tracking, for example, is a critical tool customers may use to remain informed with regard to delivery and reduces the number of customer care requests. Furthermore, geolocation technology continues to advance in order to streamline the supply chain and improve the consumer experience. The technology can also track inventory in real-time across the supply chain, such as how much and when goods will be received, what is enroute, and what is being stored (SOLUM 2023).

2.21 FACTORS INFLUENCING SCMPs ON SME PERFORMANCE

The most important competing tactic to increase organisational performance and profitability has been SCMP (Kumar and Gupta 2021). SCM aims to increase efficiency by coordinating the actions of the different supply chain participants. Kot *et al.* (2019)

stated in a study of SMEs in Turkey that outsourcing and multiple suppliers (OMS) and Strategic Collaboration and Lean Practices (SCLP) are influential in SME performance. According to their findings, OMS and SCLP both, on the one hand, have a direct, beneficial, and significant impact on operational performance. On the other hand, neither SCLP nor OMS significantly and directly affect organisational performance in relation to SCM. Additionally, both aspects of SCM techniques have a favourable indirect and significant impact on organisations, since the direct association between the two performance dimensions was found to be strong.

IS, teamwork, digitisation, and financial institutions, according to Beka Be Nguema *et al.* (2021), are elements that positively link to the adoption of supply chain financing (SCF), which subsequently enhances the supply chain effectiveness (SCE) of manufacturing companies. Additionally, Beka Be Nguema *et al.* (2021) claimed SCF had a considerable, favourable impact on SCE. Furthermore, SCF dramatically reduces SCR, which enhances SCE.

Some SMEs perform very well and this performance is due to practising SCM in the business operations. New management approaches are becoming more necessary due to technological improvements, which is transforming organisational structures (Piñeiro-Chousa *et al.* 2020). Moreover, Philip (2010) identified characteristics of SMEs as management and know-how, products and services, resources and finance, and the external environment. Furthermore, level of owner education, poor energy supply, access to finance, and inflation, as well as government policies, are factors influencing SME growth and performance (Agyapong *et al.* 2018). For SMEs to perform financially and economically sustainably, relationships with customers, strategic supplier integration, and levels of IS are essential (Utami *et al.* 2019). Findings reveal financial constraints, capital limits, inadequate technology, and strict laws are the main factors limiting Tanzania's SME growth (Nkwabi and Mboya 2019).

Lean methods, internal supply chain operations, and IS quality all have a substantial impact on how well an organisation performs. Additionally, all SCMPs were shown to have a strong, favourable impact on innovation. Further to this, organisational performance and the five SCM strategies are mediated considerably and favourably by innovation (Khalil *et al.* 2019). According to Awheda *et al.* (2016), in a study of SMEs in the automotive sector

of India, the most important component for inventory with the highest proportion, is the inventory level, followed by productivity to satisfy orders, manufacturing lead times for manufacturers, and transportation flexibility for the distribution sector as the next elements affecting SME performance.

Supplier integration and the tangible and intangible supply chain performance sub-dimensions were found to be positively correlated. These supply chain success sub-dimensions were also predicted by supplier integration. This suggests SMEs must ensure links with their suppliers are correctly aligned for increased coordination, which results in better relationships and the supply of materials, in order to improve supply chain performance (Madzimore 2020).

A growing number of businesses have realised the importance of improving SCM, with implementation influenced by a variety of factors. A complete SCM model with 14 components was developed, based on a thorough literature study and expert contacts. The discovered factors of SCM implementation are divided into eight levels, using the approach. The information systems management (ISM) approach has demonstrated all elements covered are critical in the implementation of SCM (Mabrouk *et al.* 2020), with the implementation of these practices likely to enhance the performance of organisations. SCMPs that impact SMEs include OMS, SCLP, and others. In a study of SMEs in Turkey, Koh *et al.* (2007) found SCLP and OMS factors directly, positively, and significantly impact operational performance, whereas neither affect organisational performance significantly and directly, as it relates to SCM. Additionally, both aspects of SCM techniques have a large and indirect good impact on businesses, because a direct relationship was found to exist between the two performance-constructs.

Every supply chain has its own set of risks and uncertainties, including the difficulty to precisely estimate customer demand, equipment and truck breakdowns, and the inability to predict trip durations (Croxtan *et al.* 2016: 17). Access to finance, managerial skills, education, and training, along with skills personnel and, above all, support from government, will be factors contributing to the success of SCM in Ghana.

There are some factors that influence SCMP, with Mabrouk *et al.* (2020) pointing out four aspects to examine when evaluating SCM performance, namely: cost, quality, time, and

flexibility. Among the many aspects that affect SCM are: EU, BM, IT, Manufacturing (M), SCRs, CS and SCM Performance. Supply chain structure, inventory control strategy, and information exchange, in addition to customer demand, forecasting method, lead time, and review period duration were all found as key contributors (George and Pillai 2019).

When SCM activities are improved and practised appropriately, SMEs will function successfully. This may be accomplished, however, when SMEs participate in strategic collaborations, customer relationships, high levels of information exchange, and information quality, as well as deferral. Furthermore, when client information is communicated between management and employees on a regular basis, the firm's performance can be improved (Lawer *et al.* 2014). SMEs are to be more beneficial when SCMP are incorporated as part and parcel of their operations.

2.22 FACTORS INFLUENCING SCM EFFECTIVENESS

In both the private and government sectors, SCM has seen values produced via the integration and coordination of supply, demand, and connections, in order to service customers in an effective and lucrative manner (Ngoto and Kagiri 2016). The effectiveness of a supply chain is an external measure of how successfully an organisation meets the demands of the many groups and organisations involved in its operations. Customers, partners, suppliers, and vendors are examples of these groups. However, any organisation's overall internal performance is influenced by effective SCM (Ibrahim and Hamid 2014). Although many non-government organizations (NGOs), according to Ngoto and Kagiri (2016), are hampered by the complexity of networks in controlling flow, a study of NGOs in Kenya found supply relationships positively improve SCM effectiveness. The survey also found contract management has an impact on SCM performance, but only a small percentage of NGOs employ updated codified policies to monitor contracts (Ngoto and Kagiri 2016). Furthermore, information sharing is a critical component in SCM success, according to the study.

In its operational activities, Kasapreko Company Limited (KCL) employs SCM. The company has assured that its supply chain can deliver the necessary service to please its many clients, who are the company's lifeblood. For example, the supply of raw materials is considered important to ongoing operations and is secured as a result of its strategic supplier alliance connection and investment in suppliers. Consequently, the company

does not expect any future material flow problems. According to KCL, this has resulted in lower operating costs and shorter lead times. KCL also acknowledges the importance of excellent communication among members of its supply chain network, according to the report. Internally, the free flow of sufficient information through established channels enables decision-making (Mensah *et al.* 2014).

2.23 CHALLENGES OF SMEs IN GHANA

SMEs play a pivotal role in economic development globally, particularly in terms of employment creation and production of goods and other products for consumption by citizens. Notwithstanding the prospects of SMEs, some problems limit them from reaching their potential, leaving SMEs to confront many obstacles in order to exist. These challenges include, but are not limited to: financial and human capital availability; business management expertise and diversity; technological infrastructure and competencies in maintaining and managing such infrastructure; and capacity to embrace, integrate, and capitalise on innovations; along with competitive threats from an ever-increasing number of small businesses; reliance on large organisations; and the ability to attract and retain a skilled workforce (Malhotra and Temponi 2010).

Sharma and Sharma (2010) argued additional challenges are faced by SMEs due to a variety of factors, including decision-making limitations, insufficient information resources, competition, and shifting economic conditions, in addition to marketing, irregular initial material delivery, and the use of antiquated technology; where the majority of these can undoubtedly impede the companies' excellent performance.

SMEs in Ghana, as with other SMEs globally, face a number of challenges that include lack of funding which, in turn, limits SMEs in their operations. Corporate governance is a problem SMEs face, in that the implementation of corporate governance structures has significant consequences for Ghanaian SMEs. Through non-executive directors, corporate governance may considerably benefit the SME sector, injecting improved management practices, stronger internal auditing, increased prospects for growth, and a fresh strategic view. In making certain the firms' interests are served, good governance procedures in SMEs are likely to result in boards applying much-needed pressure for greater performance (Abor and Biekpe 2007). According to Selase *et al.* (2019), SMEs make a substantial contribution to employment, regional development, and innovation

around the world. Unfortunately, these enterprises experience high rates of company failure, projected to increase as a result of the present global economic downturn.

Abor and Quartey (2010) further state access to financing is a major issue that many SMEs encounter and which severely hampers their development, due to a lack of sufficient financial resources. Moreover, SME development is always constrained by the limited availability of financial resources to meet a variety of operational and investment needs (Cook and Nixon 2000). According to Deku *et al.* (2021), entrepreneurial orientation, risk taking, innovation and proactiveness are lacking among SMEs in Ghana and this can impact significantly on their financial performance. In a study conducted by Mawutor *et al.* (2022), it was discovered that managerial competence, access to external capital/finance, and government policies/practices were all significantly associated with SME success, whereas technological capabilities, human resource capabilities, and entrepreneurial orientation were not.

In a study of SMEs in Ghana, Oduro (2020) stated collaboration barriers include difficulty in finding the right partners, as well as problems with cooperation and coordination of operational functions. Organisational barriers comprise lack of flexible internal procedures, structures and organisational inertia, and strategic barriers, in addition to opportunistic behaviour of partners and lack of strategy, which are all significant barriers to SME growth in Ghana.

Apart from financing or access to credit, which is a major challenge for SMEs in Ghana and the world, there are issues that affect performances of SMEs, with social capital one of these. Easmon *et al.* (2019), it was discovered that SMEs' social capital has the largest impact on their export performance. As SMEs fully mediate the social-capital–export-performance relationship, innovation and marketing capacities are also found to be major drivers of export success among them. Nonetheless, marketing capabilities tend to have a higher impact on SME export performance than innovative capabilities (Easmon *et al.* 2019).

Despite recognition of the role SME play in the development process in many LMICS, SME development is constrained by the limited availability of financial resources to meet a variety of operational and investment needs. According to a World Bank study, finance

is a major impediment to new investment for almost 90 percent of small businesses examined (Parker et al. 1995). Levy (1993) also discovered smaller businesses had less access to financial resources than larger businesses, with negative effects for their growth and development. Every supply chain has its own set of uncertainties and hazards, such as the inability to accurately foresee client demand, the failure of machines and trucks, and the inability to predict trip durations (Croxtton et al. 2016).

2.24 FINANCIAL SUPPORT FOR MANUFACTURING SMES IN GHANA

Financing is one of the numerous challenges facing SMEs all over the world, more so in developing economies (Abor and Biekpe 2006; Quartey 2003). Domeher et al. (2017) stated SMEs can obtain loans from two different credit markets; formal and informal. Formal credit markets, on the one hand, are official sources such as banks, savings and loan businesses, and micro-finance institutions (MFIs), regulated by the central bank or other organisations. On the other hand, numerous institutional and informal credit sources are found in Ghana, where informal credit sources include family and friends, money lenders, and rotating savings and credit societies, among others.

Some institutions have been established to offer financial support for SMEs in Ghana and these include: Association of Ghana Industry (AGI); NBSSI now Ghana Enterprise Agency (GEA); the Commercial Banks; and Development Banks; as well as NGOs, to mention a few (Quartey 2003).

2.24.1 Association of Ghana Industries (AGI)

The AGI is a for-profit organisation, established to contribute to the growth and development of industry in Ghana, through advocacy and business support services that include financing and management training for its members. AGI works in partnership with the following bodies; Private Enterprise Foundation (PEF), Ghana Chamber of Commerce and Industry (GCCCI), Ghana Chamber of Mines (GCM) and Ghana Employers' Association (GEA). The GEA is an advocacy group that ensures changes in policies of interest to businesses in Ghana. AGI has offices in all the regional capitals of Ghana. AGI promotes trade both domestically and outside the country, and can be a valuable resource for finding trustworthy trading partners. In addition, the AGI also provides members with training and performs research, which firms can use to make better decisions (Ghana Talks Business 2015).

2.24.2 National Board for Small Scale Industry

The NBSSI was founded by an Act of Parliament of the Third Republic of Ghana (Act 434 of 1981) and operationalised in 1985, because the government believes the sector has the ability to significantly reduce the country's high unemployment rate, while also contributing to its economic growth (GEA 2022). The NBSSI was founded by the Ghanaian government to address small-scale businesses concerns, by conducting training programmes, offering business advice, and providing financial support in the form of loan schemes.

SMEs comprise a large portion of Ghana's economic activity and can help the country meet its production development goals. The long-term goal of SMEs is to maximise their contribution to the country's economic and social development, in terms of production, income distribution, and employment, as well as the tighter integration of rural women and people into the national economy.

The NBSSI was renamed the GEA after Parliament approved Act 1043, which on December 29, 2020, the President signed into law (GEA Act 1043 of 2020). The GEA has 28 245 clients, with 190 District Offices in Ghana, suggesting a very wide reach and easier accessibility (GEA 2022). GEA responsibilities include the following:

- To oversee MSME promotion and development in Ghana.
- To ensure implementation of government policy and related programmes in respect of MSMEs for their development and efficient operations.
- To determine the criteria for MSME classification.
- To facilitate access by MSMEs that includes financial and non-financial resources, such as credit facilities.

GEA offers low-cost capital to help businesses thrive, particularly in the wake of a global pandemic that has wreaked havoc on economies around the world. The assistance is provided through the GEA SME Grant, Nkosuo, and CAP BUSS, among others. The Nkosuo is a means by the government of Ghana to help cushion MSMEs struggling as a result of the COVID-19 pandemic. Through the NBSSI foundation, the aim of the Nkosuo is to help MSMEs financially (gea.gov.gh).

The NBSSI and Mastercard Foundation Recovery and Resilience Program for MSMEs was established in 2020 by the Government of Ghana to help MSMEs and start-ups weather the economic crisis caused by the COVID-19 epidemic, through the provision of financial and business advisory support (mastercardfdn.org). The Program will pay special attention to:

- MSMEs who need support to survive the COVID-19 pandemic;
- Businesses in growth sectors where the employment of young people, particularly young women, will be negatively impacted because of business operation disruptions, supply chain challenges, liquidity shortages, and declining sales and profits, as well as business closures;
- Businesses providing services that will be in demand during the pandemic and have the potential to grow and positively impact communities affected by COVID-19;
- Businesses that will focus on digitisation to support MSMEs.

(NBSSI, 2023)

2.24.3 Non-Government Organizations (NGOs)

Other non-government institutions have also helped in the application process for money to assist SMEs in Ghana to develop and succeed. In addition, the United States Agency for International Development (USAID) and the World Bank have, likewise, contributed to the donor interventions. The Trade and Investment programme was established by USAID for SMEs in the non-traditional sector to support SMEs in Ghana (Ntiamoah, Li and Kwamega 2016).

2.24.3.1 Empretec Ghana Foundation

Empretec Ghana is the main provider of entrepreneur training in Ghana. It is part of the worldwide Empretec network and dedicated to the growth of a healthy private sector, with a focus on MSMEs. The organization began in Ghana in 1990 as a public-private partnership (PPP) project between the UN Development Programme (UNDP), Barclays Bank of Ghana Ltd (now Absa Bank of Ghana Limited), and the Ghanaian government. The Empretec programme is aimed largely at potential "winners" in the MSME sector who want to develop their entrepreneurial and functional management skills. The emphasis is on new and current businesses that engage in value-added industries, such as manufacturing, agribusiness, and services (Empretec Ghana 2022).

Empretec is an integrated capacity-building programme, established by the United Nations Conference on Trade and Development (UNCTAD) to help small businesses grow by providing training and improving access to technology and financial services in this entrepreneurship global network. SMEs are provided with subsidised finance and technology consulting, as well as subsidised accounting and bookkeeping services, in addition to loans provided to enterprises in specific industries (Ghana Talks Business 2015).

2.24.3.2 Ghana Venture Capital Trust Fund (VCTF)

This is a government programme that provides low-cost capital to small enterprises. The Ghana Venture Capital Trust Fund (GVCTF) helps SMEs by investing in them with equity and quasi-equity, also offering management and technical expertise to help viable businesses maximise their profits (www.venturecapitalghana.com.gh).

The VCTF was established by the Venture Capital Trust Fund Act of 2004 (Act 680), to offer funding to SMEs, as well as provide financial resources for the development and promotion of venture capital financing for SMEs in priority sectors of the economy, as determined from time to time. To construct Venture Capital Finance Companies (VCFC), VCTF forms joint ventures with other institutional partners such as banks, insurance companies, and development finance institutions (Venture Capital Trust Fund n.d.).

2.24.3.3 TechnoServe

TechnoServe works with industrious women and men in the developing world to build competitive farms, businesses, and industries. It is a leading non-profit organization with operations in nearly 30 countries in the world, which has helped millions of individuals generate long-term prosperity for their families and communities since 1968, by connecting them to knowledge, capital, and markets. The TechnoServe organization provides training for capacity building, connects different market players, and provides financing with a strong focus on job creation, poverty reduction, and societal effect (www.technoserve.org).

2.24.3.4 Enablis Ghana

The Enablis Entrepreneurial Network identifies SME entrepreneurs who have high growth potential, providing SME owners with possibilities for skill development, funding, coaching, and networking. The network nurtures SME professional and personal development (Devex 2023), and holds an annual business plan competition, with cash prizes to assist entrepreneurs in growing their companies (www.enablis.org).

2.25 RESILIENCE AND SUPPLY CHAINS

Companies encounter supply chain interruptions both from within and outside the supply chain; however, by employing design strategies, supply chain resilience lessens the effects of disruptions and enables the supply chain to react properly to disruptive occurrences. The idea of supply chain resilience offers businesses methods for responding to and quickly recovering from disturbances integrated into the supply chain. Resilience techniques in the supply chain also help businesses become less susceptible to potential interruptions (Agigi, Niemann and Kotze 2016).

Much managerial decision-making under uncertainty conditions is entangled in supply chain risk management. A robust supply chain, with built-in capabilities for responding to unexpected occurrences, can gain relevance as modern supply chains are sophisticated networks subject to a variety of risks (Rajesh 2020).

Scala and Lindsay (2021) explored resilience in healthcare supply chains in the public sector during the pandemic disruption and have offered important teaching points that supply chains can use to cope in case of any future global supply chain disruptions. To arrive at their findings, Scala and Lindsay (2021) conducted seven semi-structured interviews with public sector supply chain actors in the healthcare personal protective equipment supply chain, and analysed some relevant documents. These authors showed that agility, collaboration, flexibility and redundancy contributed to supply chain resilience during the COVID-19 pandemic, for those businesses that responded effectively. The findings thus provide the necessary impetus to examine the resilience of supply chains in Ghana's SME sector, using some of the criteria listed to explore what is happening.

Balakrishnan and Ramanathan (2021) examined the role of digital supply chain (DSC) technologies in automotive supply chain resilience practices to improve the supply chain performance objectives of companies operating in the automotive industry, and compared

the results of the associated supply chain performance objectives before and after the COVID-19 pandemic outbreak lockdown situation. In-depth interviews were undertaken of a small, though representative sample of practitioners from supply chain entities such as automotive original equipment manufacturers, Tier-1 component manufacturers and lead logistics providers in Asia-Pacific emerging markets (Balakrishnan and Ramanathan 2021). The study revealed DSC technologies encourage firms' supply chain resilience practices which, in turn, support their supply chain objectives. DSC technology competency moderates supply chain resilience and its performance objectives relationship (Balakrishnan and Ramanathan 2021). More importantly, the moderation effect of that relationship is higher for post-COVID-19 pandemic outbreak lockdown situations than at prior states (Balakrishnan and Ramanathan 2021).

Herold *et al.* (2021) also sought to provide new insights into the teaching points obtained from the COVID-19 pandemic, in terms of how logistics service providers (LSPs) managed to maintain supply chain resilience. Their study involved interviewing key informants using a semi-structured questionnaire to gather data from supply chain experts of selected LSPs that operate on a global scale. It was discovered LSPs have built their reactions and actions to the COVID-19 outbreak around five main themes namely; 1) create revenue streams, 2) enhance operational transport flexibility, 3) enforce digitalisation and data management, 4) optimise logistics infrastructure, and 5) optimise personnel capacity (Herold *et al.* 2021). The results provide insights into how LSPs overcame operational and financial challenges during the COVID-19 outbreak (Herold *et al.* 2021).

Do *et al.* (2021) also examined a few key informants as subjects in the agility of food supply chains (meat, fresh vegetables and bread) during the COVID-19 pandemic, and compiled important teaching points on how supply chains can withstand stress. These authors found, in the wake of the COVID-19 pandemic, each affected case pursued various agile responses through sensing and seizing capabilities. Furthermore, Do *et al.* (2021) concluded supply chain transformation is likely when firms and their supply chain create the sustainable capability required to ensure whatever requisite changes are put in place can outlast the COVID-19 or any crisis. Their study thus provides some incentive to test the agile concept on supply chains in SME businesses in Ghana.

Kaeo-Tad *et al.* (2021) examined how the Thai automotive industries mitigated risks related to the COVID-19 outbreak using resilience theory as the theoretical framework, and drew important conclusions for manufacturing companies. Resilience means the “prepare, prevent, protect, respond, and recover processes” aimed at managing risks and ensuring the business thrives (Kaeo-Tad *et al.* 2021: 101). “Leadership, technology, and the firm’s experience in handling emerging events” are key factors for enhancing resilience (Kaeo-Tad *et al.* 2021: 111).

2.26 SUPPLY CHAIN MANAGEMENT (SCM) MODELS USED BY SMES IN GHANA

SCMPs in SMEs in Ghana can vary depending on the specific industry and company. However, there are some common SCM models and strategies SMEs in Ghana often utilise to improve their supply chain operations. The adoption of SCM models by SMEs in Ghana can vary depending on factors such as industry, size of the company, and available resources. Each SME may choose the SCM model or combination of models that aligns with their specific needs and goals.

2.26.1 Traditional/Linear Supply Chain model

Many SMEs in Ghana follow a traditional or linear supply chain model. This model typically involves a sequential flow of activities from suppliers to manufacturers, distributors, retailers, and finally, to end customers. SMEs procure raw materials or products from suppliers, manufacture or process them, distribute them through intermediaries or directly, and reach customers through retail outlets or other channels.

Additionally, Vendor-Managed Inventory (VMI) is a supply chain model where the supplier takes responsibility for managing the inventory levels at the customer’s location. In this model, SMEs in Ghana can partner with suppliers who have the capability to monitor stock levels and replenish inventory as needed, reducing the burden on the SME to manage inventory and ensuring a smooth supply chain flow (Ahi and Searcy 2013; Kwateng, Fokuoh and Tetteh 2022; Okyere 2020).

According to Odamba (2020), the operational performance of Nestle Ghana Ltd. was significantly impacted in a good way by IM approaches (just-in-time (JIT), activity-based management, economic order quantity, vendor managed inventory, and material need planning). IT, lean IM, and strategic supplier partnerships are all used by SMEs in the

Cape Coast Metropolis. Additionally, there was a favourable and significant correlation between the performance of SMEs in the Cape Coast Metropolis and IM techniques. The performance of SMEs in the Cape Coast Metropolis was positively impacted by IM strategies such as IT, lean inventory system, strategic supplier alliance (Ampadu 2017).

2.26.2 Outsourced Supply Chain model

Some SMEs in Ghana opt to outsource certain aspects of their supply chain to external partners or service providers. This model allows SMEs to focus on their core competencies while relying on specialized third-party providers for specific functions such as logistics, warehousing, or distribution. By outsourcing, SMEs can access expertise and resources that may not be available in-house. SMEs in Ghana often partner with third-party logistics (3PL) providers to outsource logistics and distribution functions. By leveraging the expertise and resources of 3PL companies, SMEs can focus on their core competencies while benefiting from optimized transportation, warehousing, and distribution services (Dadzie 2018).

According to Agburu, Anza and Iyortsuun (2017), outsourcing of supporting activities (such as shipping, IT services/system, training, advertising, legal services, transport services, public relations) and primary activities (such as manufacturing, purchases, warehousing, sales force, and customer service) has a significant impact on the organizational profitability of SMEs. Outsourcing logistics significantly improves financial performance, customer satisfaction, as well as cost- and time-based competitiveness. Both time- and cost-based competition were discovered to have a considerable favourable effect on financial performance (Afum *et al.* 2021).

2.26.3 Collaborative Supply Chain model

Collaboration among SMEs is another supply chain model observed in Ghana. SMEs may form alliances or partnerships to collaborate on various supply chain activities, such as joint procurement, shared distribution, or combined marketing. Collaborative supply chains enable SMEs to pool resources, reduce costs, and improve efficiency by leveraging collective strengths and capabilities. Collaborative Planning, Forecasting, and Replenishment (CPFR) is a model that emphasises collaboration and IS between supply chain partners. SMEs in Ghana can implement CPFR to collaborate with suppliers, distributors, and retailers to improve demand forecasting accuracy, enhance inventory

planning, and reduce stockouts and excess inventory (Kwamena 2016). Collaboration within the supply chain has a positive and significant impact on supply chain transparency, stakeholder trust, environmental performance, and financial performance (Baah, Acquah and Ofori 2022; Yuliana, Purwanto and Siagian 2021).

2.26.4 E-commerce/Direct-to-Consumer (D2C) Supply Chain model

With the rise of e-commerce and digital platforms, some SMEs in Ghana are adopting a direct-to-consumer (D2C) supply chain model. These SMEs leverage online platforms and marketplaces to sell products directly to customers, bypassing traditional intermediaries. This model allows SMEs to have greater control over their sales and distribution channels while reaching a wider customer base. Many SMEs in Ghana are leveraging e-commerce platforms and digital technologies to improve their supply chain operations. By integrating their systems with online marketplaces, they can automate order processing, IM, and shipment tracking, enhancing efficiency and customer satisfaction (Gyamfi 2017). Both e-payment and e-commerce service factors have a favourable and significant impact on the effectiveness of MSME supply chains in Indonesia (Kilay *et al.* 2022). However, due to a shortage of skilled and experienced people who can manage the IT tools in their enterprises, the majority SMEs do not incorporate IT into their operations (Owusu and Abrokwa 2019).

2.26.5 Sustainable and Responsible Supply Chain Model

The sustainable or green supply chain model focuses on minimizing environmental impact and promoting sustainability. SMEs in Ghana adopting this model implement eco-friendly practices, such as reducing waste, optimising transportation routes, and using renewable energy sources. They may also prioritise sourcing from environmentally responsible suppliers. The responsive supply chain model emphasises agility and responsiveness to changing customer demands and market conditions. SMEs in Ghana adopting this model prioritise flexibility, quick response times, and customisation. They focus on reducing lead times, improving demand forecasting, and enhancing communication with suppliers and customers (Baffour *et al.* 2020; Idun *et al.* 2020).

2.27 FACTORS AFFECTING SCM AMONG MANUFACTURING SMES IN GHANA

Several factors affecting SCM were identified by Davies (2022) in Ghana's furniture industry. Among these are: stock control, technology, outsourcing, as well as quality

management of materials, in addition to product innovation, along with logistics. With furniture manufacturing being widespread in Ghana, and according to the staff size and amount of revenue earned, it is evident most furniture firms in the country are SMEs, which also makes these factors applicable to them. Furthermore, with reference to technology, Davies (2022) explained when firms invest in software, this could for example, assist with stock management, and aid in managing customer orders. The interest to investigate furniture manufacturing SMEs is to determine whether these enterprises invest in any software, as well as what the pros and cons in such systems contain, with the understanding there may be similar software shared by furniture manufacturing SMEs.

A variety of 54 different published literature items on SCM was reviewed by George and Pillai (2019: 1), who concluded supply chain is mainly affected by: the structure of the supply chain, policy on inventory control, information sharing, and customer demand, in addition to the method of forecasting, lead time, and length of the review period. Manufacturing SMEs are seen to have the same concerns, as these enterprises also contend with inventory control policy.

CHAPTER THREE

EXTERNAL AND INTERNAL ENVIRONMENT AND MANUFACTURING SMEs GROWTH AND PERFORMANCE IN GHANA

3.1 INTRODUCTION

Although there are numerous differences among business organisations, they all share the process of turning inputs into outputs, which is how value is produced. This transformation process takes place against a backdrop of outside forces that impact the business and its operations. According to Caesar and Vilar-Lopez (2010), the external environment in the business context refers to variables that might have a good or negative impact on corporate operations yet function externally, making it challenging for the organization to regulate. As opposed to external factors, internal factors are those over which SMEs often have some degree of control. They are, therefore, the reverse of external factors (Yahya, Othman and Shamsuri 2012; Kemayel 2015; Bouazza *et al.* 2015). One key element that significantly affects manufacturing SMEs, is the environment in which businesses operate. According to Eruemegbe (2015: 478), the word "environment" in management is used to define all those variables with bearing on the

individual organisation that directly impact it, as opposed to affecting only the physical surroundings.

Researchers frequently use the terms "environment" and "business environment" interchangeably, and Oginni and Adesanya (2013: 147) define "business environment" as the totality of all external and internal conditions and influences that impact the existence, growth, and advancement of business. Environmental issues are elements over which manufacturing SMEs have minimal if any influence, other than considering them when making strategic plans (Kokemuller 2018). SME manufacturing and production planning are impacted by these factors (Ibrahim and Primiana 2015), which according to Braşoveanu and Bălu (2014), impact manufacturing SME operations and procedures, in addition to how well those SMEs operate in the market. In actuality, they impact the persistence and success of manufacturing SMEs (Slitharam and Hoque 2016).

The business environment has a significant impact on a company's gross margins (Nguimkeu 2013). The external environment includes elements beyond the control of the firm, whereas the internal environment includes those under its control and subject to manipulation (Adebayo et al. 2005). Social, economic, cultural, and geographical, along with technological, political, legal, and ecological elements, are only a few of the many variables categorised as "environmental factors" (Litavniece and Znotina 2015). Adverse environmental factors can frequently be a barrier to achieving innovation and, consequently, to the growth of these companies (Gunawan, Dewi and Azhari 2022).

Negative environmental conditions might frequently be a barrier to this goal's achievement and, consequently, to the following expansion of these businesses (Xuhua et al. 2016). Changes in the corporate environment have their innovation and growth either favourably or negatively impacted (Genç 2014). Manufacturing SMEs must, subsequently, seek advantages in both the internal and external environment to ensure sustainable performance and growth. According to Ibidunni and Ogundele (2013), internal and external environmental factors must be integrated so the business can develop a strategy that can result in a competitive advantage and generate enough revenue to allow for performance improvement and the maintenance of innovation (Ibrahim and Primiana 2015).

3.2 EXTERNAL FACTORS HINDERING SME PERFORMANCE IN GHANA

The external environment, as Wahyuni, Setyadi and Hariyadi (2016) and Ayandibu and Houghton (2017) explain, is made up of all the circumstances a company cannot control, because they take place outside the organisation (such as competition, economics, training, and financing, as well as technological developments), but with the potential to impact company operations, productivity, and innovation. According to Fagerberg *et al.* (2010), the performance and behaviour of manufacturing SMEs are significantly influenced by the availability of external resources (Voiculet *et al.* 2010). These resources include not only financial or human resources but also linkages with other enterprises and institutions, public resources and foreign behaviours (Shi and Wu 2017). External determinants include situational elements that can either increase or decrease entrepreneurship at the start-up and throughout the lifecycle of a manufacturing SME (Kunene 2009). Yachmeneva (2014) state these elements include political, legal, economic, and social, as well as environmental issues that indirectly impact firm innovation-related activities.

Khan (2014) concurs environmental elements, including social, economic, legal, political, and technological aspects that influence an entrepreneur's actions, can either encourage or hinder successful entrepreneurship. It is explained by Rujirawanich, Addison and Smallman (2011), since external environments are frequently dynamic, making it difficult for businesses to control the changing situation, innovation is typically driven by changes in the external environment or by proactive actions taken to influence the environment (Yu and Zhang 2010). Enterprise performance in the research region is positively impacted by marketing elements, financial aspects, infrastructure, as well as workplace factors, trade fair considerations, and politico-legal factors. The study findings also indicated aspects such as infrastructure, work environments, marketing, and trade exhibits have a favourable, significant impact on industry success (Ebabu Engidaw 2021).

The organisation can, therefore, profit from a thorough and accurate examination of the external environment, by gaining a better understanding and appreciation of the context in which the organisation functions (Chitechi 2014).

Natural disasters (such as earthquakes, volcanoes, strikes, and droughts) are examples of major external phenomena that affect SCM and can be challenging to mitigate (Bunget

and Bureana 2015). When they do happen, companies will have to declare a force majeure; as there is nothing, they could have foreseen to prevent it. Such variables hinder manufacturing, and distribution service supply, while other elements are influenced by international rates of exchange, and when specific materials or goods need to be supplied outside the firm, such as crude oil. Hazen and Byrd (2012) also demonstrate how competition, suppliers, customers, and even technology may all evolve on their own.

According to Cousins et al. (2014), the government must play a significant role in order for businesses or municipalities/district assemblies to succeed, and as a result, it is crucial for the strategic plans of organisations to be properly implemented (Cousins 2014). In Ghana, it will be interesting to investigate the role of the District Assemblies in promoting the 1D1F project. Conventionally, they have been known to secure parcels of land and other social amenities, in order that a “so-called” enabling environment shall be provided for the assemblies. Outsourcing activity has also grown, which has created a demand for strategic supply management in order to forge better connections across organisations. The government's support, the environment, and the level of uncertainty in the world are the other three sub-factors that must be considered in this context (Ader 2013).

Modern marketplaces are extremely complicated, both locally and worldwide. For instance, rapidly changing demand necessitates organisations' constant readiness to quickly adapt to client wants (Croxtan *et al.* 2016). When businesses can swiftly respond to market changes, including those caused by factors such as changing customer demands and, when necessary, expanding or contracting manufacturing processes, it is clear they are flexible.

The logistical skill of an organisation can, therefore, also be evaluated by how well it can respond to or adapt to unanticipated conditions (Routroy and Pradhan 2013). Manufacturers should be able to adapt swiftly to new client needs and requirements, while also being adaptable to the demands of change, even when change is tough to achieve (Cook 2012). The provision of quality is not something that should be viewed as optional, because it is what customers demand, according to Croxtan *et al.* (2016). Therefore, in order that goods or services may be favoured by customers, quality is essential.

Poor quality can lead to inefficiencies, including lower productivity, a loss of market share, and greater expenses (Croxtan *et al.* 2016). Quality is achieved by using quality measures to improve production systems. Furthermore, quality is defined as the consequence of businesses meeting or surpassing customer expectations. Additionally, businesses and organisations can function better by achieving higher levels of quality, productivity, and efficiency, as well as the highest possible product value at the lowest possible production costs (Ha *et al.* 2011). Quality in municipal/district assembly service delivery should be an ideal goal of every government, since it is a key expectation of customers and there is constant information exchange between municipalities/district assemblies, customers, and producers (Demirhan and Anwar 2014).

When there is a shortage of a certain expertise internally, outsourcing can help to improve SCM departmental operations, according to Chima (2007). Blanchard (2015) further states financial supply chains provide the cash flow necessary to keep businesses operating and are thus, their true lifeblood. In addition, Nieman (2008) suggested a significant relationship between price and financial stability, because market prices have an impact on organisational costs, profitability, and their ability to compete in the market. It is best to avoid suppliers with a bad credit history, as they might not be able to ensure a consistent flow of goods or services to the organisations who need them (Cousins and Menguc 2006).

3.2.1 Political determinants

A politically stable environment makes investments more appealing to domestic businesses and, particularly, to foreign investors (Yachmeneva 2014). The political climate's stability also affects a company's decision on where and how it will compete in the market (Indris and Primiana 2015). Considering political trends can alter the legal environment in which small businesses operate, firms need to be aware of these trends. According to Ingram (2017), any political unrest affects market circumstances, which in turn, impact consumer behaviour and the amount of government assistance and support available to small enterprises (Stimpson and Smith 2015). Small businesses find it incredibly tough and challenging to exist in a political environment such as, for instance Zimbabwe, in view of inconsistent government policies that unnerve the business sector, delaying the country's economic recovery (Chanakira 2011). Due to the unpredictability of

their markets and the dangerous political situations in these countries, nations such as Congo and Zimbabwe have relocated some of their enterprises to SA.

3.2.2 Regulation/Legal factors

Political and legal climates are fundamentally related. According to Stimpson and Smith (2015), legal factors encompass any law influencing company activities, such as competition laws, legislation on health and safety at work, employee protection, and consumer protection regulations, as well as export controls. The government of any country is responsible for instituting policies, legal frameworks and procedures that govern how business is conducted within its borders (Mupemhi et al., 2013). This is particularly apparent in a country such as Zimbabwe, where inconsistent government policies make the business sector uneasy, slowing the progress of economic recovery. Small enterprises in Zimbabwe find it incredibly tough and challenging to exist (Chanakira 2011). By rejecting goods that do not adhere to the standards, product and process standards for health, welfare, safety, and size, along with measures, can also obstruct commerce (Rugman and Hodgets 2001). This makes it critical for manufacturing SMEs to stay current with changes to government regulations and laws.

Mupemhi *et al.* (2013) concur government rules and legislation should be widely distributed to both new and existing SMEs for manufacturing SMEs to be progressive and knowledgeable. Government and industry groups should, furthermore, support high-quality consulting services for manufacturing SMEs to enable the urgent need for reliable information.

While taxation is a further major barrier to the growth of SMEs (Smed and Robertson 2012), complex tax administration and high tax rates are, nevertheless, a substantial barrier to the operation and expansion of SMEs. There are, broadly speaking, four types of tax-compliant behaviour: 1) timely and accurate registration; 2) timely lodging of necessary taxation information; 3) timely reporting of complete and accurate information; and 4) timely payment of the correct amount of tax (OECD 2014). Consequently, innovative leadership and investment are adversely impacted by a complex tax system (Pillay 2006). For instance, according to The Sunday Mail (2014), a number of Zimbabwe's SMEs are subject to presumptive tax, which the country's entrepreneurs frequently refer to as unrealistic, because it seriously hinders the expansion and development of their

small firms. It is thus true high taxes might cause SMEs to fail too soon. As highlighted by Kashalaba (2017), the majority SMEs lack tax experience, which raises the cost of tax compliance and forces them to spend a significant portion of their income to do so. Tax compliance is explained by Bozdoanolu (2017), to place high demands on the procedures to be followed, such as understanding of registration or payment rules.

3.2.3 Information Technology (IT)

The adoption of IT by manufacturing SMEs both domestically and internationally must be seen as essential to any company's efficient functioning. According to Agwu (2018), adopting IT is one of the essential factors in maintaining competitiveness. To improve their competitive position and preserve the company's sustainable growth, manufacturing SMEs must devote a large portion of their financial resources to IT, as Ghobakhloo *et al.* (2012) stated. Comin et al. (2008) contended the “East Asian Tigers”, made up of Singapore, Hong Kong, Taiwan, and South Korea, were able to quickly accept and adapt to new technologies such as the internet, which contributed significantly to their rapid expansion following World War II and in the 1990s.

Choi and Lim (2017) assert technical innovation in its many forms is one of the key forces pushing manufacturing SMEs to reach ever-higher output levels. The pursuit of technical innovation is, however, fraught with difficulty for many manufacturing SMEs (Farsi and Toghraee 2014). This point is also made by Sayed and Sunjka (2016), who discovered South African SMEs, in particular, were hesitant to adopt the most recent technologies. A study conducted in SA by Leboea (2017) also supported their findings. This strains the production process and, ultimately, makes SMEs less competitive than larger businesses. Steyn and Leonard (2012) also stated entrepreneurs' lack of technical expertise is a contributing factor when making decisions on an IT adoption strategy.

Alam and Noor (2009) argue despite technology adoption being expensive, its benefits and significance in innovation and sustainable growth are of the utmost importance. This is true, even though the need to overcome these critical factors poses significant obstacles to manufacturing SMEs' ability to innovate. Furthermore, rapid technology adoption has been discovered to considerably increase the success of manufacturing SMEs (Eke, Aigbavboa and Thwala 2015). The growth and competitiveness of SMEs are presently significantly impacted by the lack of technological advancement, particularly the use of

ICTs. Manufacturing SMEs that do not innovate and implement technology are more likely to endure decreased production, business performance, and profitability, due to an aggressively competitive business climate, as highlighted by Mustafa and Yaakub (2018).

3.2.4 Infrastructure has an impact on manufacturing SME performance

The term "infrastructure" refers to the fundamental tools, facilities, and buildings, such as roads, bridges, energy, and telecommunication, as well as education, water supply, sanitation, and sewerage, developed by the government and crucial to the functionality of manufacturing SMEs (Gaal and Afrah 2017). In addition, economic growth is significantly hampered by a lack of accessible, well-functioning infrastructure (Ehler 2014).

The existence of manufacturing SMEs depends critically on having an effective infrastructure, particularly in developing nations (Perkins 2011). Inaccessible roads impact the distribution networks, while power outages influence the creation of goods and services. This affects transportation expenses as well, and creating alternatives might be expensive, endangering the company's viability (Agwu and Emeti 2014). Regular service supply disruptions cause manufacturing SMEs to incur additional backup expenditures, which negatively impact their business operations and, ultimately, reduces profit margins (Muriithi 2017).

Research by Seda (2012) that indicated poor quality and inconsistent supporting infrastructure delayed the inventive ability of manufacturing SMEs, further brought these challenges to light. This indicates the ongoing load-shedding in SA, caused by the instability of the national power supplier, ESKOM, severely hampers the operations of industrial SMEs. According to Das (2017), upgrading infrastructure is essential for developing nations' economic development. The main force behind corporate growth, competitiveness, access to markets, unlocking of economic prospects, and encouragement of job creation is stated to be well-functioning infrastructure (Jafta 2017). Furthermore, a necessary condition for effective export growth in the manufacturing SME sector is the availability of adequate infrastructure (Ajakaiye and Ncube 2010). Manufacturing SME operations, including production, importing, exporting, and servicing, will be significantly hampered by a lack of adequate infrastructure.

3.2.5 Being socially responsible

The issue of corporate social responsibility (CSR) is one manufacturing SMEs need to comprehend and address (Charitoudi et al., 2011). Corporations are socially formed legal entities operating within societal legal frameworks (Haynes, Murray and Dillard 2013). Therefore, CSR involves acts and considerations intended to cover societal good, beyond the immediate interests of the corporation and in compliance with the law (McWilliams et al., 2006).

The primary purpose of CSR is related to how businesses manage their social responsibility (Moon 2014). Economic, social, and environmental concerns should be considered by socially responsible businesses and incorporated into their strategy (Mallin 2009). According to Turyakira et al., (2014), it is critical for businesses to embrace CSR; not only for the organisation's profitability but also to raise societal norms.

3.2.6 The impact of economic factors on business

Economic factors, as defined by Nichter and Goldman (2009), are those that affect changes in production costs, product prices, wage rates, and interest rates, as well as inflation. These elements affect how a business generates gains, losses, or expansion (Gachuhi 2016). Pragmatic individuals who are imaginative, entrepreneurial, and able to seize opportunities while taking risks, improve economic advancement (Hisrich 2000).

3.2.7 The impact of supply costs on the viability of manufacturing SMEs

Suppliers have a significant impact on a product's price, and the fees they charge are based on material scarcity (Sherman 2018), with product quality also significantly influenced by supplier components (Reiss 2010). When a company has been forced to consider all risks along its supply network and chain, sustainable growth is no longer only within its control (Halldorsson et al., 2009). Therefore, suppliers are crucial in determining how the product will affect the environment over its entire life cycle (Niemann et al., 2017). According to Pooe, Mafini and Loury-Okoumba (2015), the information shared and provided by suppliers impacts business operations and strengthens their capacity to establish long-term competitive advantage.

Furthermore, dependable suppliers enhance firm performance in terms of costs and the calibre of the goods produced (Sithole 2014). This means suppliers can deliver the ideal product in the ideal quantity at a fair price (Piderit et al., 2011).

3.2.8 Competition among SMEs engaged in manufacturing

Firm growth and existence are seriously threatened by competition, although competition is frequently the primary driver of economic growth, because it drives businesses to increase productivity (Soini and Veseli 2011). Therefore, when a company employs value creation tactics not yet adopted by other potential rivals, it has a competitive edge. In general, competitive advantage is providing consumers with greater value through reduced costing of goods or services or higher quality goods or services that can command higher pricing (Pickard-Whitehead 2018). According to Kraja and Osmani (2013), certain manufacturing SMEs have significant intangible assets, while others have tangible assets that might help them gain a sustained competitive edge. These crucial resources can provide residual value for the same supplied value, by resulting in a lower cost or a larger benefit for the organisation, as well as increasing profit margins for the business (Ong, Ismail and Goh 2010).

External issues such as access to funding, competition, corruption, and government regulations have an extremely substantial impact on the development of SMEs in Kosovo (Govori 2013). Facilitating access to capital is vital to set up a favourable climate to develop SMEs. However, SMEs in developing nations generally suffer several financial challenges, even though this issue is not unheard of in developed nations. SMEs frequently encounter obstacles related to expensive administrative costs, stringent collateral requirements, and banks' unwillingness to lend to them. By encouraging innovation, GDP growth, and the reduction of unemployment, greater understanding of their function and the availability of capital for SMEs can improve the economic situation in developing nations (Govori 2013).

In a study on beginning a business in Thailand, Chittithaworn *et al.* (2011) found elements that affect business success, which can help to lower the risk of failure and enhance chances of success. The characteristics of SMEs, management and expertise, goods and services, in addition to customers and markets, business practices and collaboration,

resources and finances, as well as strategy, and the external environment, are among these aspects.

Bank finance gradually increases with age, while informal finance gradually decreases with age (Wang 2013). Further to this, young firms are twice as likely as more established firms to use personal assets as collateral, which is consistent with the results from a study of US small firms (Wang 2013). However, young firms in countries with stronger legislation and better credit information have less reliance on informal financial resources. Another study stratified the growth paths into rapid, incremental and episodic and then investigated the impact of access to finance, market conditions and management on the growth of firms (Wang 2016). The results show rapid growth firms were cash hungry machines, while incremental growth firms have to find the right employees (Wang 2016). The research also indicated advanced management skills play an important role during episodic growth of firms, while marketing strategy is a way to turn a business around when firms reach a plateau (Wang 2016). Moreover, internal factors typically include a variety of firm characteristics, whereas external factors usually refer to barriers related to access to credit (Wang 2016).

According to Nguyen *et al.* (2020) and Bouazza *et al.* (2015), preferential bank and tax-supporting policies were major variables directly influencing how businesses developed during the COVID-19 pandemic. Other variables thought to significantly impact enterprise development were insurance policies, government capital assistance programmes, public administration practices, and the function of professional associations. SMEs were shown to be more inclined to participate in Ghana's oil and gas sector when there is easy access to financing, dependable electrical supply, the necessary technical qualification, and no rivalry from overseas enterprises, as well as being well-informed regarding investment opportunities. In addition, it emerged SME propensity to invest was not significantly influenced by perceptions of corruption, political stability, or training support for capacity building (Appiah *et al.* 2018).

3.3 INTERNAL FACTORS IMPACTING MANUFACTURING SMEs

An organisation's operational basis contains internal factors that immediately impact many business aspects (Obasan 2014). These are internal organisational conditions, organisational material, organisational processes, and human resources, as well as

systems, and organisational structures typically within the company's control (Hove and Tarisai 2013). Abukhames (2015) concurs a company's internal environment includes the resources that make up its strengths and limitations. Therefore, by identifying and analysing a company's strengths, it can develop a strategy to seize current opportunities, while averting current challenges (Indris and Primiana 2015). This means manufacturing SMEs would need to always be aware of the strengths and weaknesses of their internal operations in order to fulfil operational objectives.

The goal of research on management competencies is to comprehend and evaluate the skills needed by managers to achieve the goals of the organisation. Managerial competencies are the knowledge, abilities, skills, and behaviour needed for successful job performance in managerial jobs, according to Veliu and Manxhari (2017). These competences, according to Choi and Shepherd (2004), are essential for the performance of manufacturing SMEs and crucial for dealing with more difficult management and production duties. As explained by Fatoki (2014), management competency includes the capacities, aptitudes, and expertise that enable owner/managers to innovate and are thus essential to building long-term competitive advantage. A subsequent study by Veliu and Manxhari (2017) discovered the connections between various independent managerial competencies were positively significant for business performance, supporting the findings of research wherein Lopa and Bose (2014) found that management competencies affect the long-term performance of the firm. Thus, management proficiency is crucial to company performance, and it is crucial for business owners to realise as the business environment evolves, so do the competences necessary (Taipale-Erävala 2015).

This suggests business owners must discover the skills that will allow them to succeed in any economic environment. Entrepreneurs with industry-specific skills and capacities are more likely to seek innovation and exhibit necessary competencies, according to Sánchez (2011). While Lopa and Bose (2014) advise manufacturing SMEs need to take advantage of all the competencies of their entrepreneurs in order to improve their long-term performance, Wijaya and Irianto (2017) specifically identify technical and strategic competence as management competencies that need to continuously change to keep up with the dynamic business environment. Technical and strategic competence are two

management competencies highlighted by Wijaya and Irianto (2017) that need to constantly change to keep up with the fast-paced business environment, whereas Lopa and Bose (2014) advise manufacturing SMEs to utilise all their entrepreneurial skills should they want to improve their long-term performance. Manufacturing SMEs need resources, knowledge, and skills to develop, increase efficiency, and improve operational effectiveness (Beynon *et al.* 2014). However, they face numerous barriers in accessing these resources, as discussed earlier.

The expansion of global markets has increased pressure by fostering fiercer rivalry, frequently accompanied by more rapid technology advancements (Dadfar *et al.* 2013). However, specific obstacles can make it difficult for manufacturing SMEs to obtain these strategic resources, which reduces their ability to compete in a globalised and digital economy (OECD 2017). Thus, manufacturing SMEs must solve these issues in order to innovate (Woschke *et al.*, 2017). They must also devise strategic approaches to obtain the resources necessary for innovation to stay competitive (Haron *et al.* 2013). When these issues are not resolved, Andrae and Beckman (2013) assert manufacturing SMEs will continue to be prevented from taking advantage of potential business possibilities or from achieving progressive innovation.

As previously stated, business leaders' actions to seek innovation play a significant role in determining the economic performance of the company (Bayarçellic *et al.* 2014). However, innovation is only made possible when leaders have access to the necessary resources, such as money, supplies, facilities, and people, along with opportunities for skill development (Horth and Buchner 2014). The training or organisational culture of employees that characterises the enterprise's philosophy and basic principles, thus interrelates the enterprise's subject with suppliers, consumers, and competitors, as well as its management style, and attitude to employees, among other factors; this is one of the most important ways to ensure business stability (Zinovieva *et al.* 2016).

In a study of SMEs in Pakistan, Noreen and Junaid (2015) found a strong correlation between management skills, technology, and the labour shortage. Regarding insufficient technological innovation, education interest needs to be increased, training institutions should be improved, and staff training should be strengthened to improve the overall makeup of technical staff. To progress the industrialisation of scientific and technological

achievements, relationships between business, government, academia, and research organisations need to be strengthened and a long-term partnership between the four institutions developed.

3.4 INTERNAL FACTORS HINDERING THE EFFECTIVENESS OF SUPPLY CHAIN MANAGEMENT (SCM)

The efficacy of SCM is additionally hampered by internal problems, such as mistrust between parties over payment-related worries. Due to poor cash flow concerns, careless spending, or occasional excessive budgeting, some businesses slacken in their payments. Organisations working with foreign firms inevitably function under some degree of uncertainty, because they do not control their gamut of decision-making processes (Saleheen 2012). Decisions are often made at the central/head office that the branches at the periphery will have to implement. A typical example is Unilever Ghana, which makes production and supply decisions based on the overall decision for all the subsidiaries in La Côte D'Ivoire, Kenya and Nigeria, among others. Even though in this instant, Unilever is bigger than the typical SME, their decisions affect supply chain decisions of SMEs that feed Unilever with raw materials/inputs, as well as take outputs in the form of semi-finished/finished products from them.

Allahdad and Ban (2012) asserts excess expenditure could be minimised by developing strategic partnerships with significant local suppliers. In other words, organizations should implement new plans in order to better prepare for environmental uncertainties in the supply chain and perform more efficiently as a result. A lack of expertise among municipal authorities/civil servants results in risks in budgeting and procurement management, poor planning, unnecessary delays, and cost overruns for projects, according to OECD research from 2007. In this instance, it is inferred public servants lack the necessary training to perform their duties to the required professional standards (Dillman 2007). The OECD findings show municipal officials lack professionalism - and in the case of Ghana civil servants – this causes risks in budgeting and procurement management, poor planning, unnecessary delays, and cost overruns for projects. In this instance, it is inferred that civil/public servants are underprepared to complete jobs to the necessary professional standards (Dillman 2007). In the case of Ghana, it was said for many years by political appointees that the private sector is the engine of growth.

For supply chain professionals to stay informed on events and advancements, Dillman (2007) claimed technical development courses are crucial, and on-the-job training and outside courses are the two most popular ways to educate employees.

Dillman (2007) asserts workers within supply chains might be moved from one region to another reasonably simply, as the skill requirements for employees do not significantly vary by region or firm size. Nonetheless, Dillman (2007) explained analytical and communication abilities are necessary for nearly every category of occupation, across all sub-functions. Likewise, when employees are laid off or retrenched, they depart the company with certain talents.

3.4.1 SMEs in manufacturing are less innovative due to a lack of skilled labour

Finding workers should have been simpler, since SA's unemployment rate fell in recent years; however, the lack of competent labour has persisted and has grown to be a significant problem for many manufacturing SMEs. These enterprises confront significant labour issues, despite being such significant economic contributors and hence, potential long-term employers (de Kok *et al.* 2011). Skills shortages are cited by Lee and Sahu (2017) as a major issue and a labour market crisis that affects corporate performance, development, and growth, as well as the standard of local output. This echoes findings by Zimmermann and Thoma (2016) that the shortage of trained labour is a severe issue, since it hinders the growth and innovation of manufacturing SMEs. Zimmermann (2017) concurred, stating the lack of skilled people is the second-largest obstacle to innovation after financial issues (Healy et al., 2015). Additionally, this severe talent shortage threatens company productivity (Nash-Hoff 2016). Seda (2016) recognises the necessity for skilled labour but urges immediate action be taken to train and equip employees (Mutoko and Kapunda 2017).

Donnelly (2018) warns this absence prevents business owners from utilising any potential, available internal and external opportunities to develop and grow their companies. Therefore, a further important barrier that prevents South African manufacturing SMEs from experiencing economic growth and international competitiveness, is skills shortages (Rasool and Botha 2011). As explained by Fouad (2013), manufacturing SMEs frequently suffer from skills deficiencies that complicate drawing in and keeping clients. These shortfalls include those in financial and marketing management, unequal IT awareness,

as well as market understanding (Karedza *et al.* 2014). As a result, production skills that should meet the necessary international requirements have been determined as deficient (Zindiye *et al.*, 2012).

In order to attain effective operations and appropriate productivity levels, skilled labour performance is another crucial part of production that needs sufficient attention (Zannah *et al.* 2017). Any increase in the availability of skilled labour will increase rivalry and encourage innovation, which could draw clients and entice them away from domestic rivals (Liptáková 2016). Sembering (2016) makes the case that raising the calibre of human resources is crucial, particularly regarding competencies such as entrepreneurship-related knowledge, skills, and attitudes.

3.4.2 The impact of capital on firm growth

Lack of access to money is typically cited as one of the biggest hindrances to success in research on obstacles or elements affecting SMEs. As highlighted above, the majority SMEs have trouble accessing loan or equity (Hlatshwako 2012) to support their growth and innovation. A lack of management expertise, insufficient assets, and a lack of security for repayment of credit and loans are frequently seen as contributing factors to SMEs' weak market power (Turyahikayo 2015).

The scope of innovation is constrained, as Abor and Quartey (2010) explain, by the firm's limited ability to conduct a wide range of operations and activities. Moreover, financial resources frequently determine the rate of development and sustainable growth of SMEs (Torres *et al.* 2015). Access to such resources is widely acknowledged to have a significant enabling effect on the capacity of manufacturing SMEs to transform themselves into thresholds, where they will adopt more efficient production techniques that guarantee profits (Quartey *et al.* 2017).

3.4.3 The impact of stakeholders on SMEs

Despite the relationship between a firm and its directors frequently emphasised in the context of large companies, corporate governance has not been extensively examined with regard to SMEs (Hamad and Karoui 2011). While manufacturing SMEs may adhere to governance standards comparable to those used by large corporations, certain factors that notably impact governance structure must be considered (OECD 2004).

Since the inception of corporate governance, several definitions have been developed, with corporate governance defined by the OECD (2004) as the duties and rights of a company's management, boards, shareholders, and other stakeholders who monitor both the firm's performance and the confidence of the market. Corporate governance, as described by Khan (2011), is a comprehensive phrase that refers to the procedures, practices, laws, and regulations, as well as institutions that direct organizations and businesses in how they behave, manage, and oversee their operations. Oman (2001) goes on to explain corporate governance comprises the laws, rules, and business practices that regulate the interaction between the corporate managers and the shareholders. It also refers to the governance of both private and public institutions.

Since accountability, responsibility, independence, and fairness are the key components of excellent corporate governance, corporate governance is a system created by professionals to guide and manage businesses (Naimah and Hamidah 2017). Sound corporate governance, therefore, clarifies decisions, processes, and operations pertaining to firm affairs and distributes rights and obligations among management, a board of directors, shareholders, and stakeholders (Feleaga *et al.* 2011). The existence of a non-executive director or shareholders may help to recruit better resources and introduce originality and innovation during decision-making (Abor and Adjasi 2007). It is highlighted by Duca (2012) that good corporate governance ensures more effective management, better asset allocation, improved employment policies, and more effective innovation, all of which improve company performance.

According to the OECD (2004), effective corporate governance should offer the boards and management the right incentives to achieve goals related to innovation, competitive advantage, market share, and sustainable growth, in the best interests of the company. The company must, therefore, identify shareholders who will act as investors, with the goal of contributing money to the growth and innovation of the company.

3.4.4 Impact of mission statements on manufacturing SMEs

The use of mission statements has increased since Drucker's 1974 handbook of management, which first documented its adoption as an organisational tool (Braun *et al.* 2012). These, as Bartkus *et al.*, (2000) clarify, serve four functions: 1) they act as a control mechanism, 2) they provide direction and purpose for the organisation, 3) they act as a

guide for organisational decision-making, and 4) they provide meaning to the work that motivates and inspires the organisation's members. Genç (2014) maintained a mission statement should be viewed as a framework outlining how a company ought to conduct itself. Vision and mission statements are regarded as crucial components of an organisation's strategic management approach. This applies to all different kinds of businesses, including large and small, public and private, for-profit and non-profit, and multinational. A well-crafted vision and mission statement would set one organisation apart from another by highlighting its distinctive qualities that distinguish it from the competition (Taiwo and Lawal 2016).

Duygulu *et al.* (2016: 698) express a mission statement ought to provide an explanation for fundamental inquiries such as, "What is the purpose or aim of the firm? Why is the organisation even a thing? And what goals does the organisation have in mind?" The research is, however, inconclusive and devoid of supporting data concerning the significance and applicability of a mission statement in relation to the performance, innovation, and growth of manufacturing SMEs. For instance, studies by Bart and Hupfer (2004), Desmidit *et al.*, (2011), and Alawneh (2015) have been unable to provide any proof a firm's mission statement and performance are significantly related. Additionally, some businesses lack mission statements and are unsure of how they will affect company performance (Populova 2014). However, studies by Dermol (2012), Mosoma (2014), and Taiwo *et al.* (2016) found a strong correlation between mission statements and the influence they have on the performance of the organisation. The authors, nevertheless, assert only a well-crafted and implemented statement can have an impact on business success.

Mosoma (2014) avers mission statements that are constantly changed to meet and solve market needs have greater performance indicators for the entire organization and its employees. Standard and essential components of an organization's strategy are a mission and vision. The majority well-established businesses create corporate mission and vision statements, which act as guiding principles for establishing company aims and objectives. Employees should be better able to make decisions and complete tasks that best support the organization's objective, thanks to this information. Some businesses focus on making a profit, while others put their customers first, and some have more

charitable goals that ultimately result in profits (Babu and Chalam 2016). This is corroborated by Zhang et al., (2015) who assert firm performance is positively impacted by its mission statement, particularly when it contains phrases expressly related to innovation. Nevertheless, having a mission statement as part of a planning document, displayed on a wall plaque, or distributed to staff members on business cards, does not guarantee business performance and success (Robinson 2002).

Bowen (2018) stated both vision and mission statements are founded on the underlying moral principles of an organisation and are crucial to its success, since they provide it with guidance. Long-term objectives that specify where the organisation eventually wants to go in the competitive landscape, are driven by vision statements. Mission statements are used to prioritise tasks, as they are more explicit and concrete regarding an organisation's competitive advantage. Manufacturing SMEs will profit from having a well-written mission statement that is extremely practical and continually adjusted or developed by company leadership, in line with the business environment, to ensure it continues to have a true meaning for employees.

"Survival, growth, and profit" is the most frequently observed mission component, reflecting the significance of sustainability for SMEs. Sustainable strategy formulation, based on the relationship between SME mission statements and performance, should be clearly established in order to ensure common ground, provide certain direction and purpose, and share the common message (Duygulu *et al.* 2016: 698).

3.4.5 Manufacturing SME lack of marketing expertise

For manufacturing SMEs, marketing is a crucial duty. Marketing expertise encompasses a variety of operations, such as sales promotions, the launch of new products, and other tactics aimed at cultivating customer connections and expanding market share (Van Scheers 2011). Highlighted as a crucial managerial role by Moghaddam and Foroughi (2012), marketing involves identifying, predicting, and meeting customer demands, while maintaining profitability, as by. According to Sithole et al., (2018), there are two primary objectives of marketing, based on acquiring new and retaining existing clients, in order to increase market share and earnings. One of the main company goals is stated by Kotler et al., (2010) as increasing market share to scale-up operations and boost profitability. Lekhanya (2015) points out social media and social networks are among the effective

marketing techniques currently accessible to encourage sustainable growth and future development of manufacturing SMEs.

Many small businesses do not spend enough time determining their key competitive advantages. They achieve this by competing in areas that are in conflict, such as lowest price and best service. The key points SMEs miss include: the significance of selecting the best marketing personnel; boosting sales; processing payroll; and submitting taxes; as well as offering exceptional customer service (ChatGPT). Muftuoglu (2009) bemoaned the lack of a marketing plan and financial resources dedicated to market development initiatives among Turkish SMEs. This includes initiatives such as advertising, promotion, market analysis, or sales strategies. Even though SMEs have access to the global market, their capacity to promote their products has been hampered by their incompetence. Additionally, Turkey's SMEs are not competitive in the export market, because of poor product quality, lack of standardisation, and high cost of their goods (Razak *et al.* 2018; Ali *et al.* 2020).

It has been determined company failure in SA is due to a lack of marketing abilities and awareness of the following marketing factors: analysing competition, determining product demand, bad placement of the small firm, as well as inefficient marketing of products, and lack of market knowledge. Owners of SMEs thus lack the marketing expertise needed to carry out efficient marketing. The study also revealed the SME owner is in charge of marketing in SMEs, which on the one hand, indicates a lack of a marketing concept, shared and practised by the entire company, contributes to business failure (Van Scheers 2018).

Mthabela (2015), on the other hand, names "fruitless marketing," which refers to ineffective and ignorant marketing methods, as one element that adversely affects these businesses. This is corroborated by SEDA report (2012) and Aminu (2018), who contend a main cause of manufacturing SMEs failing, is a lack of efficient marketing strategies and tools. Many, in fact, lack marketing assistance and knowledge (Malepe 2014), which the Seda Report (2012) also emphasises. Therefore, research shows innovative leadership must be proactive in putting effective marketing techniques into practice (Drucker and Paul 2008).

Van Scheers (2011) is of the opinion the company should implement marketing tactics whenever a new product is presented, to ensure they generate and maintain demand for that product. Nonetheless, Senanu and Anning-Dorson (2022) state SMEs in emerging economies do not implement efficient marketing communication strategies to improve their performance. The authors also suggested developing and putting an effective marketing communication plan into practice for SMEs in emerging economies that require a strong foundation in marketing research and intelligence gathering.

3.4.6 Marketing intermediaries' role in manufacturing SMEs

“Middle-men or go-betweens” are economic agents that facilitate the meeting and transacting of buyers and sellers. They help by moving, storing, repackaging, and putting together, as well as getting ready for use, and providing details and assurances. According to Peng et al., (2013), this definition of intermediation is expanded to include people and/or organisations that occupy a position along the value chain and work to create entrepreneurial opportunities by taking risks their prospective buyers and sellers would not be prepared or able to accept.

Companies hired by the product maker to market, sell, and distribute their goods to consumers, are known as marketing intermediaries (Anderson 2018). Due to their extensive engagement in product distribution and promotion, they have a major impact on creating consumer demand (Anderson 2018). For the implementation of marketing plans, marketing intermediates have up-to-date knowledge, the capacity to gauge the market pulse, and selling expertise (Stewart 2017). In the view of Weedmark (2019), their function includes not only making products more accessible to buyers but also optimising a manufacturer's marketing procedure and increasing consumer demand. The four different traditional intermediary types mentioned by the author are agents and brokers, wholesalers, distributors, and retailers (Weedmark 2019).

The additional contribution of marketing intermediaries includes enhancing market efficiency, along with the value of products, and disseminating information, potentially enhancing the utility of commodities and/or expanding their availability (Bessy and Chauvin 2013). Although using intermediaries may be more affordable for manufacturing SMEs than having to handle every aspect of the marketing process on their own, delivery delays are possible and can negatively impact both production and sales (Stewart 2017).

Battisti and Wilson (2012) warn businesses they should exercise caution when deciding to work with intermediaries, as there are also inexperienced intermediaries. Intermediaries lower the expenses of global operations, while offering companies access to vital resources such as market recognition and knowledge. As a result, they are frequently seen as strategic partners. SMEs can improve affective trust while reducing conflicts by introducing interaction-orientation elements into relationship management. It is also demonstrated that the effect of relational and formal governance should be balanced, because the effect of emotional and task conflicts on SME performance is mitigated by calculative trust (Efrat and Øyna 2021; Oriafio, Torres de Oliveira and Ellis 2020).

Despite being crucial in the transformation and delivery of farm products from the farmers to the market and the end customers, middlemen operations must be appropriately under control. Rural farmers are often made poorer by middlemen's acts; hence, deliberate steps must be taken to shift the narrative. Government must control the agricultural value chain and provide farmers the tools they need to improve their quality of life (Kalejaiye, Abosede and Adisa 2021).

3.4.7 Inadequate space hinders manufacturing SME ability to grow

Ahmed et al., (2011) maintain a number of dissimilar elements, such as a lack of utility services, for instance electricity, frequent variations in the cost of raw materials, high lending rates, and the cost of transportation, have a detrimental impact on manufacturing SMEs. As determined by Dube (2013), the expansion of South African manufacturing SMEs is consistently hampered by a lack of financing, high production costs, fierce import rivalry, and a lack of raw materials, as well as insufficient space for manufacture. This is further emphasised by Charman (2017) and Kanali (2018), who contend the ability of a manufacturing SMEs to grow and innovate depends on their geographic location, access to land, and business infrastructure.

Agyapong *et al.* (2018) established the development of SMEs in Ghana is influenced by several variables, including government policy, competition, inflation, and level of education, in addition to inadequate energy supply. Due to their slow transformation and lack of innovation culture to keep up with the rapidly changing business environment, manufacturing SMEs face a variety of challenges (management skills, financial access, technology adoption, competition barriers, economic and social factors, and raw

materials, to name a few) that hinder their innovation, growth, and sustainability (Ngibe and Lekhanya 2019).

Kamunge *et al.* (2014) and Hor (2021) additionally noted the insufficient provision of suitable land to manufacturing SMEs has an adverse effect on their success rate, which further hinders the growth of this industry. Nkwabi and Mboya (2019) add SME growth in Tanzania is hampered by several obstacles, including inadequate funding, difficult access to markets, a lack of entrepreneurial experience, and bureaucracy. The motivation of the business owners, information access restrictions, a lack of human competencies, and insufficient raw materials were all considered when measuring factors, such as a lack of business training, capital restrictions, a lack of finance, and poor infrastructure, as well as a lack of collateral, poor production, poor technologies, and tight regulations, along with corruption, and poor market accessibility.

Doern and Goss (2012) pointed out expanding a location also has drawbacks, including health and safety inspections that result in more onerous and expensive demands from state departments.

In Kenya, lack of expansion of space has been shown to influence nearly two-thirds of business growth and economic development needs (Ngunjiri 2017). Therefore, the lack of space is a global problem for SMEs that necessitates immediate South African government intervention.

3.4.8 The importance of business networking for manufacturing SMEs

Technology-based small and micro firms will profit greatly from business networking, and rural small businesses with effective stakeholder networking will have a favourable impact on the entrepreneurial behaviour of the entrepreneurs (Mohamad and Chin 2019). In addition, business networking is one of the most important factors that can foster creativity inside small organisations. Networking is any ongoing relationship that benefits both parties between a business and an individual (Hallen and Johanson 2004). Networks are described by Ludmila and Stanisava (2015) and Gibbs *et al.* (2018), as strategic ways developed for spreading new ideas that foster innovation and growth. Lin and Lin (2016) reiterated that to increase their performance, SMEs collaborate with partners and rely heavily on other entities, as network connections offer a way around non-tradable

resources, particularly where reputation resources are concerned. Lack of resources, experience, and credibility may, as a result, be overcome by network linkages. SME owners unfamiliar with overseas markets must constantly decide which markets to enter. As further explained by Lin and Lin (2016), a network is a crucial tool for SMEs to use to overcome resource and capability gaps and increase their chances of success. The reduction of transaction costs, increased market power, shared risks, and improved access to vital resources such as cash and knowledge, are only a few networking advantages.

Cisi *et al.* (2016) confirm the value of networking in increasing the export potential of small and medium-sized Italian businesses. Exporting remains a technique primarily used by larger SMEs, although networking represents a viable method for boosting the export capacity of small businesses. Kero *et al.* (2017), further point out formal sub-unit structures, known as direct and indirect networking ties, are institutionalised by larger firms due to their greater capacity and resources, whereas small businesses must constantly be on the lookout for windows of opportunity due to their more constrained resources (Gunawan 2015).

For manufacturing SMEs, networking is thought to have a significant positive impact on growth and innovation (Oberg 2018). Behncke (2015) provided evidence that networks and networking allow access to complementary knowledge, which strengthens intangible knowledge, grants access, and supports initiatives for innovation. Garg and Kumar De (2014) add networking may also enable manufacturing SMEs to access the resources of other organisations. Business networks are helpful in establishing solid relationships with clients and suppliers, which Ludmila and Stanisava (2015) explain help to create competitive advantage. Furthermore, Farace and Mazzotta (2015) state networks increase a company's capacity to seize opportunities and integrate knowledge utilisation to take advantage of these, including the exchange of resources (Hallen and Johanson 2004). SMES are struggling to survive due to their inadequate resources, however, the promotion of networking strategies with other firms could be a smart place for SMEs to start looking to grow and become more competitive (Turyakira and Mbidde 2015).

It is emphasised by Sefiani *et al.* (2018) that leveraging “wasta”, an Arabic word, through politico-business networks is significant, because it allows access to current information,

which is essential for the development of SMEs. Wasta is the Arabic term for connections and was also raised in reference to sources of funding and vendors. Findings further showed businesses can obtain financial resources in the form of trade credits by maintaining excellent ties with their suppliers. Also uncovered was the connection between wasta and human resources. Findings indicated that owner-managers hire their workers by using their network connections through wasta.

A challenge nevertheless faces manufacturing SMEs in using these networks in a profitable manner (Širec and Bradač 2009), as they often lack effective knowledge management structures needed to filter, process and use the knowledge gained for production and innovation (Boly *et al.* 2014). Overall, however, a poor business network system can limit the inventiveness of manufacturing SMEs.

3.4.9 Supplier participation in manufacturing SME growth and performance

Organisations of all sizes have tremendous development potential in the worldwide economy. However, it has become difficult for SMEs of developing nations to compete in this global market due to a variety of resource constraints. Nonetheless, successful SCM has been verified as a potential key aspect in the success of Indian SMEs in the fast-paced global market (Singh and Kumar 2020). Today, manufacturing SMEs work in a complicated and uncertain market with shifting consumer tastes and rapidly evolving technology (Rodriguez-Ferradas and Alfaro-Tanco 2016). Suppliers are, therefore, important external partners, as Bothof and van Weele (2018) explain, since they are obviously necessary for new product development and process innovation.

Considering the specialised knowledge and resources of suppliers, Reiss (2010) viewed the incorporation of suppliers in company networks as a useful strategy. Additionally, Raassens, Wuyts and Geyskens (2012) found the inclusion of suppliers enables the growth of production networks and an opening up to fresh inventive concepts. The advantages of supplier involvement are highlighted by Sayed and Sunika (2016) to also include price negotiation, clearer product specifications, and improved delivery networks.

Okinwale (2018) asserted manufacturing SMEs should consider partnerships with well-known suppliers, particularly since they do not, independently, possess all the capabilities required for effective innovation. Adelowo, Akinwale and Olaopa (2017) state a company

that does not innovate within its market sector will eventually be destroyed; however, cooperation helps businesses match customer demands, boost product quality, and maintain a competitive edge. A solid working relationship between the buyer and the supplier is crucial for business expansion (Mafini and Louri-Okoumba 2016).

Yang *et al.* (2020) stated when suppliers engage in CSR-related activities, it can help consumers build trust in the suppliers and facilitate knowledge sharing and IS between them, by generating moral capital. Suppliers also practice CSR, and are increasingly eager to execute proactive initiatives to assist customers in resolving issues relating to raw materials and suggest innovation-oriented solutions. Additionally, when suppliers embrace CSR-related practices, they consider the interests of customers in their decision-making and business development, which benefit not only the performance of the internal firm but also that of the customers, or external partners.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

The previous chapter reviewed and evaluated literature on the factors influencing the growth, sustainability and performance of manufacturing SMEs. The purpose of this chapter is to offer a general overview of the methods and procedures employed to carry out this study. According to Ghauri and Gronhaug (2010, cited in Saunders *et al.* 2019) and Sekaran and Bougie (2016), research is a systematic process of inquiry and investigation aimed at acquiring new knowledge, understanding, and insights regarding a particular topic or question. It involves the careful and methodical examination of existing information, data, and resources to generate new information or to validate and refine existing knowledge. The chapter will, therefore, include a discussion of the research design, research method, population, and data collection instruments, as well as validity and reliability, and ethical considerations the researcher can use to find data more precisely and boost the study's credibility.

4.2 RESEARCH DESIGN

According to Sekaran and Bougie (2016), research design is a strategy or method for gathering, measuring, and analysing data developed to address study questions. A research design, as explained by Creswell and Creswell (2023: 13), offers a framework or blueprint for carrying out the research project by outlining the steps required to gather the data needed to address the study topic. In addition, the authors highlight three main study approaches: quantitative, qualitative and mixed-methods. Quantitative approaches work by creating generalisable theories and testable hypotheses (Creswell and Creswell 2023).

Since it is simpler to generalize the results, quantitative approaches can be used in conjunction with statistical methods to analyse data. Utilizing a quantitative approach also has the benefit of producing final outcomes based on numbers rather than interpretations, which could make comparisons and future improvement easier. However, the quantitative

method is criticized for being artificial, rigid, and useless at predicting human behaviour. It is also said to be unhelpful in the development of theories (Saunders et al. 2019).

The quantitative method will enable the researcher to measure the magnitude of the problem pertaining to what SCM knowledge, practices and needs are, as well as the access barriers that affect utilisation of best practice methods, including assistance offered from various quarters. It will allow for the collection of large data for analysis, thereby fulfilling the research objectives. A questionnaire will be used to collect the data using relevant staff of selected SMEs and other persons within the upward and downward linkages of their value chain/value system as respondents. This approach will also assist in triangulation and help authenticate the findings.

A quantitative method was used for this study's purposes, with owners, managers, and any other pertinent employees of manufacturing SMEs serving as the population. All the participants were from Ghana's southern regions, with liquid soap production, carpentry and joinery, block production, and metal works and fabrications, as well as tailoring and dressmaking, Kente weaving and textile production, leather works, and footwear, among the manufacturing businesses that took part in the study. The most practicable method for determining the size of this research study was non-probability sampling. The data gathering tool consisted of a comprehensive structured questionnaire. With the help of SPSS version 27.0, data analysis was coded and examined.

4.3 RESEARCH METHOD

According to Creswell and Creswell (2023), there are three main approaches used in social research to find answers to research questions, namely quantitative, qualitative and mixed approaches. The high sample size of 370 manufacturing SMEs in southern Ghana, regarded as important for establishing meaningful conclusions.

According to Creswell & Creswell (2023), the quantitative technique is effective because it generates testable hypotheses and broadly applicable ideas. Since the quantitative method is predicated on data that can be quantified, the survey's goal is to provide guidance on the best course of action. Standardized research instruments, surveys, questionnaires, and personality tests are often employed data gathering procedures in quantitative research approaches (Creswell and Clark, 2017).

Due to its inability to assess links between the specific study variables and provide statistical tests that establish study hypotheses, the adoption of a different approach, such as a quantitative research method, would have been appropriate for this study. Furthermore, it would not have been possible to use a different strategy with the same study sample size in mind. Creswell *et al.* (2003) recommended using a quantitative method offers the researcher the benefits to scrutinise results, triangulate to produce the same result, expand a set of results, or discover data potentially missed by using only one design, as well as identify additional research opportunities.

4.4 RESEARCH PHILOSOPHY

The study adopted pragmatism paradigm which is anchored on the objectives and questions of the study. As a research philosophy, pragmatism places an emphasis on useful results and applications in the real world. It is predicated on the notion that a theory or belief's veracity is assessed by how well it handles issues and produces useful outcomes. Regardless of whether their approaches are qualitative, quantitative, or a combination of the two, pragmatics keep their attention on the research issue and employ the techniques that are most likely to yield insightful results (Sekaran and Bougie 2016). Pragmatists value reality because it has practical implications. Ideas and knowledge are important because they make it possible to carry out activities successfully. Pragmatists' research may vary greatly in its final 'objectivist' or 'subjectivist' stance since they are more concerned with practical results than theoretical distinctions (Saunders et al., 2019). The study examined the relationship among two variables (SCM practices and SME performance) which requires quantification and objectiveness of the responses.

4.5 POPULATION

Population is the full set of cases from which the sample of the study is taken (Sanders *et al.* 2009; Sekaran and Bougie 2016: 236). It comprises all the objects to be studied from which a sample is studied to represent all the objects. The term "population" is used to describe the entire group of individuals or elements the researchers are interested in studying or from which to draw conclusions (Creswell and Creswell 2023: 162). The study examined manufacturing SMEs in southern Ghana, with an estimated population of more than 5 000 SMEs. The targeted population is made up of all registered manufacturing SMEs in selected regions of southern Ghana. The study targeted 370 respondents.

A target population is described by Krieger (2012: 636) as “dynamic individuals made up of intrinsic relationships that exist nearby and permit meaningful, casual inference.” The study will be done in metropolitan, municipal and district capitals of the selected regions of Ghana. This population will enhance the work by the researcher, since the population possesses information of importance to the study. The population for the study encompasses all manufacturing SMEs in Ghana, with the target population comprising liquid soap producers, carpenters and joiners, block production, metal works and fabrications, as well as tailoring and dressmaking, Kente weaving and textile production, leather works, and footwear firms in the southern regions of Ghana. The southern sector was selected because it is Ghana's industrial hub for SMEs, has a high population density, and is where the main players in the country's economic development are concentrated. The southern sector of the country is highly populated with SMEs and holds a high percentage of SMEs.

As stated by Privitera (2016: 31) and Babbie (2014 202), the identification of the population is crucial to a research study, because it enables researchers to intensively study any social phenomenon of interest and considered a problem or challenge for that population. This is achieved by identifying an appropriate sample of this population, in the hopes of discovering solutions ideal for generalisation to the entire population (Jha 2014: 183).

4.6 SAMPLING

According to Sekaran and Bougie (2016), sampling starts with a detailed definition of the target population's composition, borders, and timing. Sampling, is explained by Sekaran and Bougie (2016: 239) as the process of choosing a sufficient number of the appropriate elements from the population, allowing certain traits or features to be generalised to the population's elements, after studying the sample and comprehending its characteristics. In order to accurately appraise the broader group, it is necessary to choose a portion of the assigned population to represent the complete population (Sharma 2014: 208) and to rely on the data and information obtained from this small group of elements (Cargan 2007: 236).

There are two main types of sampling design, namely: probability and non-probability sampling (Sekaran and Bougie 2016: 240). In probability sampling, the population's

constituent parts have a known, non-zero chance of being chosen as sample subjects. The chances of the elements being chosen as subjects are unknown or predetermined in non-probability sampling. When the sample's representativeness is crucial for broader generalisability, probability sampling designs are employed. Non-probability sampling is typically utilised when time or other factors, rather than generalisability, become crucial (Sekaran and Bougie 2016: 240).

A non-probability, purposeful, convenience sampling strategy was used for this investigation, in light of the background information. This procedure guaranteed some level of population strata representation. Using convenience sampling, the researcher was able to find managers and owners of manufacturing SMEs in Ghana's southern regions who were available, reachable, and eager to respond to the questionnaire. The researcher started by determining the characteristics of the population, including the number of registered manufacturing SMEs by region, the firms' employee count, length of operation, turnover/income, and ownership. Non-probability sampling strategies vary in their level of dependability, and some may provide crucial clues to potentially usable population data (Sekaran and Bougie 2016: 247). It must be acknowledged, non-probability sampling would have been ideal for this study, because some manufacturing SMEs are not legally registered or their operating permits have expired, and others simply were not interested in taking part in the study, therefore, they do not show up on the list of registered manufacturing SMEs.

Respondent recruitment was done through systematic random sampling, to ensure representativeness. However, key informants were recruited through purposive sampling, because they provided crucial services and their specific roles served as relevant criteria for inclusion. For definite populations such as the number of staff employed by manufacturing SMEs, the Yamane (1967) sample size procedure was used. While systematic sampling will offer a fair representation of the population when undertaking the quantitative study, and purposive sampling will help in recruiting the key informants.

Table 4.1: Sample Size Distribution

Serial Number	Region	Estimated Number Respondents		Sample Size
1.	Ashanti Region	75	$n = \frac{N}{1+N(e)^2}$	74

2.	Ahafo Region	30	$n = \frac{N}{1+N(e)^2}$	30
3.	Western North Region	30	$n = \frac{N}{1+N(e)^2}$	28
4.	Western Region	40	$n = \frac{N}{1+N(e)^2}$	40
5.	Central Region	30	$n = \frac{N}{1+N(e)^2}$	30
6.	Greater Accra Region	95	$n = \frac{N}{1+N(e)^2}$	93
7.	Eastern Region	40	$n = \frac{N}{1+N(e)^2}$	38
8.	Volta Region	30	$n = \frac{N}{1+N(e)^2}$	30
	Total	370		363

4.6.1 Inclusion Criteria

The inclusive criteria comprise all manufacturing SMEs operating for at least five years, registered with at least one government agency and may have benefitted from at least one intervention programme from either community service organizations (CSOs)/NGOs or government agencies. Key informants were contacted, namely staff of manufacturing firms and government agencies, must have worked for a cumulative five years in the manufacturing sector and held a position that requires managing a desk that corresponds regularly with manufacturing SMEs.

4.6.2 Exclusion Criteria

Persons and institutions that declined participation were excluded. Furthermore, persons and institutions that refused to disclose relevant data on their supply chain networks were also excluded.

4.7 DATA COLLECTION INSTRUMENTS

A questionnaire is a prewritten list of questions that respondents fill out and record their responses to, typically within a narrow range of options (Sekaran and Bougie 2016; Saunders *et al.* 2019). The importance of good instrumentation and clearly defined data collection procedures should not be understated, according to Blessing and Chakrabarti (2008), and should be carefully tested to ensure their applicability under the conditions provided by the context in which the method is to be used.

There are primarily two different kinds of data collection tools: questionnaires and interviews (Sekaran and Bougie 2016). In order to gather information from the participants for the objective of this study and in accordance with the research approach, a questionnaire was chosen. Interviews and observation are typically more expensive and time-consuming than questionnaires, but they also carry a significantly higher risk of non-response and non-response inaccuracy (Sekaran and Bougie 2016).

4.7.1 Questionnaire

In general, questionnaires are made to gather much quantitative data. They might be sent to the responders via mail, email, or be personally administered. In general, questionnaires take less time and money to complete. Sekaran and Bougie (2016: 142) describe a questionnaire as “a self-completion survey instrument intended to collect data on social phenomena within the population of interest.” According to Rose and Grosvenor (2013: 129), the type of questionnaire the researcher would use typically depends on the nature of the research question, the identified data needed to answer the question, and the resources available. Saunders *et al.* (2019: 533) advise researchers to spend time thinking on the sequence and flow of questions when creating a questionnaire. Rather than following the order in the researcher’s data need table, the questions should make sense to the respondent.

According to Quelhas *et al.* (2011: 02), creating a questionnaire is a challenging activity, rather than an easy one. This is because questionnaires must explicitly address the study aims, objectives, and research questions. Data collection relies heavily on questionnaires (Brace 2008: 1). When properly constructed, they can produce a high response rate and address a wide range of themes and questions of interest pertaining to the study's aims (Saunders *et al.* 2019: 505). As stated by Wilson (2013), failure to address these problems thoroughly can have a detrimental effect on how study participants respond to the questionnaire, which can have a further major impact on the validity of the results. Therefore, it is crucial for researchers to understand exactly what questions to ask, how to ask them, and how to evaluate their significance for the study (Brace 2018: 06).

Personal distribution of the questionnaires is an excellent approach to gather data when the survey is limited to a small geographic area. The key benefit of this is that it allows the researcher or a member of the research team to quickly gather all the completed

responses. Any ambiguities that the respondents might have can be cleared up right away. The researcher can also explain the subject of the study and encourage participants to be open and honest in their responses (Sekaran and Bougie 2016: 143).

As a result, questionnaires were utilized in accordance with the chosen research methodology and also for their inherent capacity to generate large sample numbers that can produce replies that are typically simple to tabulate while the data is simple to analyse (Patten, 2017). For this study, a questionnaire was used because it gave the researcher access to a large sample and because it is easier to reduce bias with questionnaires than it is with interviews (Gratton and Jones, 2010: 128).

4.7.2 Design of the questionnaire

Many factors need to be taken into account while designing a questionnaire (McBurney and White, 2010: 246). In order for the questionnaire to collect the most accurate data to fulfil the study objectives, these factors must be taken into account and should be in line with the investigation (Brace 2008: 1; Brace 2018: 13). Therefore, it is the duty of the researcher to guarantee the questionnaire is well-designed, to allow respondents to carry out their tasks appropriately (Azzara 2010: 18).

A Likert scale (five-point related alternatives) questionnaire design is challenging, according to Azzara (2010: 19), because the instrument design must be effective on a number of levels (for example, content, flow, question structures, and language, as well as logic, and instructions). However, as previously stated, the data collection tool most suitable for this study was chosen to be the questionnaire format (Appendix 1).

A survey of the pertinent literature, with a focus on the innovation, leadership, and sustainability of manufacturing SMEs, allowed for the creation of the questionnaire. It was developed to enable compiling relevant, important aspects, proven to impact SCM and its capacity to uphold sustainable SME growth and performance.

The questionnaire was divided into Sections A, B and C. Section A sought demographical information and was designed to understand the nature of the population and make statistical inferences that could help the researcher to understand and answer the study objectives. Sections B and C focused in-depth on the study variables and questions were both open- and closed-ended in nature. These sections were created in line with the aims

and objectives, research questions and reviewed literature underpinning the study, presented in the form of a 5-point Likert scale. The sample of the questionnaire is provided (Appendix 1).

4.8 DISSEMINATION OF THE QUESTIONNAIRE

Sekaran and Bougie (2016) contend handing out questionnaires to intended recipients is the most effective method of administration. All participants freely volunteered to complete the questionnaire, and the researcher offered support to those who needed it when they ran into problems or had queries, demonstrating the effectiveness and efficiency of this approach. It should be emphasised this approach is quite time-consuming for the researcher and some participants took a long time to complete the questionnaire, necessitating repeated visits and reminders before input was eventually obtained. The initial time period allotted for questionnaire distribution was two months, however, it became clear this time limit was inadequate; it was increased to four months. Therefore, due to participant resistance and responder unavailability because of busy work schedules, the deadline was extended.

4.9 PILOT TESTING OF THE QUESTIONNAIRE

Prior to the primary study, a pilot study is carried out to assess the feasibility of collecting the necessary data from the participants using the research instruments (Dhawan 2010; Saunders *et al.* 2019: 540). Pilot studies often offer significant new information concerning the issue under investigation and can help to reframe the issue or sharpen the research questions (Saunders *et al.* 2019). The researcher tested the research instrument in the exact circumstances used to administer it formally (Cargan 2007). The length of time required to complete the instrument, issues with inter-rater reliability, the impact of environmental factors, and any ongoing issues respondents may have with item wording and format can all be observed during pilot testing (Colton and Covert 2007: 55).

Pilot testing is essential, in order to improve or change the questions, structure, and instructions, as well as to determine whether the instrument is appropriate for the study (Creswell and Creswell 2023: 166). For the pilot study, 20 leaders (owners and managers) from the Sekondi-Takoradi manufacturing enclave were chosen. In Sekondi-Takoradi, these firms were selected at random and visited based on quota criteria. Prior to gathering the major primary data, the instrument's quality was improved, with the questionnaire as

updated as a result of feedback from the pilot study, which offered informative and helpful ideas.

The pilot study was supposed to last for 10 days, but because the respondents were unavailable as a result of their work schedules and obligations, the process took almost one month. It should be emphasised the 20 individuals who took part in the pilot study were not among the 370 individuals that participated in the main study.

4.10 DATA ANALYSIS

Mixed methods analysis is a research approach that involves combining both qualitative and quantitative research methods within a single study. This approach aims to provide a more comprehensive understanding of a research question or topic by integrating the strengths of both qualitative and quantitative methodologies. Statistical methods, frequently used in the study of quantitative and qualitative data, involve gathering, categorising, tabulating, and summarising numerical data to derive some meaning or information (Sekaran and Bougie 2016; Saunders *et al.* 2019). Chi-square tests were used to determine variable independence, in order to gauge the degree of data frequency (Terre Blanche, Durhheim and Painter 2006).

4.10.1 Frequency analysis

Frequency analysis was performed in this study to evaluate the coding of the data and to count the number of times each respondent mentioned a specific statement (Saunders *et al.* 2019; Ho 2013). Frequency analysis also helped in showing the overall study results by making it evident how many cases fell into each of the response categories specified in the research questionnaire (Brown *et al.* 2018).

4.10.2 Descriptive analysis

This kind of analysis explains the characteristics of the unit or element being studied. In this analysis, several criteria such as size, composition, efficiency, and preferences were used to create profiles of organizations, work groups, people, and other subjects (Krishnaswami and Satyaprasad 2010; Sekaran and Bougie 2016). There were two main uses of descriptive statistics in this study, initially used to summarise the data set. In addition, they were applied to numerically describe phenomena, sample units, and other important factors (Saunders *et al.* 2019).

4.10.3 Inferential statistics and Chi-square test

Inferential statistics is a test that assist in identifying correlations between variables and drawing inferences from them (Sekaran and Bougie 2016). A Chi-Square test is used in research, to determine whether there is a statistically significant correlation between two variables in one or more categories (Sekaran and Bougie 2016; Clark and Foster 2014). The researcher tested the correlations between the study variables, as well as the goodness of fit, using the Chi-Square test (Saunders *et al.* 2019). The goals of the study served as guidance for the factors investigated. The Chi-Square test was carried out since it was much simpler to identify different correlations between the examined variables, because the sample data consisted of numerical scores.

4.10.4 Correlations

The assessment of relationship between or among variables is referred to as correlation statistical analysis (Saunders *et al.* 2019: 615). According to Sekaran and Bougie (2016), correlation tests enable researchers to identify the interacting variables and the nature of those interactions. Correlations were used in this study's determination of the identification of key factor influences on SCMPs for the sustainability, growth, and performance of manufacturing SMEs in Ghana.

4.11 RELIABILITY

Reliability and validity are the two most important critical elements used to judge the calibre of research. Reliability refers to the quality of a measuring instrument that would cause it to report the same value in successive observations of a given case (Efron and Ravid 2013: 73; Sekaran and Bougie 2016). Reliability is characterised by precision and objectivity, with the purpose of reliability testing to ensure the instruments in question are robust and not sensitive to changes of the researcher, the respondents or the research condition (Sarantakos 2013: 104; Creswell and Creswell 2023).

The participants in the tests, the environment in which they are administered, and the test items or tasks employed, all have a significant impact on the reliability estimations. In other words, a reliability estimate is dependent, among other aspects, on the mean and standard deviation of the test takers' scores, the quantity and complexity of the test items or tasks, and the test items or tasks' discrimination functions (Phakiti 2014). It was crucial to conduct a reliability test for this study, in order to provide the researcher confidence,

the measurement used was reasonably near to the genuine measurement (Goodwin 2010: 134). Reliability is one of the fundamental features of high-quality research, according to Saunders *et al.* (2019), however, while necessary, it does not guarantee high-quality research on its own. Research quality is influenced by its reliability, as well as its validity.

4.12 VALIDITY

According to Sekaran and Bougie (2016), validity is the extent to which a measure accurately reflects what it is intended to measure, with Saunders *et al.* (2019) in agreement. According to Keelson and Johnson (2018), study validity depends on the capacity to provide answers to the problems the study was intended to address. Because validity indicates whether a measure is measuring what it is intended to measure and not something else, it is crucial (Goodwin 2010: 134; Creswell and Creswell 2023: 164). Pilot testing is essential for determining whether the instrument is appropriate for the study, establishing the consistency of the items, and for enhancing or changing the questions, structure, and instructions (Creswell and Creswell 2023: 166). To ensure the questions were clear and easy to understand, as well as to reduce the risk of issues with data collection and recording, the questionnaires underwent pilot testing before being distributed to participants (Saunders *et al.* 2019: 540).

In order to accurately reflect the variables influencing SCMPs and the sustainability, growth, and performance of manufacturing SMEs, the questions were developed based on data acquired throughout the literature review. The survey was also submitted to a qualified editor who checked it for typographical errors and misspelled words and phrases. The instrument's validity was enhanced in this way. Validity is important in research since it makes sure that the conclusions reached are reliable and relevant.

4.13 ETHICAL CONSIDERATIONS

A rule of conduct or anticipated societal norms of behaviour when conducting research are referred to as ethics in business research. Ethics apply to all parties involved in conducting research, including the organization and its members, the researchers themselves, and the respondents who supply the data they need (Saunders *et al.*, 2019:55; Sekaran and Bougie 2016:159). According to Drew *et al.*, (2008: 69) and Alderson and Marrow (2011: 3), ethical consideration also involves valuing and protecting

study participants throughout each project, in part by adhering to predetermined criteria. Ethical considerations in research are always evolving and changing and it is very important that researchers keep up-to-date with the latest thinking about ethics and researchers need to anticipate ethical issues and devise strategies for addressing them (Hesse-Biber and Leavy, 2011 as cited by Creswell and Creswell, 2023:93).

Since ethical concerns are an intrinsic and significant element of the design stage of all research involving human participants, it is crucial that research proposals be reviewed by ethics committees (Bless et al., 2007: 146: Saunders et al., 2019: 55). Most importantly, ethical considerations in research support responsibility, mutual respect, and fairness by fostering trust between the researcher and the participants (Creswell & Creswell, 2023: 220: Sekaran and Bougie, 2016:13).

Informed agreement was gained from the respondents when participants in the study were made aware of the nature of the research (Saunders et al., 2019: 537-266). The questionnaires (Appendix 1) and an informational letter (Appendix 2) were distributed to the respondents. This letter described the study's objectives in detail, as well as any dangers and advantages of participating in the study. The letter of information and the consent form confirmed the ethical compliance standards set by the DUT Faculty of Management Sciences Research (FMS) Ethics Committee which reviewed the study. The study was approved under ethical category 2 (needed minimal compliance with research ethics). This Ethics Committee made sure that participants were equally safeguarded and that they were fully aware of the nature of their participation (Saunders et al., 2019: 55).

4.13.1 Anonymity and confidentiality

The participants were guaranteed their anonymity, confidentiality, and protection of their rights and welfare in the letter of information and consent (Appendix 2). The identities of the participants are withheld to ensure anonymity in a study, as indicated by Saunders et al. (2019: 249). Thus, everyone who took part was anonymous. Participants were given assurances that allowed them to participate freely and openly share their opinions and knowledge about the factors influencing the development and performance of manufacturing SMEs. The letter of information and consent are pivotal tools in conducting ethical and responsible research. They ensure that participants are well-informed, voluntarily participate, and understand their rights, while also providing legal and ethical

protection to researchers. Properly executed informed consent processes enhance the credibility and integrity of the research exercise.

CHAPTER FIVE

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

5.1 INTRODUCTION

This chapter examines data gathered from the field to present a thorough analytical report of the collected data. The information gathered was in accordance with the study goals. The chapter discusses the findings from the questionnaire and displays the results obtained from 363 individuals who completed the questionnaire. The questionnaire served as the main instrument for gathering data. The data analysis was guided by the research questions and research framework. SPSS version 27.0 was used for the analysis of the information gathered in the field. The findings will be displayed using graphs, cross tabulations, and other figures that illustrate the quantitative data gathered, in the form of descriptive statistics. Correlations and Chi-square test results, interpreted using p-values, are two examples of inferential approaches employed.

5.2 THE SAMPLE

A 98 percent response rate was obtained from 370 questionnaires distributed, with 363 returned. Due to the high response rate, a precise representation of the population was acquired, enabling the use of conclusive generalisations.

5.3 THE RESEARCH INSTRUMENT

The study tool had 41 items, each of which could be measured on a nominal or ordinal scale. The survey consisted of three sections and seven questions measuring different topics, as shown below:

1-11 Biographical data

12-20 Factors influencing SCMPs

21-25 Characteristics of manufacturing SMEs

26-30 Relationship between government support and manufacturing SMEs

31-33 Government policies and programmes on manufacturing SMEs

34-36 Existing SCM model for manufacturing SMEs

37-38 Effect of Covid-19 pandemic on manufacturing SMEs

39-41 Challenges of SCMPs on manufacturing SMEs

Mostly closed-ended and a few open-ended items were included in the questionnaire, which used a 5-point Likert Scale format. Respondents were required to choose their responses based on predetermined statements and also make open declarations in order to determine their experience and knowledge of SCMP they deemed significant in the performance of manufacturing SMEs. Cross-tabulations were used to examine the correlation between the study variables. A reliability test based on the different questionnaire parts was also carried out.

5.4 RELIABILITY STATISTICS

Table 5.1: Reliability Scores

	No. of Items	Cronbach's Alpha
Factors influencing supply chain management practices on manufacturing SMEs in Ghana	9	0.753
Characteristics of manufacturing SMEs	5	0.839
Relationship between government support and manufacturing SMEs in Ghana	5	0.716
Government policies and programmes on manufacturing SMEs in Ghana	3	0.982
Challenges of supply chain management practices on manufacturing SMEs in Ghana	2	0.903

A reliability analysis was conducted on all categories of statements in the questionnaire. Questions within the questionnaire were sub-divided into themes in accordance to the objectives of the research. The reliability statistics revealed (Table 5.1) all categories of statements exceeded the recommended Cronbach's Alpha value of 0.7. This suggests test items used for scoring are reliable and consistent.

Table 5.2: KMO and Bartlett's Test

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Bartlett's Test of Sphericity		
		Approx. Chi-Square	df	Sig.
Factors influencing supply chain management practices on manufacturing SMEs in Ghana	0.636	1422.282	36	0.000
Characteristics of manufacturing SMEs	0.587	418.565	10	0.000
Relationship between government support and manufacturing SMEs in Ghana	0.671	464.941	10	0.000
Government policies and programmes on manufacturing SMEs in Ghana	.606	1135.496	3	0.000
Challenges of supply chain management practices on manufacturing SMEs in Ghana	.639	407.494	1	0.001

5.5 FACTOR ANALYSIS

EFA is a statistical method used to identify underlying latent variables (factors) in the social sciences. In other words, EFA stands out as a scale development strategy. It is employed in situations where it is unknown how many factors exist between the scale's elements and which factors are influenced by which items (Orcan 2018). Factor analysis is used for scientific purposes, and its goal is to accurately and succinctly characterize the relationships between the variables to help with conceptualization (Gorsuch 2013). It is a popular technique in fields such as social sciences, psychology, marketing, and finance. The aim of factor analysis is to reduce the complexity of a data set by identifying a smaller number of latent factors that capture the essential information contained in the original variables. In other words, the variable's factor loading quantifies to what extent the variable is related to a given factor (Bandalos and Finney 2018). Factor analysis involves extracting and rotating factors to simplify data and facilitate interpretation, therefore, which aids in comprehending the latent structure of the data and has various applications in research and data analysis (ChatGPT, 2023).

In order to use Principal Component Analysis (PCA) or factor analysis for a study, the data must pass a set of criteria with the Kaiser Meyer Olkin (KMO) Measure of Sampling Adequacy and the Bartlett's Test of Sphericity. From Table 5.2 it can be observed all

categories of questions acquired a KMO value above 0.5 and a Bartlett's Test of Significance value less than an alpha value of 0.05.

5.6 SECTION A: SOCIO-DEMOGRAPHIC DATA

As submitted above, the questionnaire was sub-divided into three sections, these are: the general information of respondents (Section A), SCMP and performance of manufacturing SMEs in Ghana (Section B) and the challenges of SCMP on manufacturing SMEs. In this section, the demographic characteristics of respondents that participated in the study were analysed and presented in frequency tables, charts, and graphs.

5.6.1 Gender

Table 5.3: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	257	70.8	70.8	70.8
	Female	106	29.2	29.2	100.0
	Total	363	100.0	100.0	

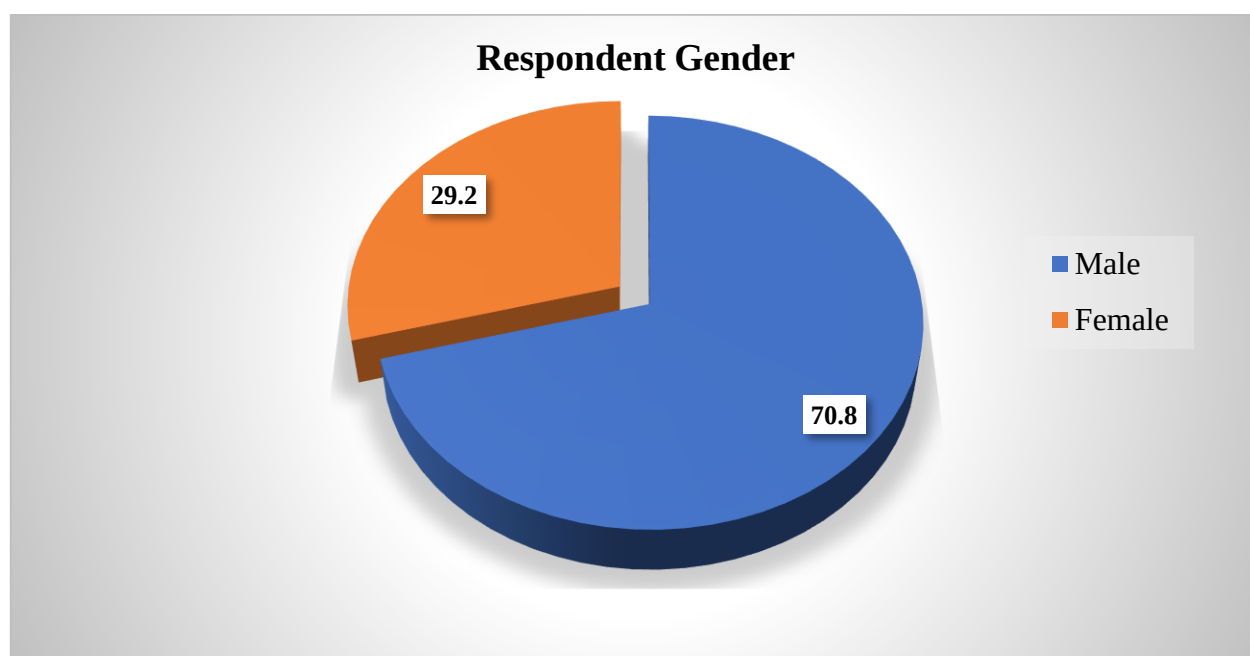


Figure 5.1: Gender of respondents

Table 5.3 and Figure 5.1 show the gender distribution of respondents that participated in the study. It was observed the majority respondents (257 or 70.8 percent) are male, while the corresponding 106 (29.2 percent) are female. This clearly reveals more male than female respondents.

5.6.2 Age group

Table 5.4: Age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19 - 29	33	9.1	9.1	9.1
	30 - 39	55	15.2	15.2	24.2
	40 - 49	146	40.2	40.2	64.5
	50 - 59	96	26.4	26.4	90.9
	60 - 69	33	9.1	9.1	100.0
	Total	363	100.0	100.0	

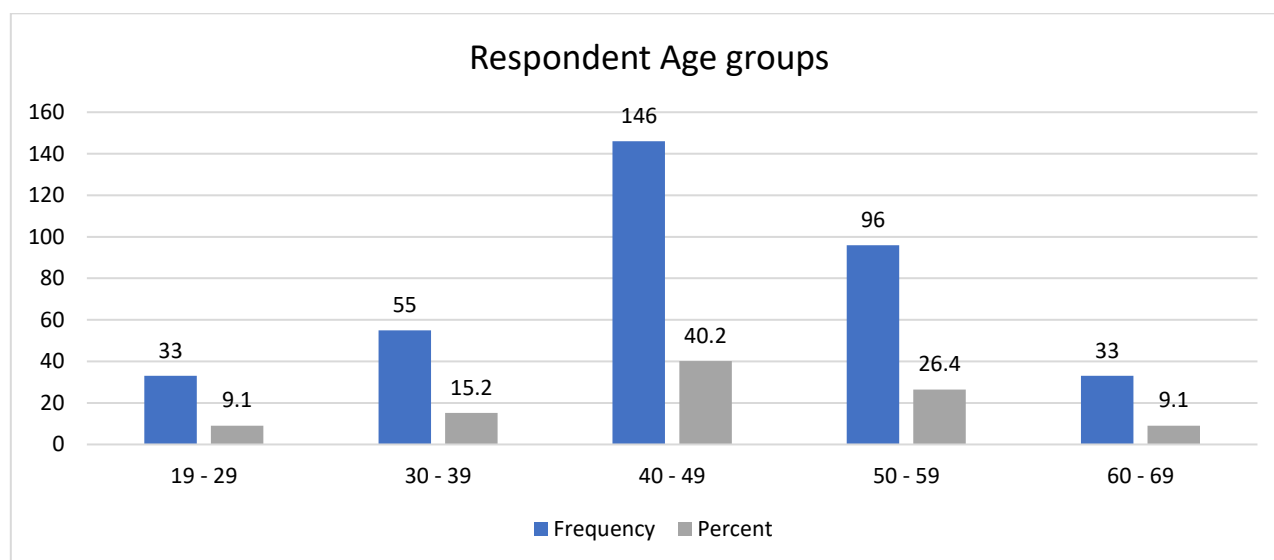


Figure 5.2: Age groups of respondents

Table 5.4 and Figure 5.2 show the respective ages of respondents that participated in the study. It was observed the majority respondents (146 or 40.2 percent) were between the

ages of 40-49, while 96 (26.4 percent) respondents were between 50-59 years of age. A further 55 (15.2percent) respondents were between the ages of 30-39, while 33, representing 9.1 percent, were aged between 19-29 and 60-69 years, respectively.

5.6.3 Highest Qualification

Table 5.5: Highest Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Basic Education	7	1.9	1.9	1.9
	Junior High School	40	11.0	11.0	12.9
	Secondary/Technical/Vocational	210	57.9	57.9	70.8
	University/Polytechnic	106	29.2	29.2	100.0
	Total	363	100.0	100.0	

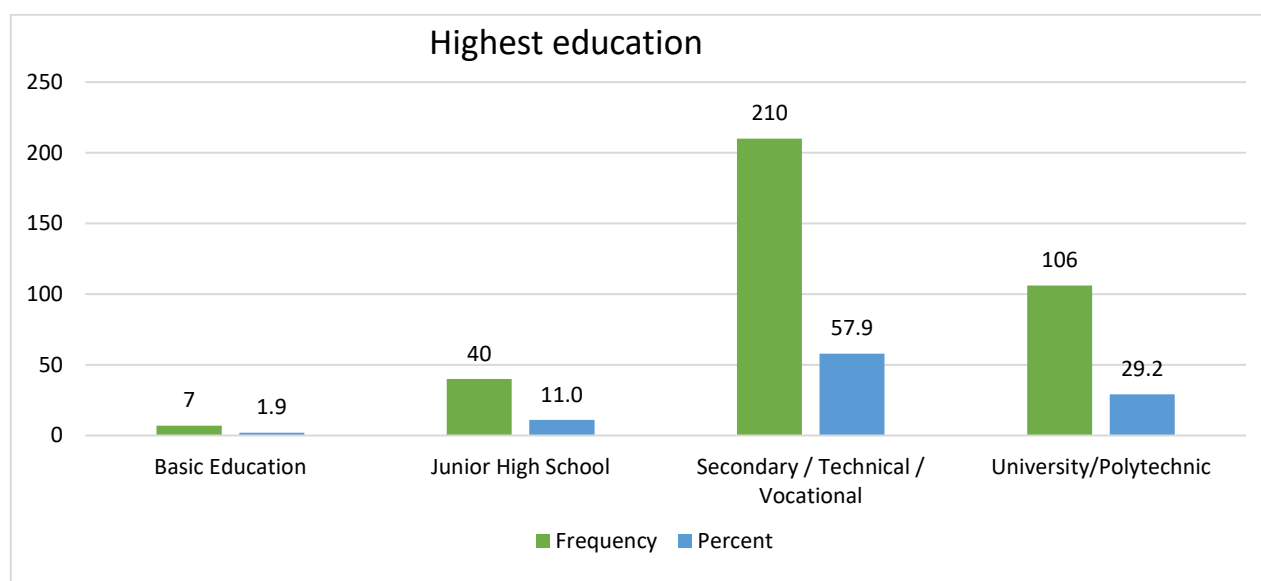


Figure 5.3: Highest education of respondents

In Table 5.5 and figure 5.3, a breakdown of the educational background of respondents shows an overwhelming majority (210 or 57.9 percent) respondents achieved secondary/Technical or Vocational education, whereas 106 (29.2 percent) attained

University/Polytechnic education. Analysis further revealed 40 (11 percent) respondents are educated up to Junior High level, with seven (1.9 percent) having only a basic education.

5.6.4 Home region

Table 5.6: Home Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Western	48	13.2	13.2	13.2
	Western North	28	7.7	7.7	20.9
	Central	53	14.6	14.6	35.5
	Greater Accra	85	23.4	23.4	59.0
	Eastern	54	14.9	14.9	73.8
	Ashanti	43	11.9	11.9	85.7
	Volta	28	7.7	7.7	93.4
	Ahafo	24	6.6	6.6	100.0
	Total	363	100.0	100.0	

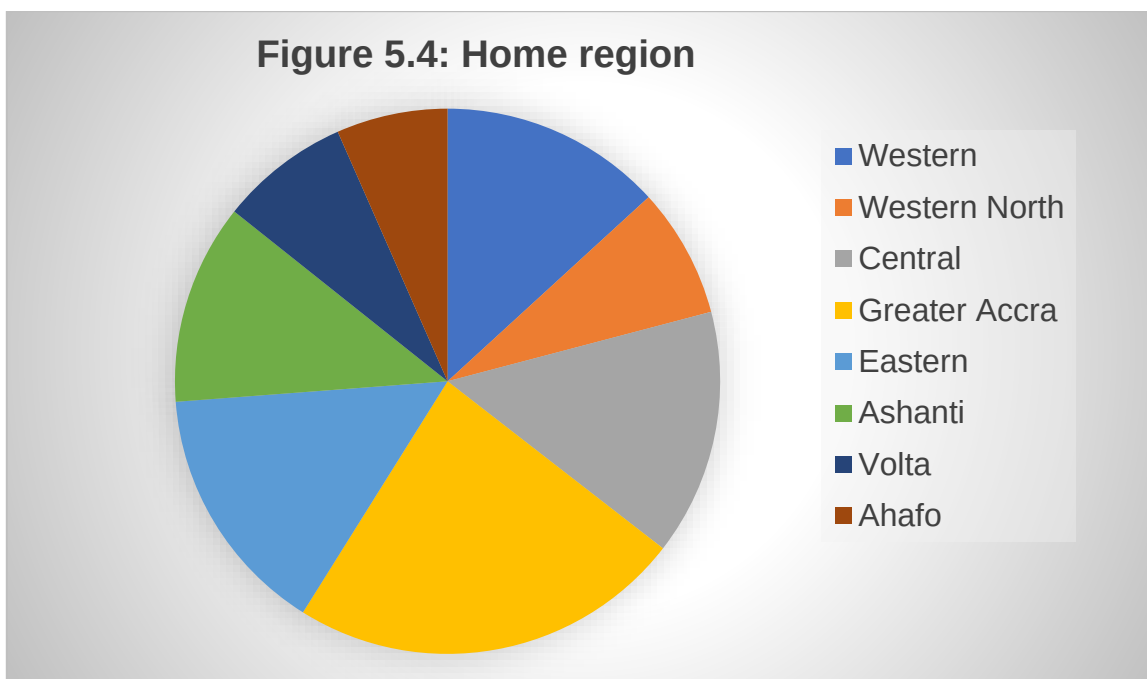


Figure 5.4: Home region of respondents

In Table 5.6 and Figure 5.4 the respective home regions of participants engaged in manufacturing SMEs were analysed and presented. It was observed 85 (23.4 percent) respondents operated in the Greater Accra region, followed by 43 (11.9 percent) respondents operating in the Ashanti region. Furthermore, 48 (13.2 percent), 28 (7.7 percent) and 28 (7.7 percent) respondents had their businesses at the Western, Western North and Volta regions, respectively, while 53 (14.6percent) were situated in the Central regions. However, for Eastern and Ahafo regions, there were 54 (14.9 percent) and 24 (6.6 percent) respondents that were, respectively, operating from these regions.

5.6.5 Legal Status of Business

Table 5.7: Legal Status of Business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sole proprietorship	230	63.4	63.4	63.4
	Partnership	50	13.8	13.8	77.1
	Limited Liability Company	83	22.9	22.9	100.0

Total	363	100.0	100.0	
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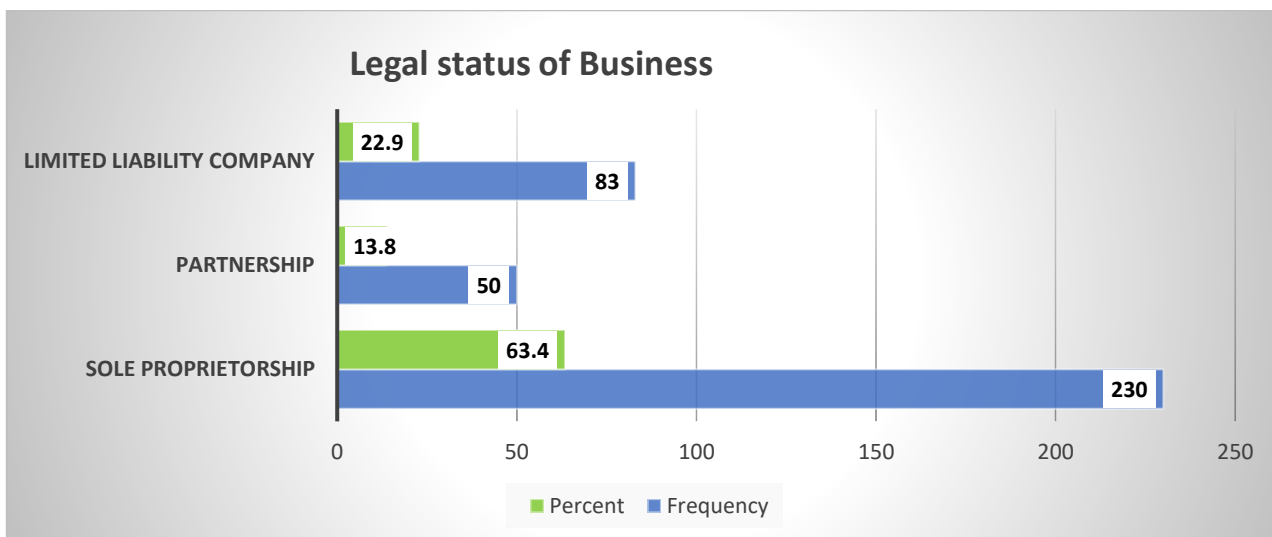


Figure 5.5: Legal status of Business

Table 5.7 and figure 5.5 collectively show more than half (230 or 63.4 percent) the business were classified under sole proprietorship, while 50 (13.8 percent) businesses were classified under partnership. The remaining 83 (22.9 percent) classified their businesses as Limited Liability companies. There are a number of SMEs in Ghana as a result of ease of formation or establishment, flexibility and control, limited capital requirement, and personal liability, as well as economic and cultural factors (World Bank 2020).

5.6.6 Forms of business

Table 5.8: Please state the business you are doing?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Advertising boards and banners	1	.3	.3	.3
	Alcohol and Beverage Production	16	4.4	4.4	4.7
	Aluminium Fabrication and Glazing works	8	2.2	2.2	6.9
	bakery	7	1.9	1.9	8.8
	bakery and confectionary	3	.8	.8	9.6

basket and cane weaving	3	.8	.8	10.5
Block making and culvert making	40	11.0	11.0	21.5
Carpentry and Furniture Works	53	14.6	14.6	36.1
Dressmaking/fashion design	43	11.8	11.8	47.9
Graphic designer	2	.6	.6	48.5
Kente Cloth making	16	4.4	4.4	52.9
Leather work, shoes and sandals	4	1.1	1.1	54.0
Liquid soap/Detergent production	28	7.7	7.7	61.7
Metal Works	2	.6	.6	62.3
Palm Oil Production	4	1.1	1.1	63.4
Pottery	7	1.9	1.9	65.3
Real Estate	2	.6	.6	65.8
Restaurant (food and beverage)	40	11.0	11.0	76.9
Sachet Water Production	38	10.5	10.5	87.3
Salt production	7	1.9	1.9	89.3
Traditional sandal production	2	.6	.6	89.8
Welding and Metal works	37	10.2	10.2	100.0
Total	363	100.0	100.0	

Table 5.8 displays the various forms of businesses respondents that participated in the study are engaged in. It can be observed a greater number of respondents (53 or 14.6 percent) are engaged in carpentry and furniture works, while 43 (11.8 percent) are engaged in dressmaking and fashion design. A further 40 (11 percent) respondents deal in food and beverage (restaurant services), and 40 (11 percent) operate in blockmaking and culvert making. In addition, 38 (10.5 percent), 37 (10.2 percent) and 28 (7.7 percent) respectively operate in the sachet water business, welding and metal works, and liquid soap/detergent business.

5.6.7 Where products are sold

Table 5.9 Where are products of your company sold?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Only in the home region	246	67.8	67.8	67.8

Mainly over 50% in the market of home region	76	20.9	20.9	88.7
Mainly over 50% in the markets outside the home region	41	11.3	11.3	100.0
Total	363	100.0	100.0	

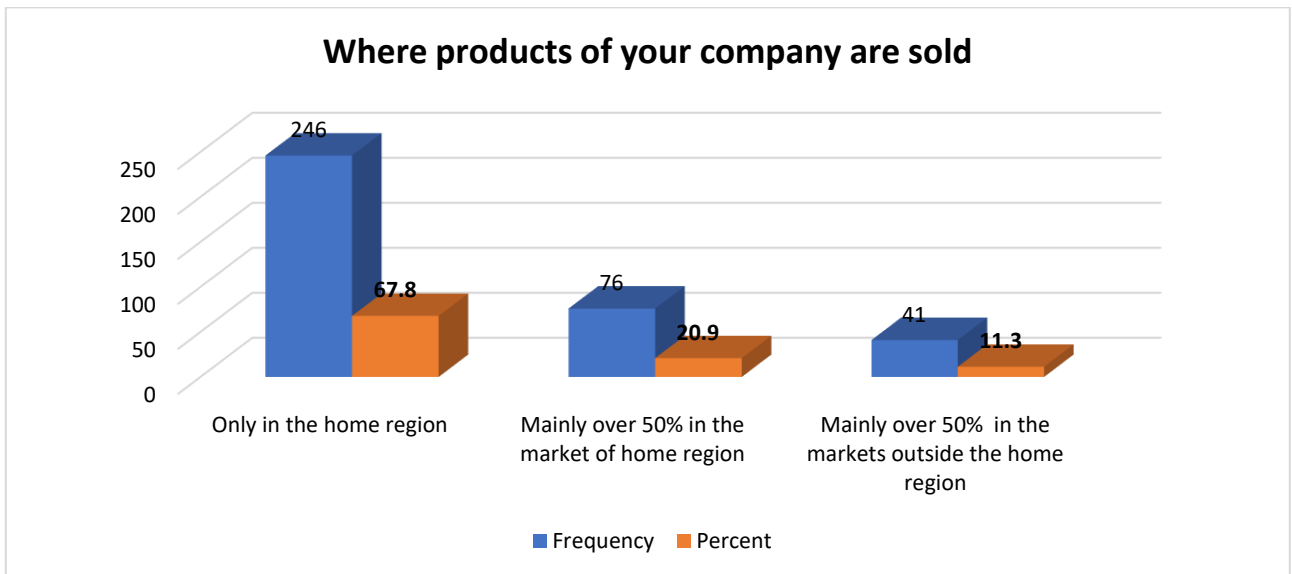


Figure 5.6: Where products of SMEs are sold

Table 5.9 and figure 5.6 indicate the areas within which products of respondents are sold. It can clearly be observed an overwhelming majority (246 or 67.8 percent) SMEs prefer to do business only in their home region. Further to this, 76 (20.9 percent) SMEs claim they mainly do more than 50 percent in the various markets within their home region, while 41 (1.3 percent) respondents claimed to do more than 50 percent of their business outside their home regions.

5.6.8 Number of employees

Table 5.10: Number of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - 3	78	21.5	21.5	21.5
	4 - 10	202	55.6	55.6	77.1
	11 - 50	64	17.6	17.6	94.8

51 - 100	19	5.2	5.2	100.0
Total	363	100.0	100.0	

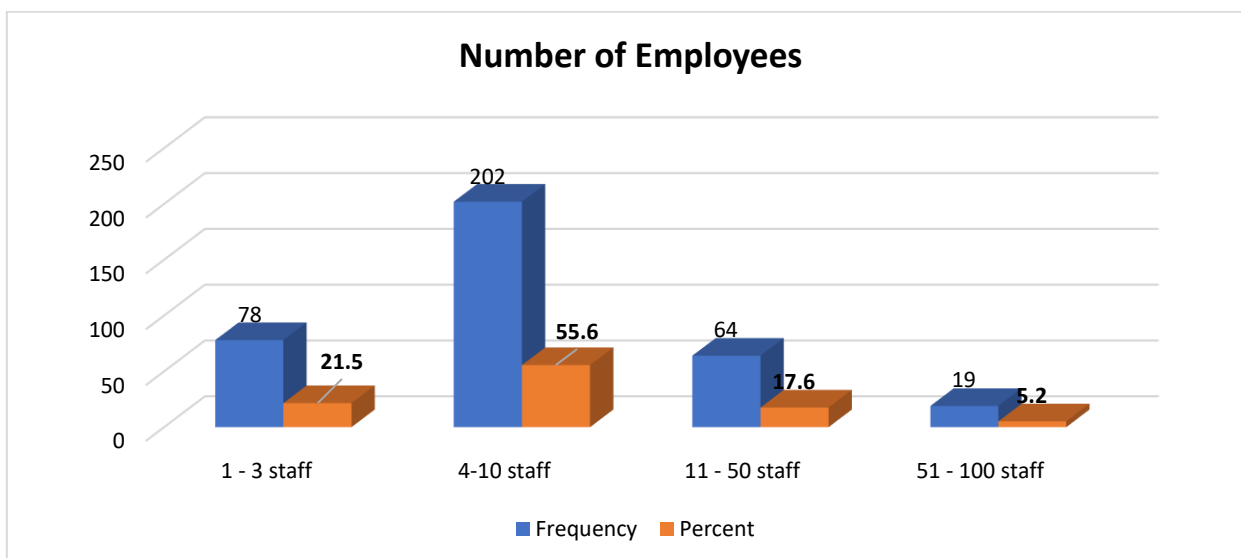


Figure 5.7: Number of employees

Pertaining to the number of staff members in various SMEs that participated in the study, Table 5.10 and figure 5.7 presented their respective frequencies and percentages. This shows 78 (21.5 percent) SMEs had between 1-3 employees, 202 (55.6 percent) employed between 4-10 staff, while 64 (7.6 percent) responding SMEs had 11–50 employees and the remaining 19 (5.2 percent) SMEs had between 51-100 employees.

5.6.9 Number of years the business has been in operation

Table 5.11: Indicate the number of years the business has been in operation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - 5 years	87	24.0	24.0	24.0
	6 - 10 years	148	40.8	40.8	64.7
	11 - 15 years	107	29.5	29.5	94.2
	16- 20 years	15	4.1	4.1	98.3
	20 years and above	6	1.7	1.7	100.0
	Total	363	100.0	100.0	

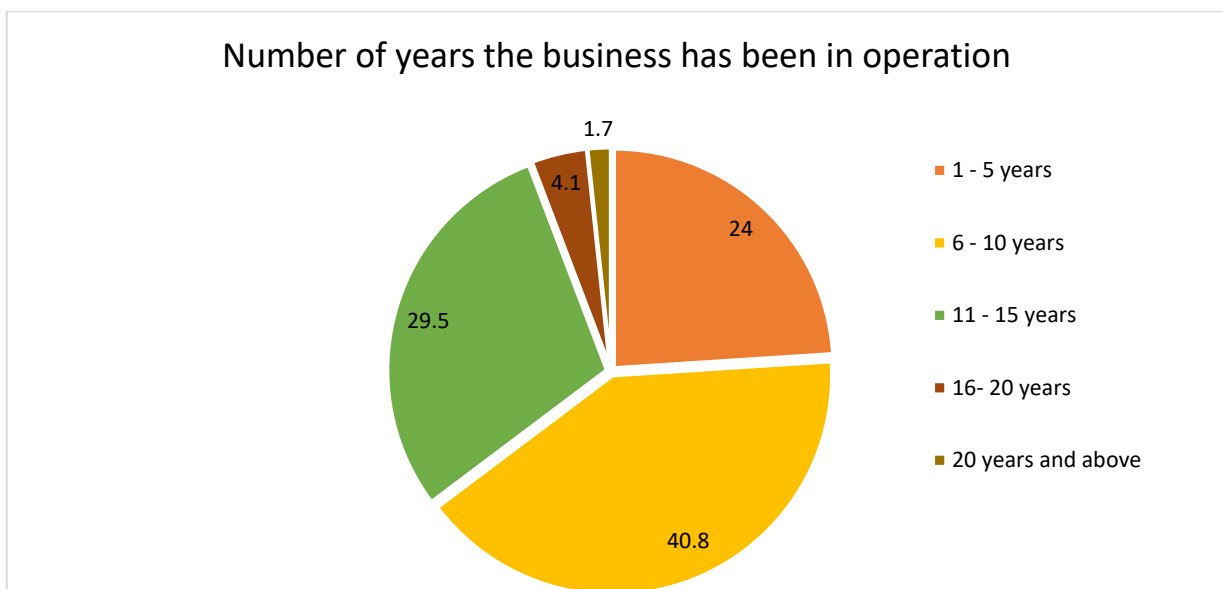


Figure 5.8: Number of years in operation

As Table 5.11 and figure 5.8 depict, 87 (24 percent) SMEs have been in operation between 1-5 years, 148 (40,8 percent) for between 6-10 years, while 107 (29.5 percent) have been operating for 11–15 years. SMEs that have operated for 16–20 years, comprise only 15 (4.1 percent), while six (1.7 percent) have operated for 20 years and more.

The duration of SMEs' existence in operation in Ghana can vary significantly and is influenced by various factors. While some SMEs may have relatively short lifespans, others can survive and operate for several years or even decades. However, it is important to note there is no specific or fixed timeframe for SME existence in Ghana. The survival and longevity of SMEs in Ghana are influenced by a combination of internal and external factors: business validity, financial management, market conditions, and management and leadership, along with access to support and resources (World Bank 2019; Asiedu-Appiah and Amponsah-Tawiah 2017; Mashimbye 2018).

5.6.10 Registration of business

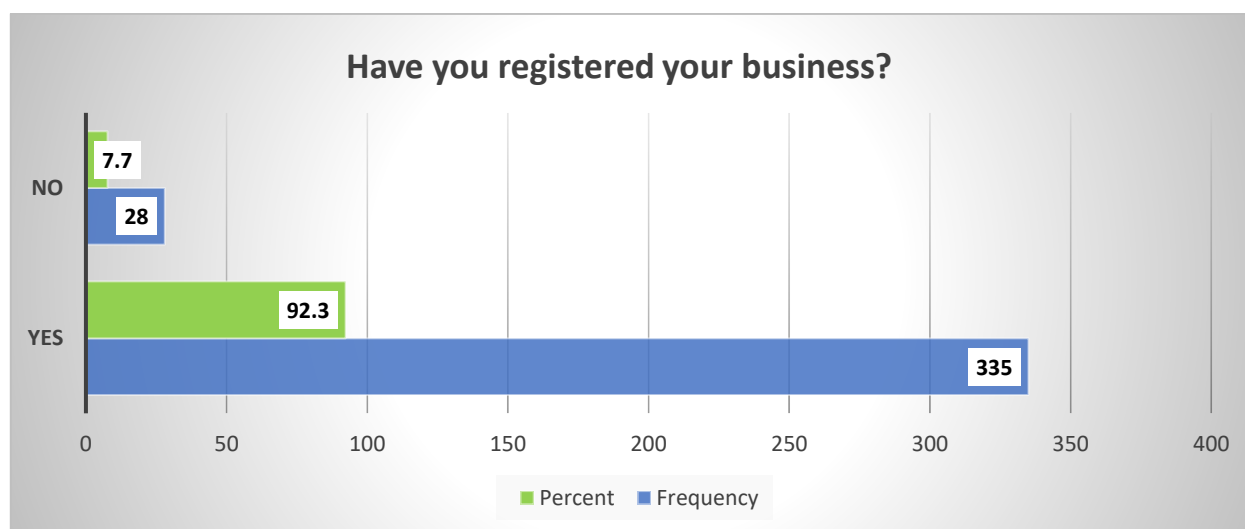


Figure 5.9: Is business registered?

Table 5.12: Have you registered your business?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	335	92.3	92.3	92.3
	No	28	7.7	7.7	100.0
	Total	363	100.0	100.0	

As shown in Table 5.12 and figure 5.9, the majority (335 or 92.3 percent) SMEs stated they have registered their businesses, while 28 (7.7 percent) indicated their businesses have not been registered. The study also investigated how SMEs registered their businesses. It was observed 51.2 percent registered their business with the district assemblies, with 46.3 percent that registered their business with the Registrar Generals Department. A further 1.7 percent SMEs registered with various NGOs, while 0.8 percent were registered through other means. It is important to note the registration process may vary slightly, depending on the type of business entity being established. The most common types of business entities in Ghana are sole proprietorships, partnerships, and limited liability companies (ChatGPT 2023).

5.7 SECTION B: SCMP AND MANUFACTURING SME PERFORMANCE IN GHANA

The primary aim of this section was to unearth various SCMPs of manufacturing SMEs in Ghana and how these practices influence their performance. This factor comprised nine variables/statements that collectively assessed the SCMPs of manufacturing SMEs, with the section below presenting the findings in this regard.

5.7.1 Placing of priority on quality services

Table 5.13: The organization places priority on quality services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.6	.6	.6
	Disagree	0	0.00	0.00	0.00
	Neutral	0	0.00	0.00	0.00
	Agree	97	26.7	26.7	27.3
	Strongly Agree	264	72.7	72.7	100.0
	Total	363	100.0	100.0	

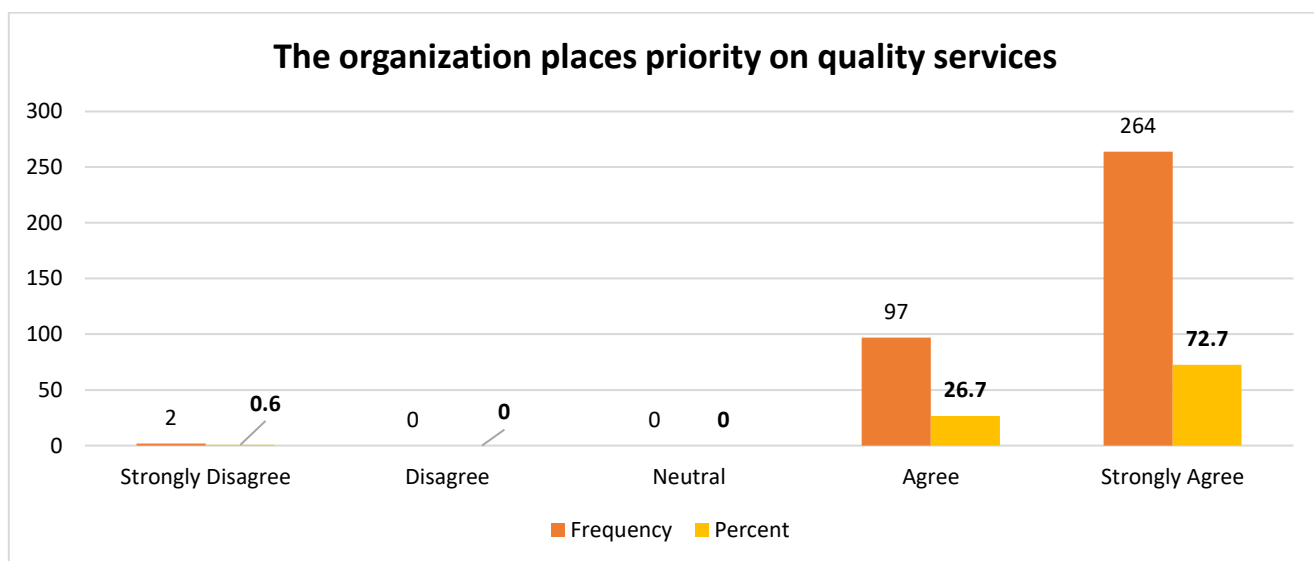


Figure 5.10: Organization places priority on quality services

Analysis of responses (Table 5.13 and figure 5.10) indicates 264 (72.7 percent) respondents were of the belief their organization places priority on the quality of services they render to customers and 97 (26.7 percent) agreed to that assertion. However, two (0.6 percent) respondents were of the view they do not prioritise on the level of quality of

the services they render to clients in their organization. Nonetheless, the majority respondents agreed they place priority on quality service. These findings are supported by a Chi-square test conducted to determine whether the organizations place priority on quality service. These results indicated ($X^2 = 1422.282$; $df = 36$; $P=0,000$) for this variable, showing quality is important in sustaining businesses.

Quality service refers to the consistent delivery of services that meet or exceed customer expectations. It encompasses various aspects such as reliability, responsiveness, competence, courtesy, communication, and credibility. Providing quality service is essential for businesses to gain a competitive edge, build customer loyalty, and achieve long-term success. Quality service entails consistently meeting customer expectations by delivering reliable, responsive, competent, courteous, communicative, and credible services. By focusing on these aspects and continuously improving service delivery, organizations can enhance customer satisfaction, build strong relationships, and differentiate themselves in the marketplace (Gronroos 2007; Parasuraman, Zeithaml and Berry 1985).

5.7.2 The organization has a competitive advantage over its competitors

Table 5.14: The organization has a competitive advantage over its competitors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.1	1.1	1.1
	Disagree	80	22.0	22.0	23.1
	Neutral	42	11.6	11.6	34.7
	Agree	149	41.0	41.0	75.8
	Strongly Agree	88	24.2	24.2	100.0
	Total	363	100.0	100.0	

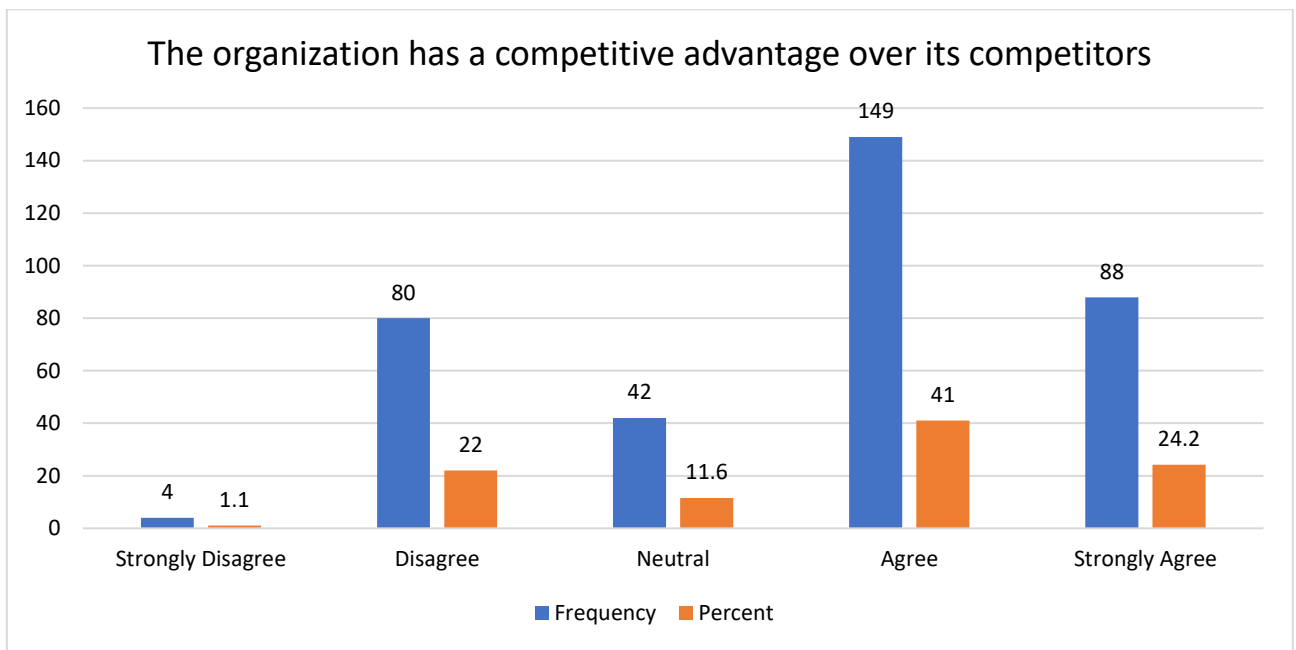


Figure 5.11: Organization has a competitive advantage over competitors

Table 5.14 and figure 5.11 show the perception of respondents on whether their organizations have an advantage over their competitors. The study revealed almost half the respondents (149 or 41 percent) agreed and 88 (24.2 percent) strongly agreed their respective organizations do have a competitive advantage over their competitor SMEs in the market. This finding is supported by a Chi-square test conducted to determine SCMPs and SME performance. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0.000$) for this variable, indicating SCMPs are understood to have a significant influence on SMEs performance. However, 42 (11.6 percent) respondents remained neutral, while 80 (22 percent) were in disagreement with the statement and four (1.1 percent) respondents strongly disagreed their practices as an organization have afforded them a competitive advantage in the market.

The ability of a firm to manufacture a good or service more efficiently than its rivals results in a higher profit margin and a competitive advantage (Porter 1995; Arseculeratne and Yazdanifard 2013; Longenecker and Ariss 2002). The result supports Hu *et al.* (2019), who found SMEs can achieve cost reduction through greater levels of B2B e-commerce adoption that helps them save on costs in their operational activities.

5.7.3 The organization has a strategic supplier partnership

Table 5.15: The organization has a strategic supplier partnership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0.00	0.00	0.00
	Disagree	39	10.7	10.7	10.7
	Neutral	51	14.0	14.0	24.8
	Agree	112	30.9	30.9	55.6
	Strongly Agree	161	44.4	44.4	100.0
	Total	363	100.0	100.0	

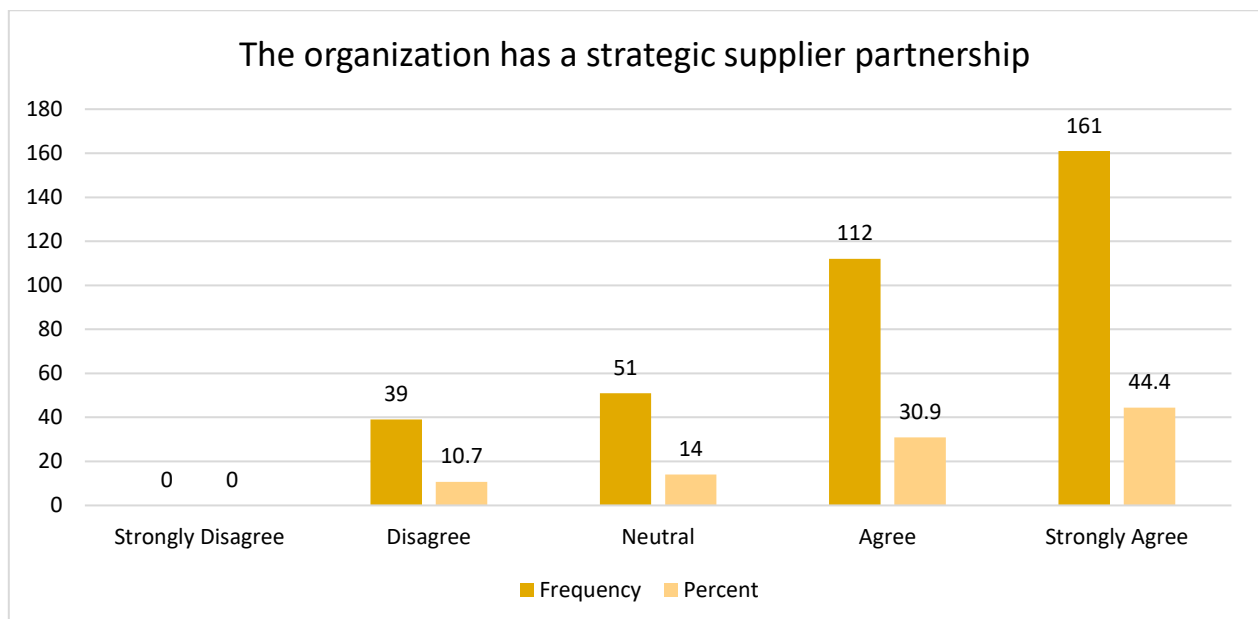


Figure 5.12: Organization has strategic supplier partnership

In a bid to ascertain whether organizations, in the course of doing business, have built a strategic partnership/relationship with their suppliers, Table 5.15 and figure 5.12 show almost half the respondents (161 or 44.4 percent) strongly agreed and 112 (30.9 percent) agreed they have been able to build a strategic partnership over the course of doing business with suppliers. These findings are supported by a Chi-square test conducted to determine SCMP influence on SME performance. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0.000$) for this variable, reflecting SCMPs are understood to have a significant influence on SME performance. While 51 (14 percent) respondents remained neutral, 39

(10.7 percent) disagreed with the statement their organization has a strategic supplier partnership.

5.7.4 Management of customer complaints

Table 5.16: The organization has been managing customer complaints

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0.00	0.00	0.00
	Disagree	0	0.00	0.00	0.00
	Neutral	4	1.1	1.1	1.1
	Agree	262	72.2	72.2	73.3
	Strongly Agree	97	26.7	26.7	100.0
	Total	363	100.0	100.0	

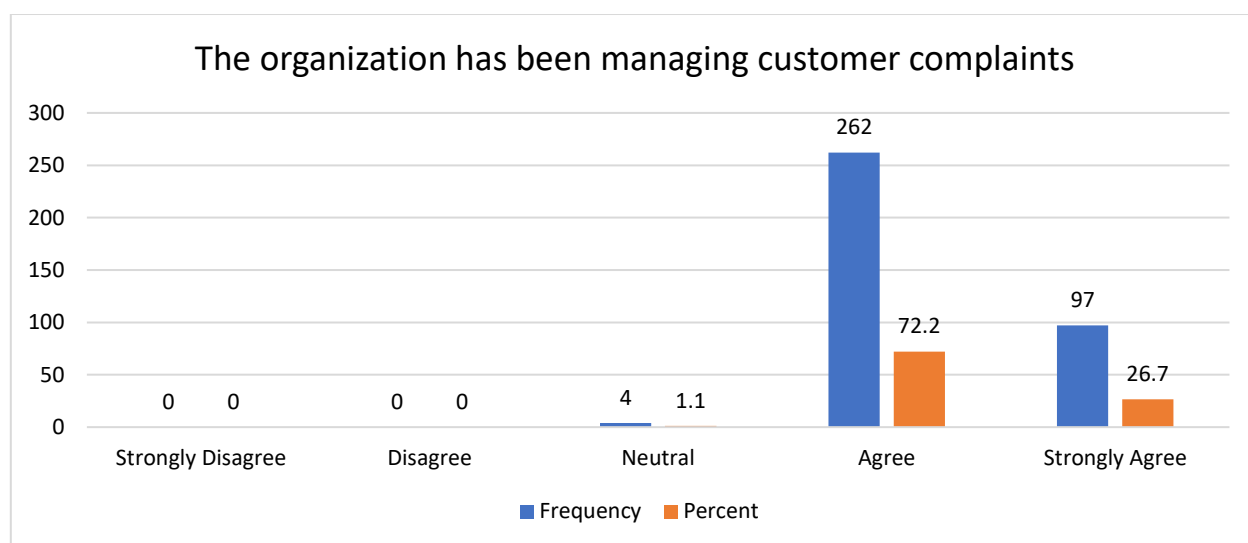


Figure 5.13: Organization has been managing customer complaints

In Table 5.16 and figure 5.13, it is illustrated 97 (26.7 percent) respondents strongly agreed with the statement their organization has a system in place for managing customer complaints, while 262 (72.2 percent) responded in the affirmative. These findings are supported by a Chi-square test conducted to determine SCMP influence on SME performance. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0,000$) for this variable, which show SCMPs are understood to have a significant influence on SME performance. However, only four (1.1 percent) remained neutral. No respondent strongly disagreed nor

disagreed with the statement, which presupposes no participating organizations in the study claim to mishandle customer complains.

Managing customer complaints and SME performance in Africa requires a comprehensive approach that consider the unique challenges and opportunities present in the region. Customer complaints can be handled efficiently by actively listening and empathising, responding quickly and professionally, taking responsibility and finding solutions, and offering compensation, when necessary, as well as learning from complaints, and improving procedures. (ChatGPT 2023).

5.7.5 Improving customer satisfaction

Table 5.17: The organization has been improving customer satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0.00	0.00	0.00
	Disagree	0	0.00	0.00	0.00
	Neutral	0	0.00	0.00	0.00
	Agree	268	73.8	73.8	73.8
	Strongly Agree	95	26.2	26.2	100.0
	Total	363	100.0	100.0	

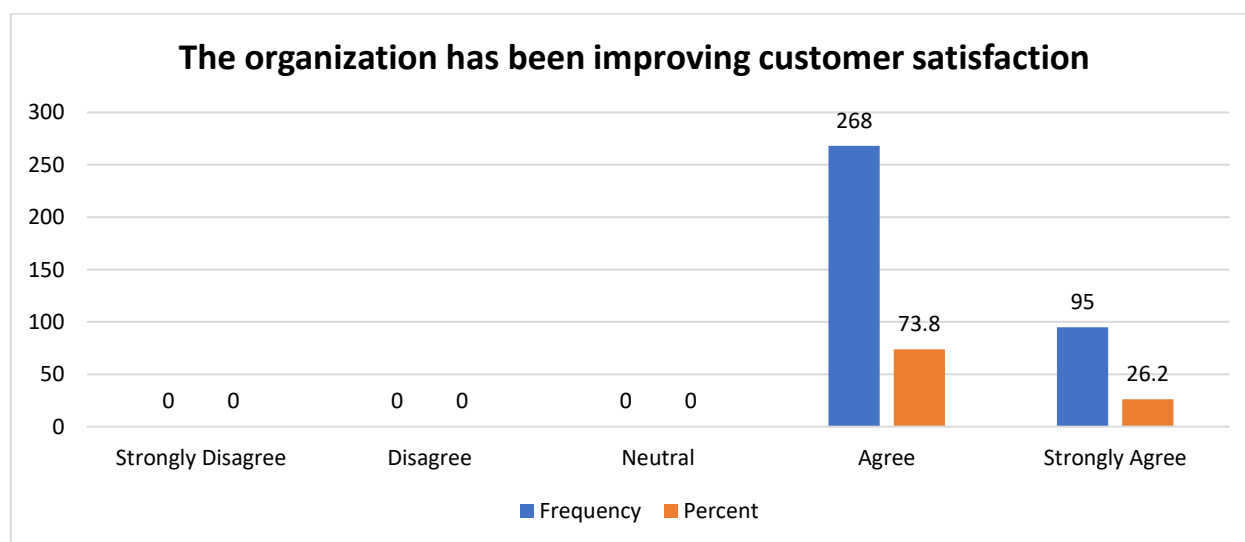


Figure 5.14: Organization has been improving customer satisfaction

As shown in Table 5.17 and figure 5.14, one factor that affects or influences SCMPs in manufacturing SMEs, is customer satisfaction with services rendered by these organizations. As revealed in this study, all respondents attested to their organizations improving customer satisfaction with services rendered to them. That is to say, 268 (representing 73.8 percent) respondents agreed, while 95 (26.2 percent) strongly agreed with the statement. These findings are supported by a Chi-square test conducted to determine SCMP influence on SME performance. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0,000$) for this variable, indicating SCMPs are understood to have a significant influence on the performance of SMEs. None of the respondents disagreed, strongly disagreed, or remained neutral with regard to the statement.

According to Sharif *et al.* (2013), customer satisfaction has been recognised as the primary indication that distinguishes between a high or successful business performance and a low or failed business performance in the current South African business environment. Majeed *et al.* (2022) explain customer satisfaction refers to an experience during which a customer buys some product or service and feels pleasure, happiness, joy, or delight, which influences their decision to buy and their subsequent behaviour. Therefore, the results of the chi-square test are endorsed.

5.7.6 Sharing information with suppliers

Table 5.18: The organization has been sharing information with suppliers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0.00	0.00	0.00
	Disagree	34	9.4	9.4	9.4
	Neutral	37	10.2	10.2	19.6
	Agree	192	52.9	52.9	72.5
	Strongly Agree	100	27.5	27.5	100.0
	Total	363	100.0	100.0	

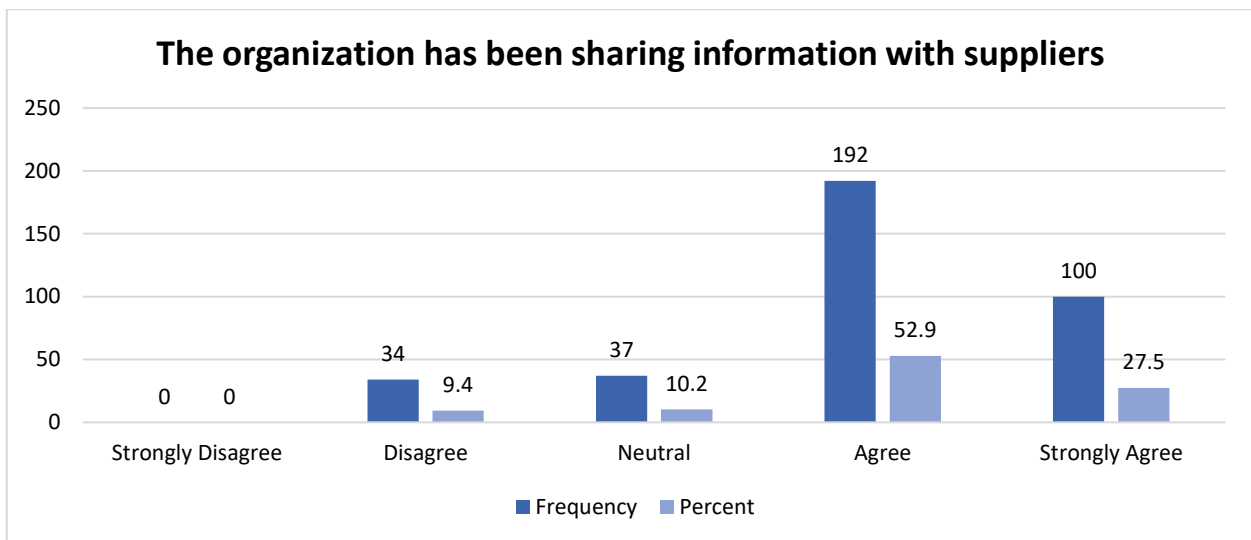


Figure 5.15: Organization has been sharing information with suppliers

Table 5.18 and figure 5.15 show more than half (192 or 52.9 percent) respondents agreed and a further 100 (27.5 percent) strongly agreed with the statement that their organizations do share information with suppliers. These findings are supported by a Chi-square test conducted to determine SCMP influence on SME performance. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0,000$) for this variable, indicating SCMPs are understood to have a significant influence on SME performance. Furthermore, 37 (10.2 percent) respondents were neutral on the matter. with 34 (9.4 percent) respondents, however, who disagreed saying their organizations do not share the needed information with suppliers, while no respondents strongly disagreed.

Sharing of information had a weak but large impact on supplier synergy and a somewhat favourable and considerable impact on supplier trust (Pooe *et al.* 2015; Mathu 2019). The study offers a valuable framework for analysing interactions between supplier performance, supplier synergy, supplier trust, and information sharing in SMEs. The latter plays a vital role in enhancing SME performance in Africa. By improving access to market information, technology, finance, and business support services, as well as policy updates, and fostering collaboration, information sharing platforms contribute to the growth, competitiveness, and sustainability of SMEs, thereby driving economic development in the region (ITC 2016; OECD 2017).

5.7.7 Information technology (IT) in managing business operations

Table 5.19: The organization uses IT in managing its operations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0.00	0.00	0.00
	Disagree	0	0.00	0.00	0.00
	Neutral	10	2.8	2.8	2.8
	Agree	323	89.0	89.0	91.7
	Strongly Agree	30	8.3	8.3	100.0
	Total	363	100.0	100.0	

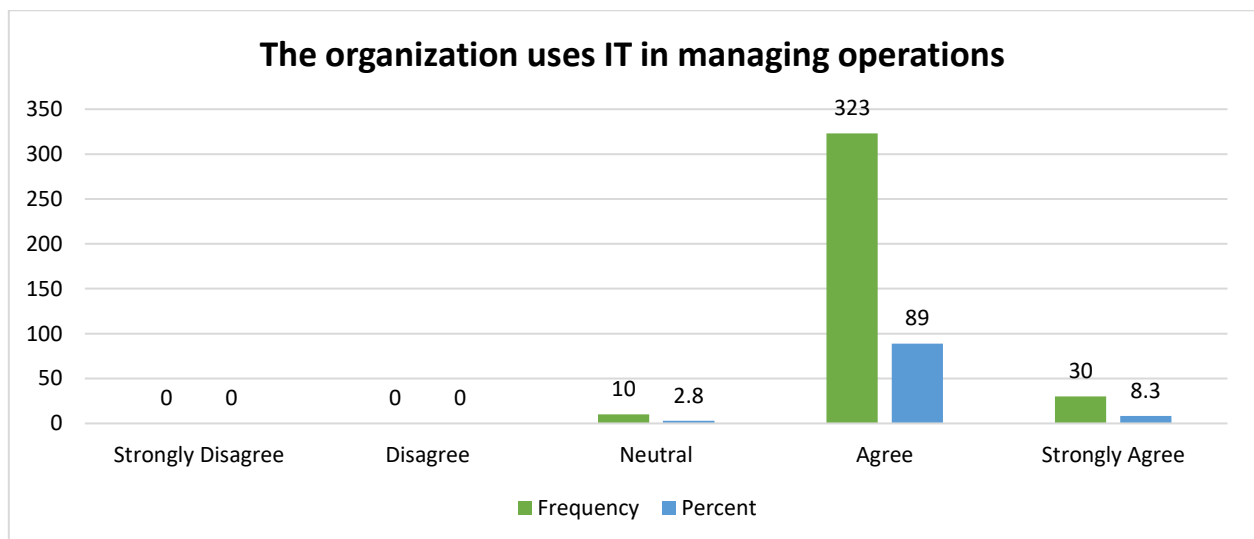


Figure 5.16: Organization uses IT in operations management

As shown in Table 5.19 and figure 5.16, an overwhelming majority (323 or 89 percent) respondents claim their various organizations use IT in managing its operations, furthermore, 30 (8.3 percent) strongly agreed with the statement, while 10 (2.8 percent) respondents remained neutral. These findings are supported by a Chi-square test conducted to determine SCMP influence on performance of SMEs. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0,000$) for this variable, which shows SCMPs are understood to have a significant influence on SME performance. This indicates most organizations capitalise on emerging technology in their daily operations and in the management of their businesses.

According to Mathu (2019) and Idowu (2013), IT application in South African SMEs boosted interaction through supply chain collaboration and integration, which facilitated IS between suppliers and customers. The study showed supplier-customer IS was improved by IT application in businesses, as reported by South African SMEs.

5.7.8 Customer service as a good practice

Table 5.20: Customer service is a very good practice in the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0.00	0.00	0.00
	Disagree	0	0.00	0.00	0.00
	Neutral	8	2.2	2.2	2.2
	Agree	312	86.0	86.0	88.2
	Strongly Agree	43	11.8	11.8	100.0
	Total	363	100.0	100.0	

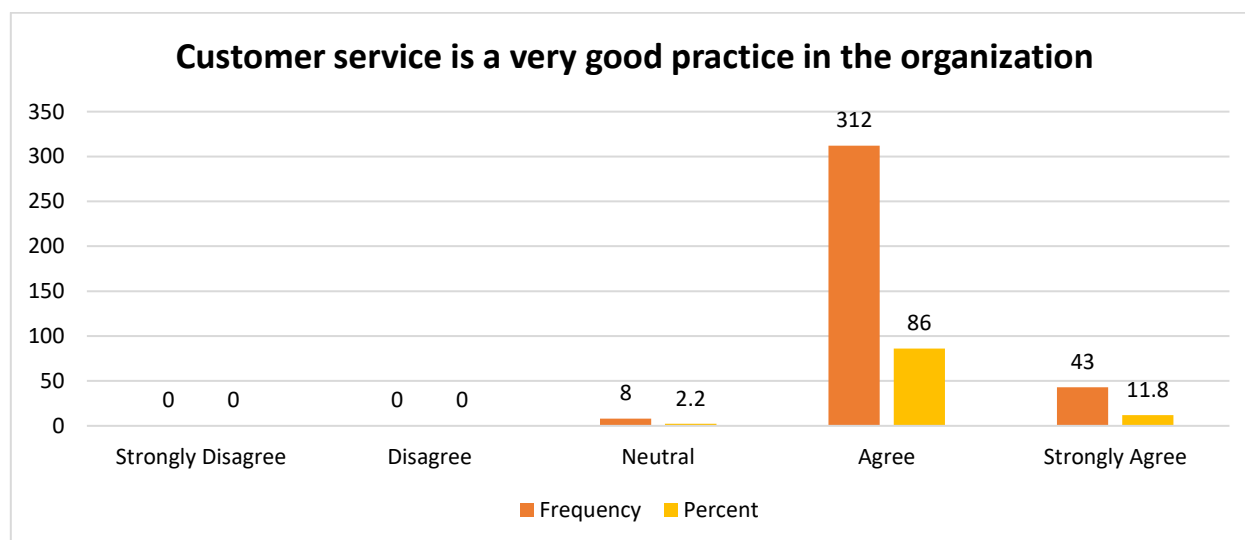


Figure 5.17: Customer service is a very good practice in the organization

On the perception of respondents whether customer service is a good practice in various organizations, as shown in table 5.20 and figure 5.17, almost all respondents indicated in the affirmative. These findings are supported by a Chi-square test conducted to determine SCMP influence on performance of SMEs. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0,000$) for this variable, indicating SCMPs are understood to have a significant

influence on SME performance. In other words, 312 (86 percent) respondents agreed customer service is a very good practice in organizations. A further 43 (11.8 percent) strongly agreed customer service is a good practice.

The current need for research into the specific influence of customer-focus on SME success is supported by the fact that customer-focus has a major beneficial impact on SME performance. The findings demonstrate a strong and positive correlation between customer-focus and financial performance, customer performance, internal business process performance, and learning and growth performance (Abrokwah-Larbi 2023). Only eight (2.2 percent) respondents remained neutral on the matter. This connotes that, for businesses to thrive, customer service and its related activities must be held in high esteem. Customer service plays a crucial role in managing SMEs in Africa. Providing excellent customer service can help SMEs build strong relationships with their customers, enhance their reputation, and drive growth (Oluwaseyi and Abdulkadir 2021; International Finance Corporation (IFC) 2013).

5.7.9 Timely delivery of goods and services

Table 5.21: Goods and services are delivered on timely to customers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	4	1.1	1.1	1.9
	Neutral	3	.8	.8	2.8
	Agree	22	6.1	6.1	8.9
	Strongly Agree	329	90.6	91.1	100.0
	Total	361	99.4	100.0	
Missing	System	2	.6		
Total		363	100.0		

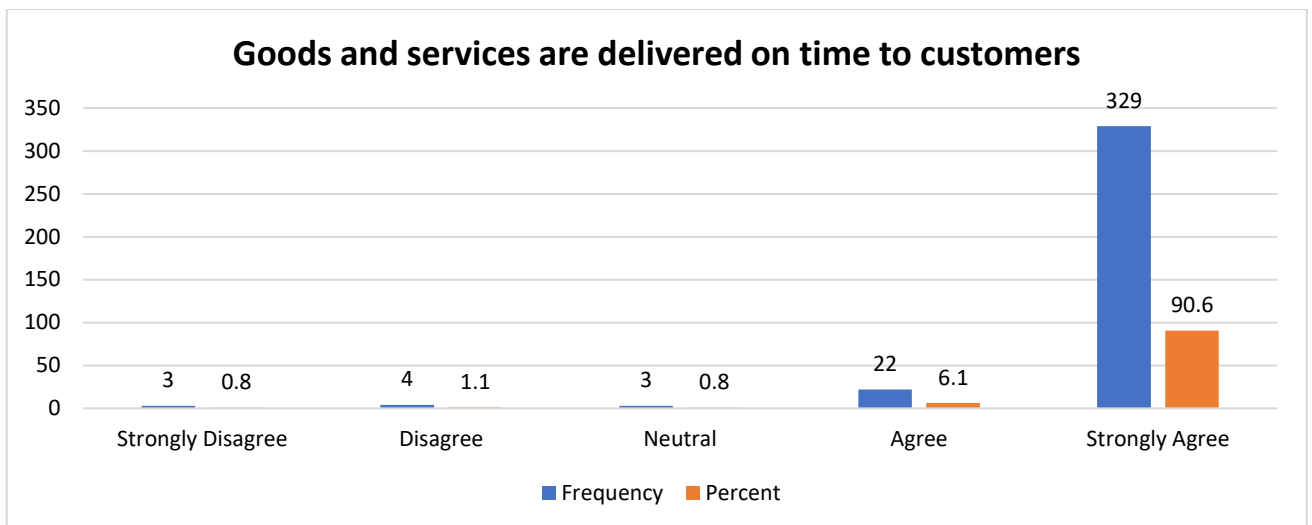


Figure 5.18: Goods and services are delivered on time

Table 5.21 and figure 5.18 display analysis on the perception of respondents regarding whether goods and services are delivered to customers in a timely manner. The study revealed the majority respondents believe goods and services within their organizations are delivered on time, with 329 (90.6 percent) that strongly agreed with the statement, while 22 (6.1 percent) respondents agreed goods and services are delivered to customers in a timely manner. These findings are supported by a Chi-square test conducted to determine SCMP influence on SME performance. The results indicate ($X^2 = 1422.282$; $df = 36$; $P = 0.000$) for this variable, suggesting SCMPs are understood to have a significant influence on SME performance. However, only three (0.8 percent) and four (1.1 percent) respondents strongly disagreed and disagreed, respectively, with the claim. A further three (0.8 percent) respondents remained neutral.

Timely delivery of goods and services plays a crucial role in the performance of SMEs in Africa, as it directly impacts their competitiveness, customer satisfaction, and overall business growth. SMEs with a track record of timely delivery and quality are well-positioned to expand their market reach. They become more attractive to potential distributors, retailers, or international partners seeking reliable suppliers. In addition, export opportunities often require meeting strict delivery schedules and quality standards, making timely delivery critical (Boso, Cadogan and Story 2013).

Table 5.22: Component matrix: Factors influencing SCMPs and performance of manufacturing SMEs

Rotated Component Matrix^a

	Component		
	1	2	3
The organization has a competitive advantage over its competitors	.703	.314	.045
The organization has a strategic supplier partnership	.809	.232	-.119
The organization has been sharing information with suppliers	.800	.188	-.148
Customer service is a very good practice in the organization	.600	-.165	.540
The organization has been managing customer's complaints	.233	.923	.098
The organization has been improving customer's satisfaction	.243	.890	.109
The organization uses information technology in managing its operations	.026	.273	.782
Goods and services are delivered on timely to customers	.371	-.043	-.655

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

The rotated component matrix, sometimes known as the loadings, contains estimates of the correlations between each of the variables and the estimated components. Variables from table 5.13 to 5.21 are rotated in order to ascertain the relationship/correlations between the variables and the component under which they are loaded. All variables loaded under three categories of components. The study discovered a strong and positive significance for the variables “the organization has a strategic supplier partnership” and “the organization has been sharing information to suppliers,” with a coefficient of 0.809 and 0.800, while the other groups recorded a score of .232, -.119 and .188, -.148 respectively. This further insinuates that there is a strong correlation between these variables and component one.

With reference to component two, it was revealed “The organization has been managing customer's complaints” and “The organization has been improving customer's satisfaction” loaded strongly on this component, with a score of .923 and 0.890, respectively. This shows a relationship between the management of customer complaints and their satisfaction with the organization and its performance. Last, loaded on component three is “The organization uses information technology in managing its

operations” loading with a score of 0.782. This shows respondents strongly believe IT or IT services are part of the management of operations of the SME industry in Ghana.

5.7.10 Employment of workers

The following statements are based on characteristics of manufacturing SMEs:

Table 5.22: The organization employs more than 100 workers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	272	74.9	74.9	74.9
	Disagree	68	18.7	18.7	93.7
	Neutral	10	2.8	2.8	96.4
	Agree	13	3.6	3.6	100.0
	Total	363	100.0	100.0	

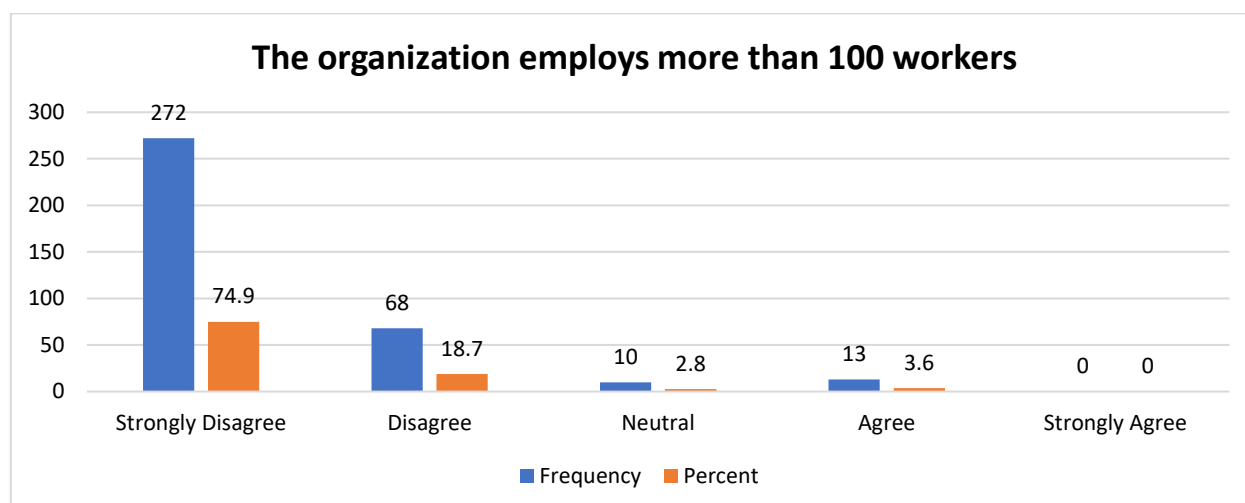


Figure 5.19: Organization employs more than 100 workers

In assessing the characteristics of manufacturing SMEs, the study ascertained the number of workers organizations employ. As indicated in Table 5.22 and figure 5.19, it is worthy to note, among various organizations that responded in the study, more than half 272 (74.9 percent) and 68 (18.7 percent) strongly disagreed and disagreed, respectively, they employ more than 100 staff, while 10 (2.8 percent) remained neutral. A Chi-square test was conducted to determine whether the findings observed were those expected. The results show ($X^2 = 418.565$; $df = 10$; $P = 0.000$) for this variable, indicating the

characteristics of manufacturing SMEs. Only 13 (3.6 percent) organizations responded in the affirmative to employing more than 100 staff.

SMEs play a crucial role in Africa's economy, contributing to job creation, poverty reduction, and economic growth. While the characteristics of SMEs can vary across countries and sectors, there are several common characteristics often observed in SMEs in Africa (AU Commission 2017; World Bank Group 2019; AfDB 2018; Abor and Quartey 2010).

5.7.11 Workers do not have basic education

Table 5.23: Almost all workers in the organization do not have basic education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	146	40.2	40.2	40.2
	Disagree	189	52.1	52.1	92.3
	Neutral	12	3.3	3.3	95.6
	Agree	14	3.9	3.9	99.4
	Strongly Agree	2	.6	.6	100.0
	Total	363	100.0	100.0	

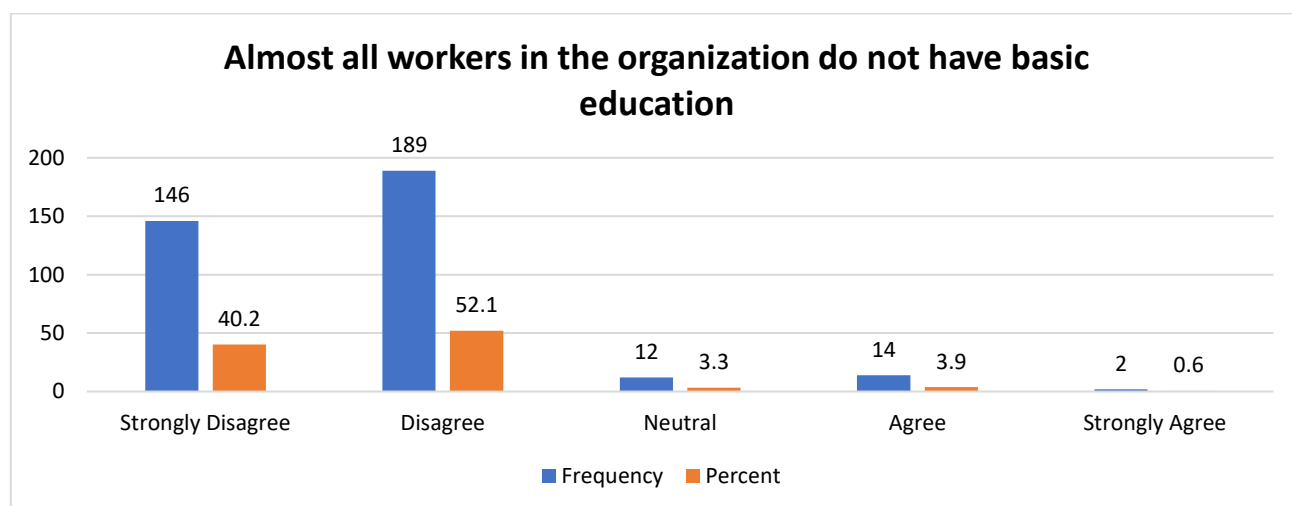


Figure 5.20: Almost all workers in the organization do not have basic education

Table 5.23 and figure 5.20 show more than half the respondents 189 (52.1percent) disagreed and a moderate number of the respondents (146 or 40.2 percent) strongly

disagreed almost all workers in the organization do not have basic education. A Chi-square test was conducted to determine whether the findings observed were those expected. The results show ($X^2 = 418.565$; $df = 10$; $P = 0,000$) for this variable, indicating the characteristics of manufacturing SMEs. A smaller number of the respondents (12 or 3.3 percent) remained neutral, with only 14 (3.9 percent) that agreed and two (0.6 percent) strongly agreed that within their organization, almost all their workers have a basic education.

5.7.12 Automation of business processes

Table 5.24 Operations or business processes of the organization are automated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	267	73.6	73.6	73.6
	Disagree	57	15.7	15.7	89.3
	Neutral	25	6.9	6.9	96.1
	Agree	14	3.9	3.9	100.0
	Strongly Agree	0	0	0	0.0
	Total	363	100.0	100.0	

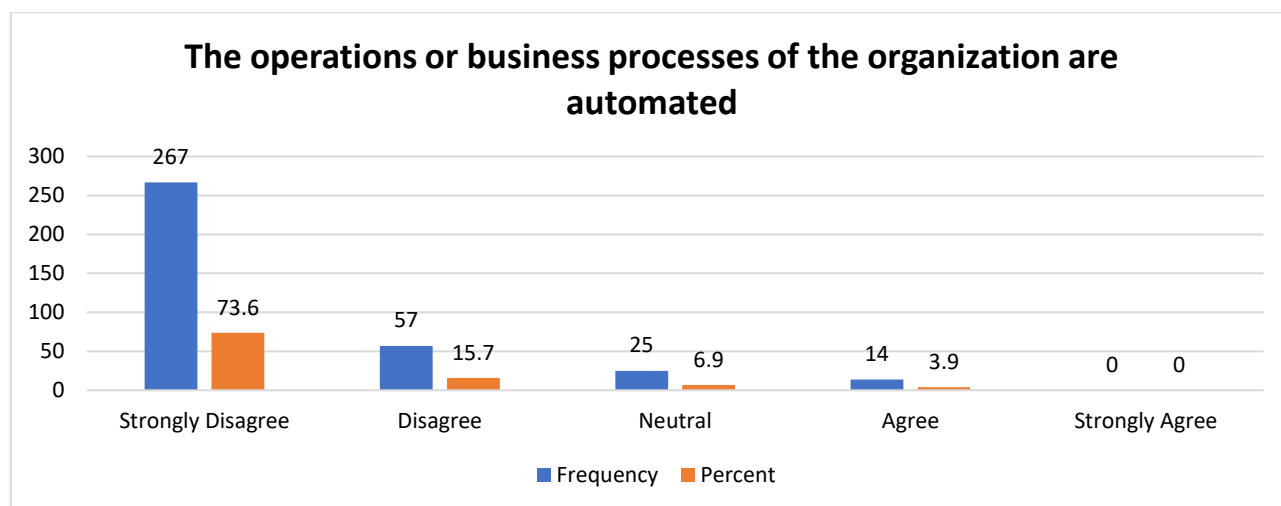


Figure 5.21: Operations or business processes of organization are automated

Table 5.24 and figure 5.21 show an overwhelming majority of respondents (267 or 73.6 percent) strongly disagreed their operations or business process are automated. Furthermore, 57 (15.7 percent) disagreed with the claim. Contrarily, 14 (3.9 percent)

respondents agreed to the statement their business and operation processes are automated. A Chi-square test was conducted to determine whether the findings observed were those expected. The results show ($X^2 = 418.565$; $df = 10$; $P = 0.000$) for this variable, indicating the characteristics of manufacturing SMEs. However, 25 (6.9 percent) respondents remained neutral, neither agreeing or disagreeing to the automation of their business processes.

This finding is in line with the study conducted by Akpan, Udoh and Adebisi (2022), reinforcing the studies by Abor and Quartey (2010) and the World Bank (2019), where manpower and labour-intensive practices are used in production. The lack of digital technology and their slow implementation in emerging markets and developing economies (EMDEs) are to blame for the closure of most commercial activity during the COVID-19 pandemic and the SARS-CoV-2 outbreak. Successfully using cutting-edge technologies is one of the tactics to endure the "new normal" imposed by COVID-19 and intense international competition (Akpan *et al.* 2022). Moreover, SMEs in Africa are increasingly adopting automation in their business operations. While the extent of automation implementation may vary across different countries and industries, there is a growing recognition of the benefits automation can bring to SMEs in terms of productivity, efficiency, and competitiveness (ChatGPT 2023).

5.7.13 Procedures and practices in the organization are made simple

Table 5.25: Procedures and practices in the organization are made simple

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.3	.3	.3
	Disagree	3	.8	.8	1.1
	Neutral	8	2.2	2.2	3.3
	Agree	129	35.5	35.5	38.8
	Strongly Agree	222	61.2	61.2	100.0
	Total	363	100.0	100.0	

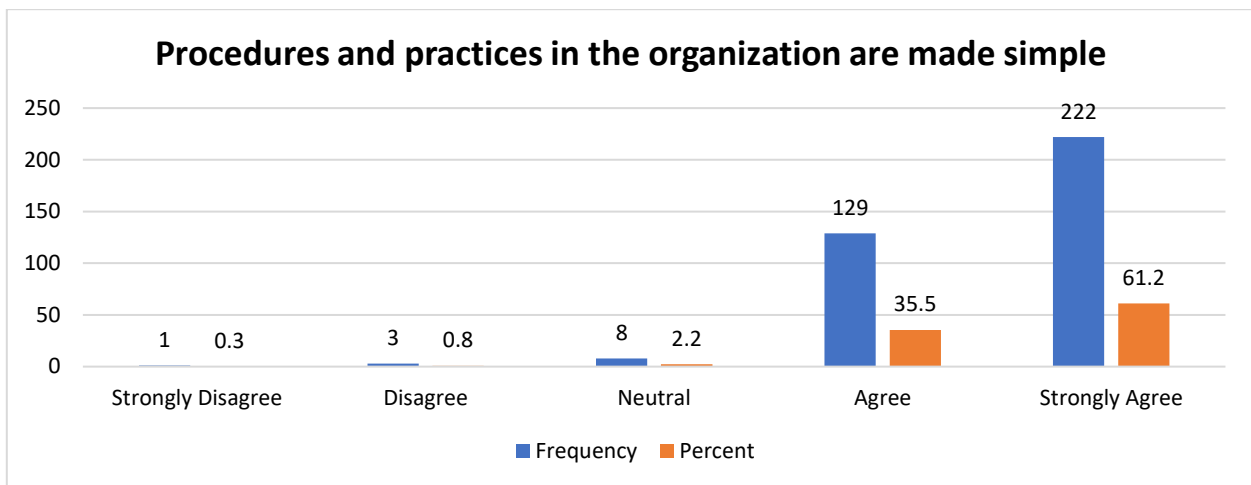


Figure 5.22: Procedures and practices in the organization are made simple

Table 5.25 and figure 5.22 depict the responses whether procedures and practices in their organization are made simple. A significant number (222 or 61.2 percent) of respondents agreed, revealing organizational practices and procedures are made simple for all customers and staff members alike. With 129 (35.5 percent) in agreement, the corresponding three (0.8 percent) respondents disagreed and one (0.3 percent) strongly disagreed practices and procedures are made simple. Only eight (2.2 percent) remained neutral. A Chi-square test was conducted to determine whether the findings observed were those expected. The results show ($X^2 = 418.565$; $df = 10$; $P = 0,000$) for this variable, indicating the characteristics of manufacturing SMEs.

These enterprises play a crucial role in Africa's economy, contributing to job creation, economic growth, and poverty reduction. However, SMEs in Africa often face unique challenges related to business processes, operations, and performance. Business processes of SMEs in Africa can vary depending on the industry, sector, and individual enterprise. (ChatGPT 2023).

5.7.14 Recruitment of workers is done professionally in the organization

Table 5.25: Recruitment of workers is done professionally in the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	128	35.3	35.3	35.3
	Disagree	108	29.8	29.8	65.0
	Neutral	73	20.1	20.1	85.1
	Agree	48	13.2	13.2	98.3
	Strongly Agree	6	1.7	1.7	100.0
	Total	363	100.0	100.0	

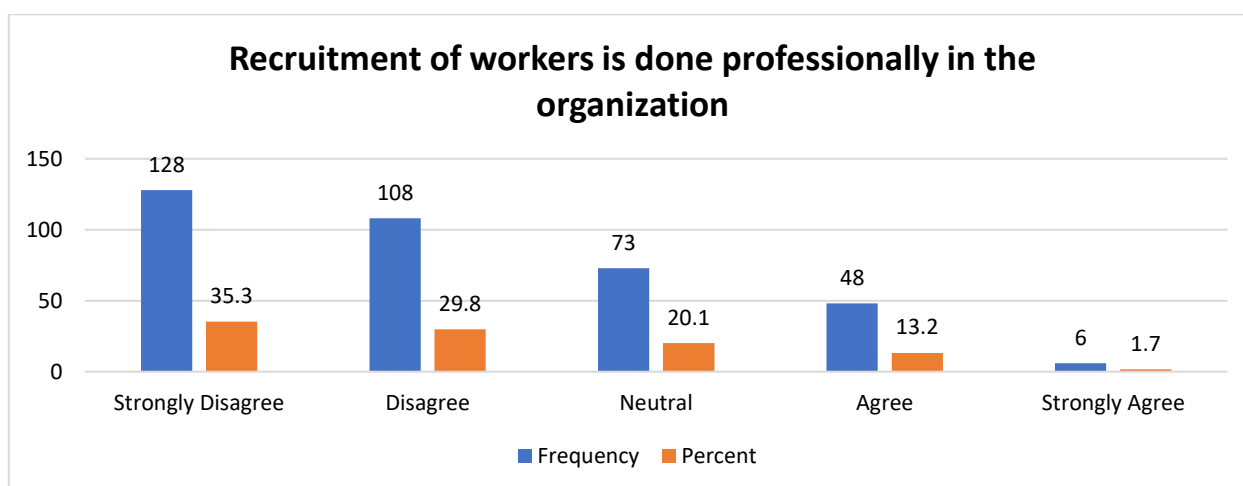


Figure 5.23: Recruitment of workers is done professionally in the organization

Table 5.25 and figure 5.22 show a moderate number (128 or 35.3 percent) of respondents strongly disagreed recruitment of workers in their organizations is done in a professional manner, while 108 (29.8 percent) disagreed. However, a considerable number (73 or 20.1 percent) of respondents remained neutral on the subject of recruitments. A further 48 (13.2 percent) respondents agreed and six (1.7 percent) strongly agreed recruitment of workers at their various organizations is done in a professional manner. A Chi-square test was conducted to determine whether the findings observed were those expected. The results show ($X^2 = 418.565$; $df = 10$; $P = 0.000$) for this variable, indicating the characteristics of small and medium manufacturing enterprises.

In Ghana, SMEs typically employ various modes of recruitment to find and hire employees. Networking and referrals, recruitment agencies, direct applications and job advertisements are a few of the modes of recruitment by SMEs in Ghana. Where employing senior managers and professionals is concerned, SMEs adopt professionalism and where junior and non-professionals are concerned, SMEs do not apply professionalism in recruitment (Addison and Tei 2019; Kwamie *et al.* 2019).

Table 5.23: Component matrix: Characteristics of manufacturing SMEs

	Component Matrix ^a	
	1	2
The organization employs over 100 workers	.829	.164
The operations or business processes of the organization are automated	.890	-.128
Recruitment of workers is done professionally in the organization	.612	-.678

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

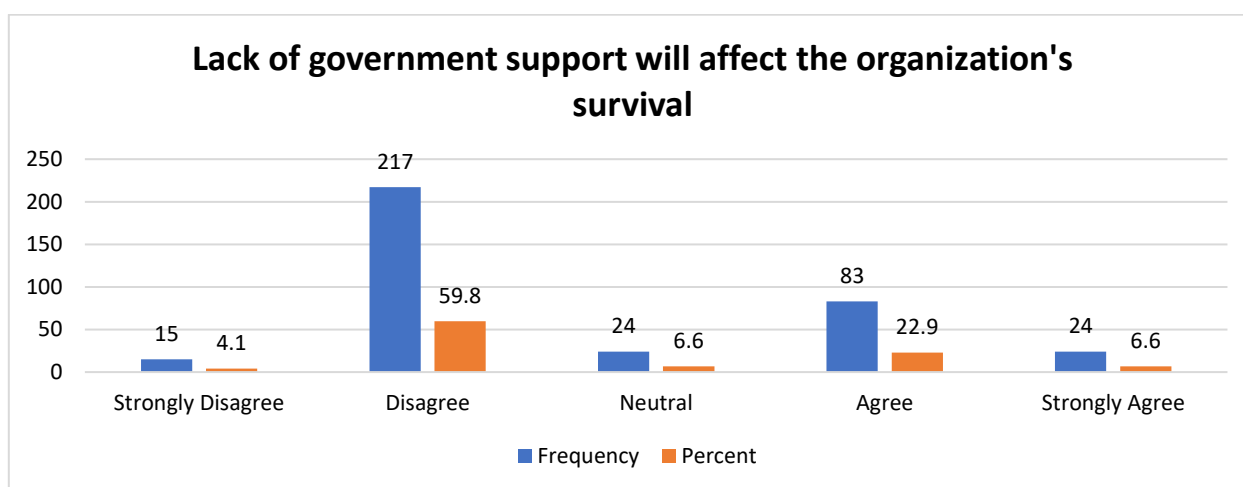
These components are an additional statistical analysis of the above-mentioned figures (Figure 5.19 to 5.22). A component test was conducted on the characteristics of manufacturing SMEs in Ghana. The respondents indicated to two categories of component. For the first component the variables that loaded on component 1 were, “the organization employs over 100 workers” and “The operations or business processes of the organization are automated” with a loading score of 0.829 and 0.890. This loading score shows the significance of the relationship between the number of employees in an organization and the automation of the organisational processes. The other variable loading on component two, which deals with whether staff in various organizations are recruited professionally, did not meet the 0.7 cut off point, however, it is worth noting it had a moderate and negative correlation with the second component.

5.7.15 Lack of government support will affect the organization’s survival

The following statements are based on the relationship between government support and manufacturing SMEs in Ghana:

Table 5.26: Lack of government support will affect the organization's survival

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	4.1	4.1	4.1
	Disagree	217	59.8	59.8	63.9
	Neutral	24	6.6	6.6	70.5
	Agree	83	22.9	22.9	93.4
	Strongly Agree	24	6.6	6.6	100.0
	Total	363	100.0	100.0	

**Figure 5.24: Lack of government support will affect the organization's survival**

As shown in table 5.26 and figure 5.23, a significant number (217) of respondents, representing 59.8 percent disagreed the lack of government support will eventually affect organizational survival, likewise, 15 (4.1 percent) respondents strongly disagreed with the assertion. However, 83 (22.9 percent) respondents agreed and 24 (6.6 percent) strongly agreed the lack of government support can affect the survival of an organization. A Chi-square test was conducted to determine the relationship between government support and manufacturing SMEs and whether the findings observed were those expected. The results show ($X^2 = 464.941$; $df = 10$; $P = 0.000$) for this variable, indicating the relationship between government support and manufacturing SMEs.

The lack of government support can significantly affect the survival of SMEs in Africa. SMEs play a crucial role in the African economy by generating employment opportunities,

fostering innovation, and driving economic growth (Central Bank of Nigeria n.d.; AfDB Group 2019; NBSSI (Ghana) 2023).

5.7.16 Lack of government support will affect the organization's ability to compete effectively

Table 5.27: Lack of government support will affect the organization's ability to compete effectively

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	17	4.7	4.7	4.7
	Neutral	37	10.2	10.2	14.9
	Agree	175	48.2	48.2	63.1
	Strongly Agree	134	36.9	36.9	100.0
	Total	363	100.0	100.0	

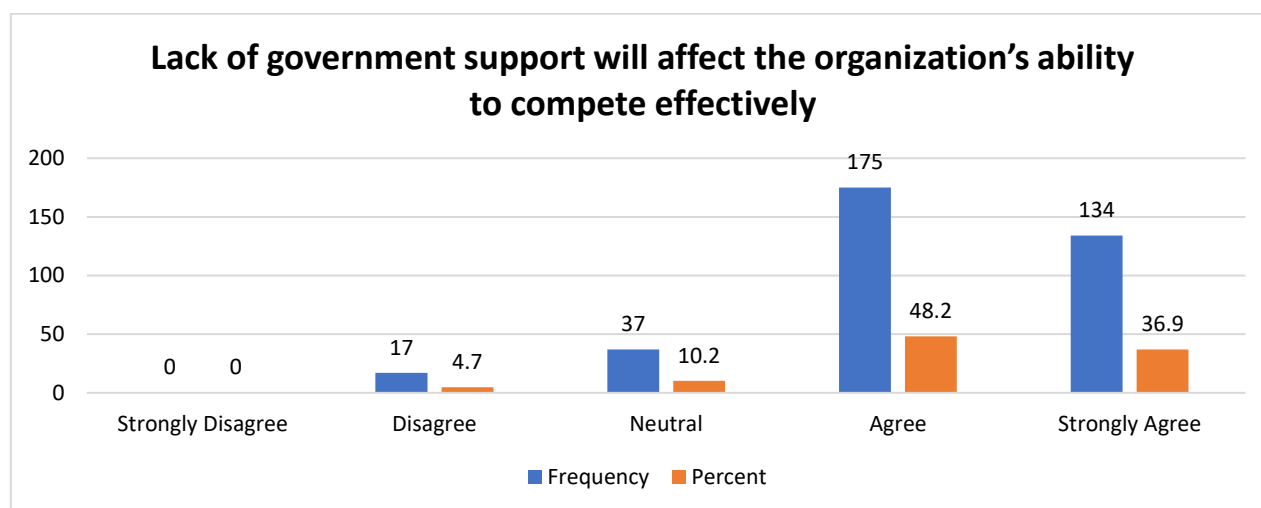


Figure 5.25: lack of government support will affect organization's ability to compete effectively

Table 5.27 and figure 5.24 show almost half the respondents (175 or 48.2 percent) agreed lack of government support will affect the organization's ability to compete effectively in the corporate organizational space. In addition, 134 (36.9 percent) respondents also strongly agreed, with 37 (10.2 percent) indicating neutral, and the remaining 17 (4.7 percent) respondents disagreed the lack of government support will affect the ability of the organization to compete effectively.

5.7.17 Lack of government support bankrupts the organization

Table 5.28: Lack of government support will bankrupt the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	117	32.2	32.2	32.2
	Disagree	178	49.0	49.0	81.3
	Neutral	48	13.2	13.2	94.5
	Agree	17	4.7	4.7	99.2
	Strongly Agree	3	.8	.8	100.0
	Total	363	100.0	100.0	

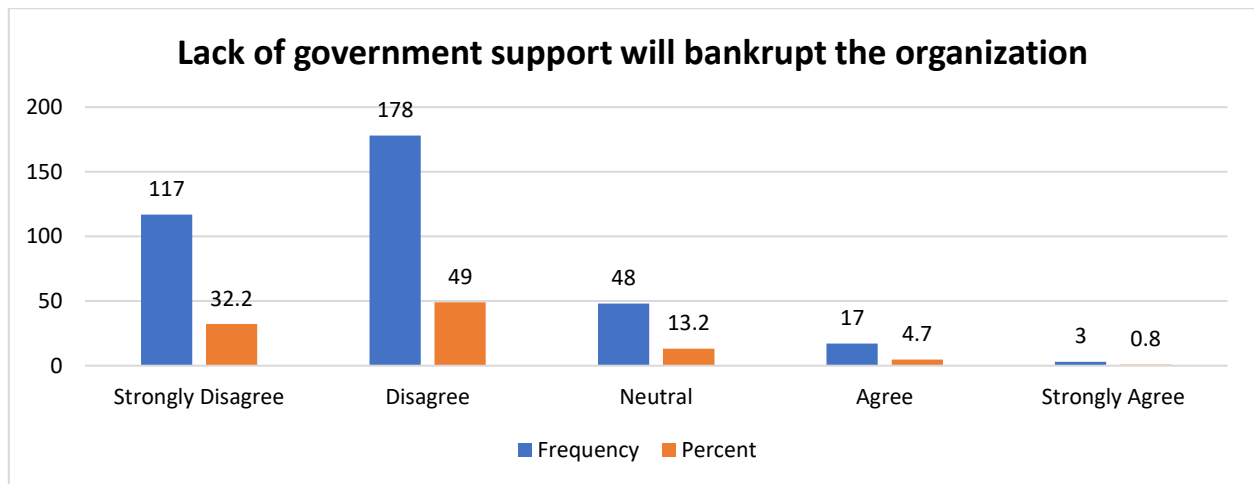


Figure 5.26: Lack of government support will bankrupt the organization

On whether the lack of government support will bankrupt organizations, table 5.28 and table 5.25 clearly show 117 (32.2 percent) respondents were in strong disagreement with the statement, while 178 (49 percent) disagreed. However, 48 (13.2 percent) respondents remained neutral and 17 (4.7 percent) and three (0.8 percent) strongly agreed the lack of support from government has the potential to bankrupt an organization. However, respondent views suggest they do not believe the lack of government support can cause bankruptcy in an organization. A Chi-square test was conducted to determine the relationship between government support and manufacturing SMEs and whether the findings observed were those expected. The results show ($X^2 = 464.941$; $df = 10$; $P = 0.000$) for this variable, indicating the relationship between government support and manufacturing SMEs.

The lack of government support can certainly contribute to the financial difficulties and potential bankruptcy of SMEs. Governments play a crucial role in creating an enabling environment for businesses to thrive, and when that support is lacking, SMEs may face several challenges that can lead to financial distress (OECD 2021; World Bank 2019, 2020).

5.7.18 Lack of government support affects expansion of organization

Table 5.29: The organization is not expanding its operation because of lack of government support

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	7	1.9	1.9	2.8
	Neutral	13	3.6	3.6	6.3
	Agree	86	23.7	23.7	30.0
	Strongly Agree	254	70.0	70.0	100.0
	Total	363	100.0	100.0	

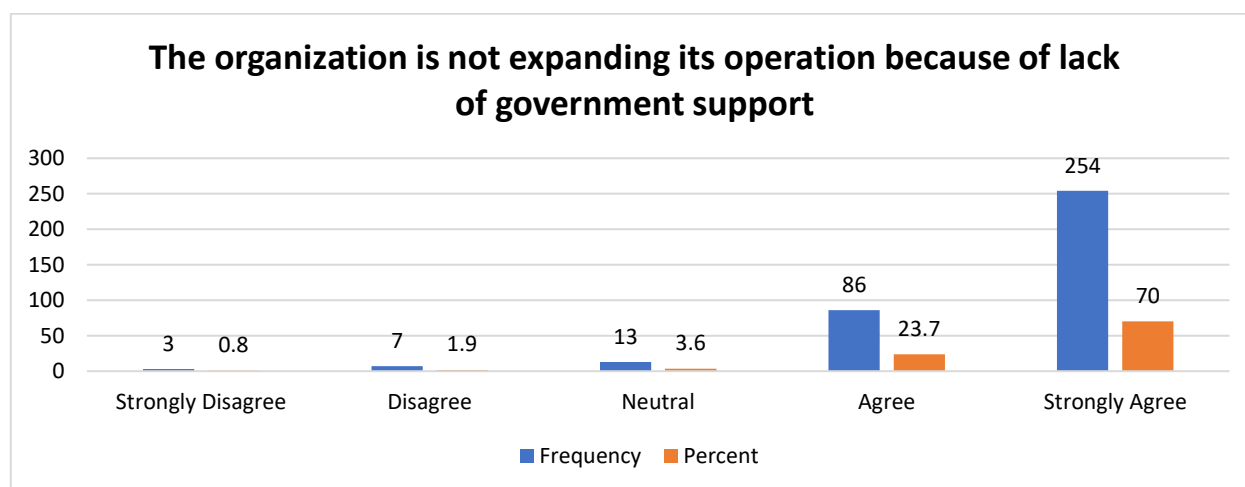


Figure 5.27: Organization not expanding operations because of lack of government support

The study ascertained whether the inability of organizations to expand operations is due to the lack of government support. As depicted in table 5.29 and figure 5.26, an overwhelming majority (254 or 70 percent) respondents conclusively strongly agreed and

86 (23.7 percent) agreed the lack of government support is a contributing factor to the inability of organizations to expand. A further 13 (3.4 percent) respondents, however, remained neutral, whereas seven (1.9 percent) disagreed and three (0.8 percent) strongly disagreed with the assertion organizations find it difficult to expand their operations without government support.

The lack of government support can indeed pose challenges for SMEs in Ghana, with regard to expanding their operations. Government support plays a crucial role in creating a conducive environment for SME growth and development (IFC 2019; AfDB 2021).

5.7.19 Government has been strictly controlling the operations of the organization

Table 5.30: Government has been strictly controlling the operations of the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	279	76.9	76.9	76.9
	Disagree	55	15.2	15.2	92.0
	Neutral	15	4.1	4.1	96.1
	Agree	14	3.9	3.9	100.0
	Total	363	100.0	100.0	

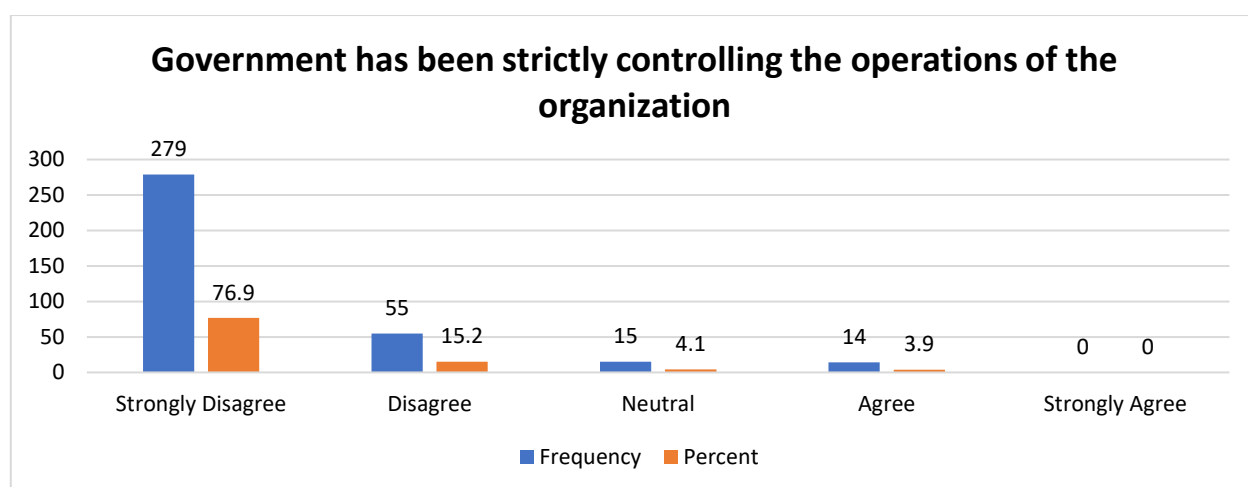


Figure 5.28: Government has been strictly controlling operations of the organization

Table 5.30 and figure 5.27 show 279 (76.9 percent) respondents claim they strongly disagreed the government has been strictly controlling the operations of their organizations, while 55 (15.2 percent) disagreed. However, 15 (4.1 percent) respondents remained neutral on the subject, while 14 (3.9 percent) agreed the government has been strictly controlling the operations of their respective organizations. This insinuates the majority organizations believe they have a more controlling hand in the operations of their business. A Chi-square test was conducted to determine the relationship between government support and manufacturing SMEs and whether the findings observed were those expected. The results show ($X^2 = 464.941$; $df = 10$; $P = 0,000$) for this variable, indicating the relationship between government support and manufacturing SMEs.

The government of Ghana regulates and controls certain SME activities through various policies, laws, and regulations. The aim is to promote economic growth, ensure fair competition, protect consumers, and address social and environmental concerns (Ghana Revenue Authority, Ghana Standards Authority, Bank of Ghana 2018).

Table 5.31: Component matrix: Relationship between Government support and Manufacturing SMEs in Ghana

	Rotated Component Matrix ^a	
	Component 1	Component 2
Lack of government support will affect the organization survival	.218	.897
Lack of government support will affect the organization's ability to compete effectively	-.589	.629
Lack of government support will bankrupt the organization	.867	.057
Government has been strictly controlling the operations of the organization	.881	.065

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

These components are drawn from additional statistical analysis of the figures discussed above (Figures 5.23 to 5.27) – that is, on the relationship between government support and manufacturing SMEs in Ghana. Respondents indicated to two categories of components, where a strong positive significance of 0.897 was obtained on the statement as to whether the lack of government support will affect the organization's ability to

compete effectively loaded on the second component. On the variable whether the lack of government support will bankrupt the organization, a strong positive significance of 0.867 is shown, while the other variable, whether Government has been strictly controlling the operations of the organization, loaded with a score of 0.881.

5.7.20 Government policy on growth of manufacturing SMEs in Ghana

The following statements are based on government policies and programmes on manufacturing SMEs in Ghana:

Table 5.31: The government has a policy on growth of manufacturing SMEs in Ghana

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0.0	0.0	0.0	0.0
	Disagree	0.0	0.0	0.0	0.0
	Neutral	19	5.2	5.2	5.2
	Agree	200	55.1	55.1	60.3
	Strongly Agree	144	39.7	39.7	100.0
	Total	363	100.0	100.0	

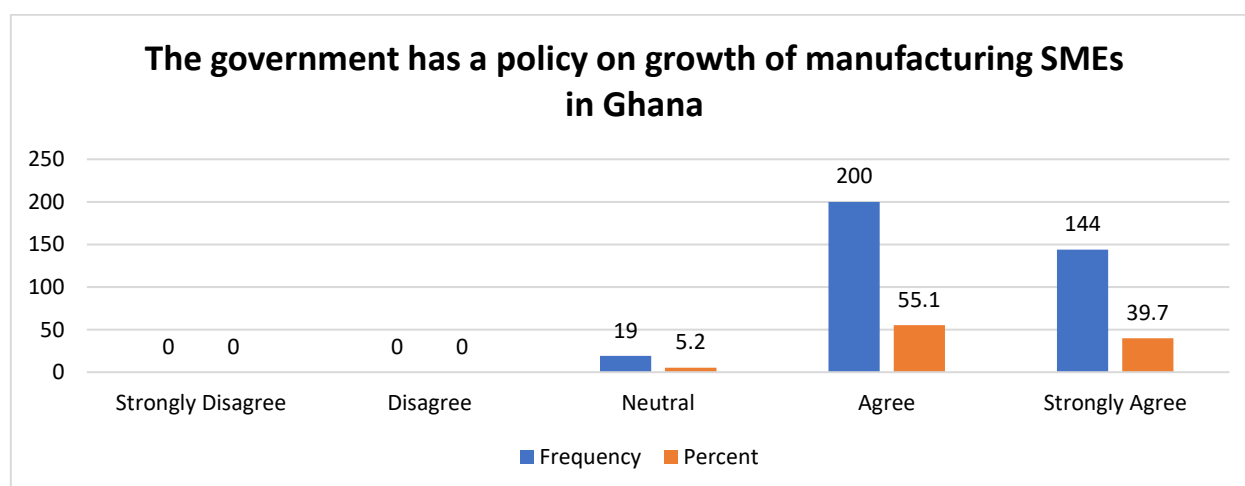


Figure 5.29: Government has a policy on growth of manufacturing SMEs in Ghana

Table 5.31 and figure 5.28 illustrate more than half the respondents (200 or 55.1 percent) agreed and 144 (39.7 percent) strongly agreed the government has a policy on growth of manufacturing SMEs in Ghana, while 19 (5.2 percent) respondents remained neutral. A Chi-square test was conducted to know more regarding government policies and

programmes for manufacturing SMEs and whether the findings observed were those expected. The results show ($X^2 = 1135.496$; $df = 3$; $P = 0,000$) for this variable, indicating the relationship between government support and small and medium manufacturing enterprises. It is worth noting no respondents disagreed nor strongly disagreed there were existing policies on growth of manufacturing SMEs in Ghana.

In September 2021, the government of Ghana had implemented policies and initiatives to promote the growth of SMEs. These policies aimed to create an enabling environment for SMEs to thrive and contribute to the country's economic development. National Entrepreneurship and Innovation Plan (NEIP), Tax Incentives, 1D1F, and Ghana EXIM Bank, are a few of the policies to assist SMES in Ghana (ChatGPT 2023).

5.7.21 Government policy and programmes on development of manufacturing SMEs in Ghana

Table 5.32: The government has a policy and programmes on development of manufacturing SMEs in Ghana

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	.8	.8	.8
	Neutral	19	5.2	5.2	6.1
	Agree	200	55.1	55.1	61.2
	Strongly Agree	141	38.8	38.8	100.0
	Total	363	100.0	100.0	

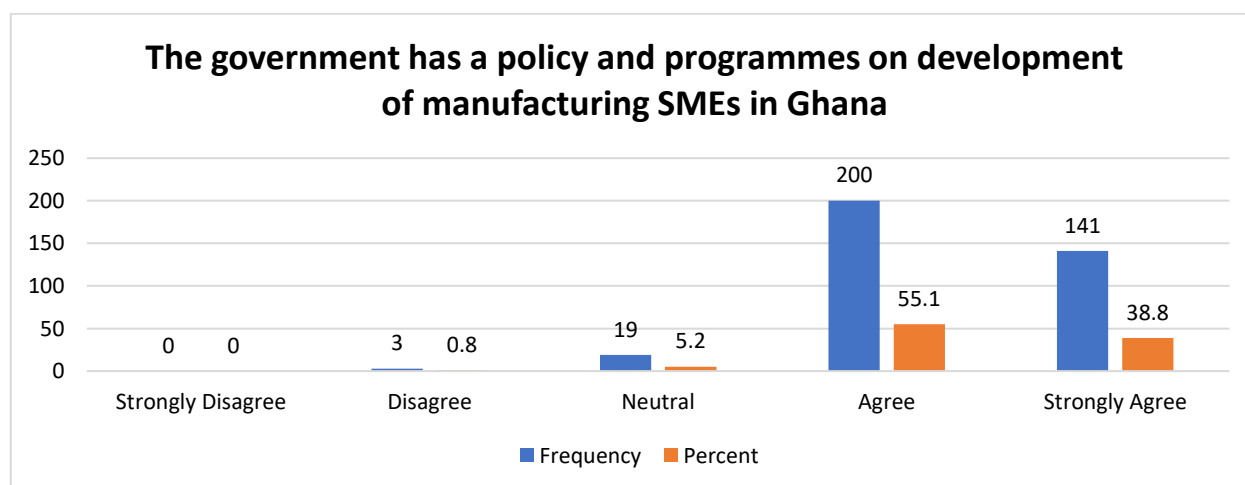


Figure 5.30: Government has a policy and programmes on development of manufacturing SMEs in Ghana

In response to whether the government has a policy and programmes in place for manufacturing SMEs development in Ghana, 200 (55.1 percent) respondents agreed, while 141 (38.8 percent) strongly agreed there are policies and programmes designed by the government on the development of manufacturing SMEs in Ghana. In addition, 19 (5.2 percent) respondents remained neutral, while three (0.8 percent) were in disagreement.

The Ghanaian government had put policies and programmes into place to support the expansion of SMEs, with these regulations seeking to foster an atmosphere where SMEs may prosper and advance the national economy (ChatGPT 2023).

5.7.22 Government policy on import duties and tariffs

Table 5.33: The government policy on import duties and tariffs have been helpful to manufacturing SMEs in Ghana

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	223	61.4	61.4	61.4
	Disagree	102	28.1	28.1	89.5
	Neutral	20	5.5	5.5	95.0
	Agree	18	5.0	5.0	100.0
	Total	363	100.0	100.0	

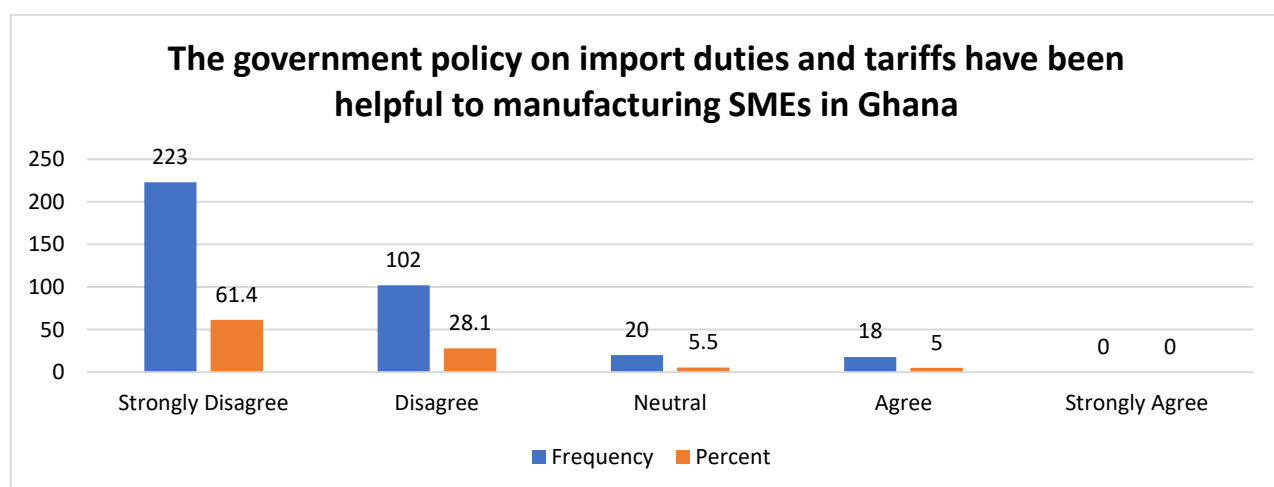


Figure 5.31: Government policy on import duties and tariffs have been helpful to manufacturing SMEs in Ghana

As depicted in table 5.33 and figure 5.30, strong disagreement was indicated by 223 (61.4 percent) respondents, while 102 (28.1 percent) disagreed to the statement that the government policy on import duties and tariffs has been helpful to manufacturing industries. Although 20 (5.5 percent) respondents remained neutral, 18 (five percent) agreed government policies on import duties and tariffs were helpful to manufacturing SMEs in Ghana.

The government has implemented various policies regarding import duties and tariffs to support SMEs and promote local industry development. These policies aim to protect domestic industries, encourage local production, and foster economic growth. Import duty exemptions, special Import Levy, Tax Incentives, and Import Duty rebates, as well as the ECOWAS Trade Liberalization Scheme, are some of the duties and tariffs meant to help SMEs in Ghana (ChatGPT 2023).

5.7.23 Existing SCM model

Table 5.34: What is the existing SCs model the organization uses in its operations?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agile model	4	1.1	1.1	1.1
	Continuous flow model	5	1.4	1.4	2.5
	Custom configured model	34	9.4	9.4	11.8
	Efficient model	147	40.5	40.5	52.3
	Fast chain model	3	.8	.8	53.2
	Flexible model	164	45.2	45.2	98.3
	No model	6	1.7	1.7	100.0
	Total	363	100.0	100.0	

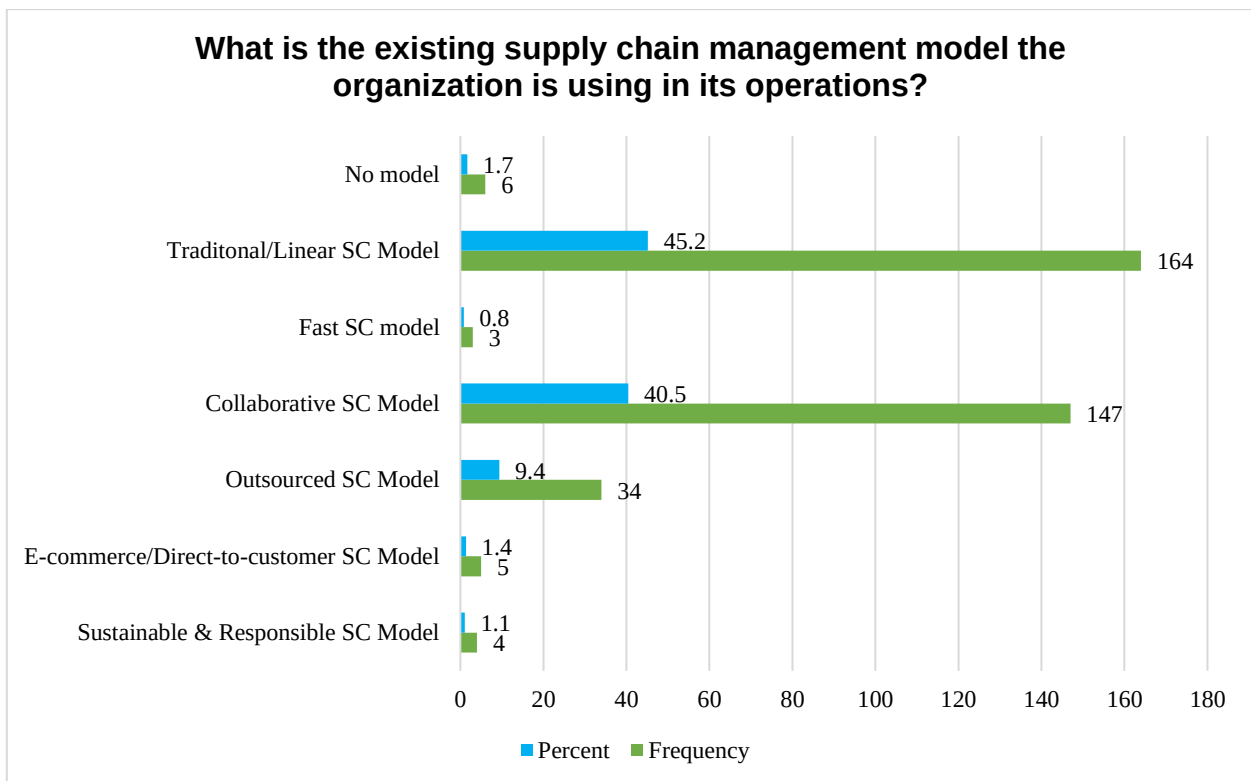


Figure 5.32: What is the existing SCM model the organization uses in its operations?

In a bid to ascertain the form of SCM model manufacturing SMEs are using in the administration of their businesses, the study discovered 164 (45.2 percent) respondents indicated they prefer to use a Traditional/Linear supply chain model, while 147 (40.5 percent) prefer the Collaborative supply chain model. A moderate number of 34 (9.4 percent) respondents claim to use an outsourced supply chain model, while five (1.4 percent) use the E-Commerce/D2C supply chain model. Few respondents (four or 1.1 percent) prefer to use the Sustainable and Responsible supply chain model, three (0.8 percent) use Fast supply chain model, with six (1.7 percent) respondents stating they do not use any form of supply chain model, at all.

SCM models play a crucial role in enhancing SME performance in Ghana. Effective SCM can lead to improved efficiency, reduced costs, increased customer satisfaction, and overall business growth (ChatGPT 2023).

The following section is based on challenges of SCMPs on manufacturing SMEs in Ghana:

5.8 SECTION C: SCMP CHALLENGES IN MANUFACTURING SMEs

5.8.1 SCMPs make the organisation non-competitive

Table 5.35: SCMPs make the organisation non-competitive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	187	51.5	51.5	51.5
	Disagree	149	41.0	41.0	92.6
	Neutral	5	1.4	1.4	93.9
	Agree	22	6.1	6.1	100.0
	Total	363	100.0	100.0	

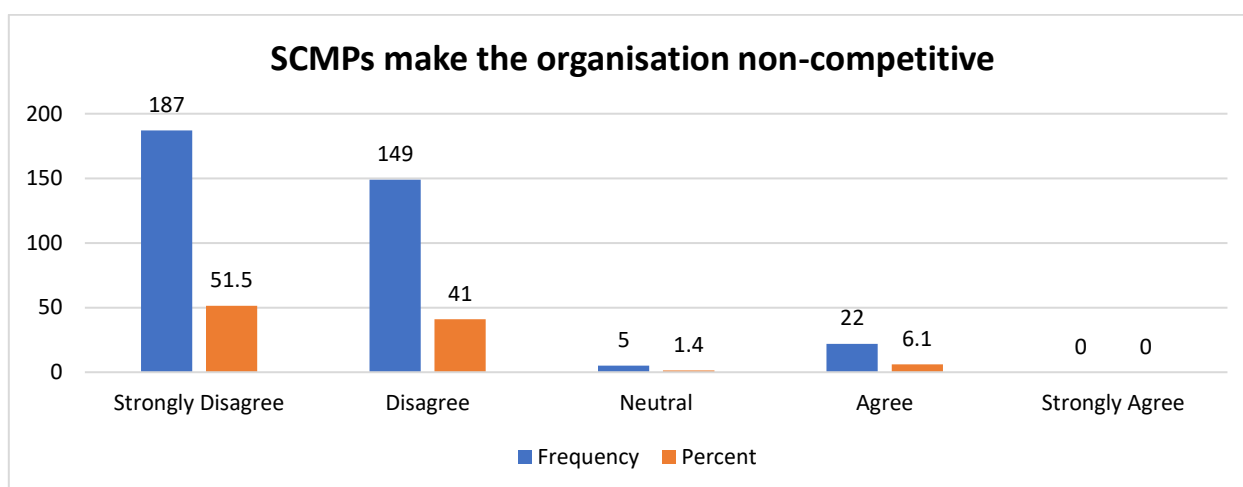


Figure 5.33: SCMPs make the organisation non-competitive

Table 5.35 and figure 5.32 depict the responses whether SCMPs adopted by respondents make their respective organisations non-competitive. It was revealed more than half the respondents (187 or 51.5 percent) strongly disagreed SCMPs make the organisation non-competitive, while approximately 141 (41 percent) respondents disagreed. A Chi-square test was conducted to determine government policies and programmes for manufacturing SMEs and whether the findings observed were those expected. The results show ($\chi^2 = 407.494$; $df = 1$; $P = 0.000$) for this variable, indicating the challenges of SCMPs on SMEs in Ghana. However, five (1.4 percent) were neutral, with 22 (6.1 percent) that agreed with the claim. Responses suggest the majority respondents were of the belief the SCMPs adopted by the organisation do not make it non-competitive.

5.8.2 SCMPs are very difficult to apply in the operations of the organisation

Table 5.36: SCMPs are very difficult to apply in the operations of the organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	188	51.8	51.8	51.8
	Disagree	151	41.6	41.6	93.4
	Neutral	8	2.2	2.2	95.6
	Agree	13	3.6	3.6	99.2
	Strongly Agree	3	.8	.8	100.0
	Total	363	100.0	100.0	

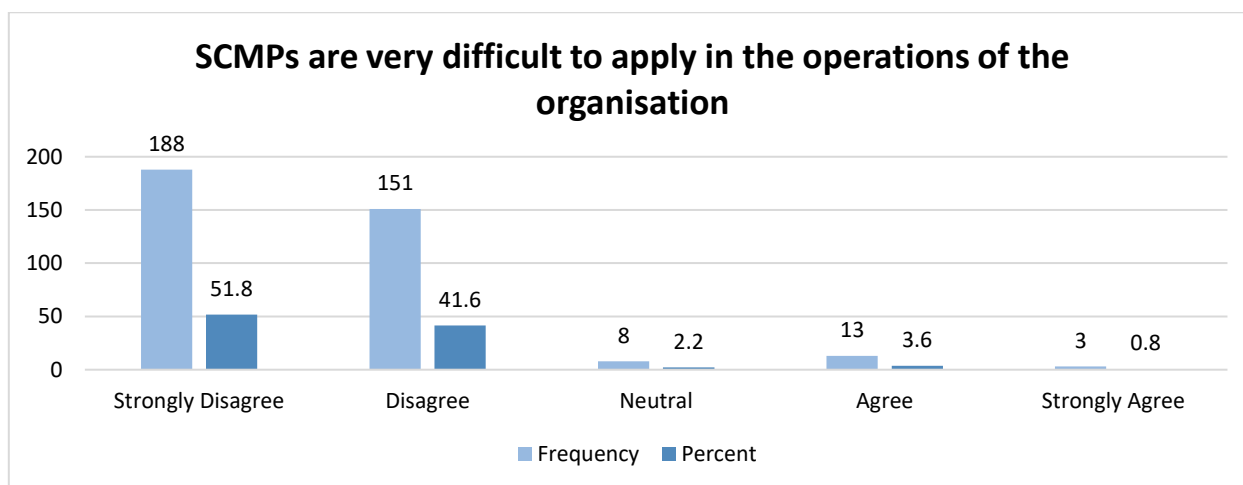


Figure 5.34: SCMPs are very difficult to apply in the operations of the organisation

As shown in Table 5.36 and figure 5.33, a significant majority of respondents were not in support of the statement that SCMPs are very difficult to apply in the operations of the organisation. This was shown by 188 (51.8 percent) in strong disagreement and 151 (41.6 percent) that disagreed. However, eight (2.2 percent) respondents were neutral. Furthermore, 13 (3.6 percent) and three (0.8 percent) respondents agreed and strongly agreed respectively, indicating they believe SCMPs are very difficult to apply in the day-to-day operations of their businesses.

5.9 DISCUSSION OF KEY FINDINGS IN LINE WITH LITERATURE REVIEW AND RESEARCH OBJECTIVES OF THE STUDY

This section discusses the key findings in line with the literature review and the research objectives of the study. As stated in the first chapter, the following are the study objectives.

In order to achieve the main objective, the underlisted sub-objectives will be examined:

Sub-objective 1: To identify critical factors affecting the growth and sustainability of manufacturing SMEs in Ghana.

Sub-objective 2: To identify the characteristics of manufacturing SMEs in Ghana in relation to how they are being managed by the regulatory bodies.

Sub-objective 3: To establish the relationship between government support through NBSSI and SME management for the growth and sustainability of manufacturing SMEs in Ghana.

Sub-objective 4: To examine the existing supply chain model used by the manufacturing SMEs in Ghana.

Sub-objective 5: To suggest a prototype model to help manufacturing SMEs ensure their sustainability, growth and future expansion in Ghana.

Sub-objective 6: To identify environmental factors that influence the growth and sustainability of manufacturing SMEs in Ghana.

This section provides a thorough overview of the study's main empirical findings and contrasts the results with the literature reviewed specifically for this study. The interview questions are based on the pertinent survey questions and comments, as well as the study goals.

In accordance with the stated study aims, the important research findings are discussed in the sections below:

5.9.1 Key findings of Objective 1

To identify critical factors affecting the growth and sustainability of manufacturing SMEs in Ghana

The literature provides a host of critical factors affecting manufacturing SMEs, however, for the purpose of this research study, there are several factors that contribute to SME growth and sustainability. These factors include:

Access to finance

Adequate access to finance, including affordable loans, investment capital, and tailored financial services, is critical for SME growth and sustainability (AfDB 2019). Improved access to finance enables SMEs to invest in their operations, expand their businesses, and overcome financial challenges. Furthermore, companies with less credit restrictions expand more quickly than those with more credit restrictions. These findings support the idea that funding is crucial for business expansion and support the numerous policies and programmes being implemented to increase the amount of credit available to African businesses (Fowowe 2017; Sibanda *et al.*, 2018; Lekhanya and Mason 2014). Moreover, SMEs with access to formal funding generate more jobs than those without access, with employment rising most quickly in businesses that have access to larger, more affordable loans (Brixiova *et al.* 2020).

Infrastructure Development

According to Mugo *et al.* (2019), infrastructure is the entirety of the fundamental physical facilities on which all other activities, such as those related to the economy, society, and politics, heavily rely. Without infrastructure, basic, secondary, and tertiary production cannot operate and function, which will have a detrimental impact on the performance of SMEs. The development of physical infrastructure, such as transportation networks, energy supply, telecommunications, and reliable utilities, is essential for SME growth and sustainability (World Bank 2019).

Well-developed infrastructure reduces operational costs, enhances logistics, and facilitates SME connections with suppliers, customers, and markets. Lack of infrastructure has a detrimental influence on SME profitability and performance, since it is expensive to provide their own infrastructure and distribute finished items. Furthermore, the Nigerian power supply has not improved much, despite the successful privatisation of energy production in November 2013. To simplify the movement of goods and services, the government has started a road renovation program (Obokoh and Goldman 2016 Muriithi 2017). Igwe (2016) makes the argument that a significant investment in public infrastructure is a wonderful method to boost SME productivity, profitability, and competitiveness. Igwe (2016) advised the Nigerian government to construct more energy facilities, hospitals, schools, roads, and so on, as a result of his study.

Business Support Services

Access to business support services, including training, mentorship, consultancy, and market information, plays a vital role in SME growth and sustainability.

These services help SMEs improve their management capabilities, enhance competitiveness, and adapt to market changes. In LMICs, formalisation, the business climate, exports, and clusters, as well as training, technical support, access to credit, and innovation, are the areas where SME business support interventions are most frequently focused (Cravo and Piza 2019). Support for SMEs improves business success, the development of new jobs, and labour productivity. Matching grants show up as particularly successful in boosting business performance indicators and creating jobs when interventions are examined independently (Cravo and Piza 2019). Graduate Business Support Scheme (GEBSS) can be categorised as a strategy used by government to assist, promote, and organise training for SMEs and unemployed graduates, in the hopes they will advance and develop in line with government goals for SMEs. It has been suggested GEBSS has a beneficial impact on increasing competitiveness, both locally and internationally (Arshad *et al.* 2020).

Government Policies and Regulations

A conducive regulatory environment plays a significant role in SME growth and sustainability. Simplified business registration procedures, streamlined taxation systems, and transparent regulations can reduce administrative burdens on SMEs. Governments should create an enabling environment by implementing business-friendly policies and reducing regulatory barriers. Government policies and regulations shape SCMP and SME performance. Trade policies, taxation, licensing, customs procedures, and labour regulations all have an impact (World Bank 2020). These policies can either support or hinder SCM efficiency and the ability of SMEs to operate and compete effectively.

The labour restrictions being implemented in SA have been criticised as even more onerous than the country's already problematic labour laws, described as very harsh by Herrington, Kew and Kew (2010). SMEs in SA face difficulties in obtaining capital, accessing market data, and operating in an unfavourable regulatory environment. To guarantee SMEs have sufficient access to private capital and market knowledge, the South African government must develop and put a policy into effect meant to encourage

the development of business networks between SMEs and significant private corporations. Additionally, a favourable regulatory framework is crucial for the growth and success of SME (Sibiya and Kele 2019; Muriithi 2017).

Supply Chain Collaboration

The level of collaboration and integration among supply chain partners, including suppliers, manufacturers, distributors, and retailers, affects SCMP and SME performance. Collaborative relationships, sharing of information, and coordinated efforts along the supply chain can enhance efficiency, reduce costs, and improve customer satisfaction. The ability of two or more supply chain partners to cooperate with the goal of joining supply chain-related activities is referred to as buyer-supplier cooperation (BSC), which is crucial for meeting the needs and expectations of customers (Melandar and Tell 2019). Effective information exchange and good communication among supply network participants help to create superior inter-organizational learning, which strengthens collaborative qualities (DhaifAllah et al. 2019).

In order to establish and develop an effective collaboration that may eventually lead to the reduction of product costs and the advancement of technology in the supply chain, supply chain collaboration is characterised by the degree of interdependence and complementarity between a firm's partners (Ranganathan, Teo and Dhaliwal 2011). The finding indicated more than half 192 (52.9 percent) the respondents and a further 100 (27.5 percent) strongly agreed and agreed with the statement that their organizations do share information with suppliers. These findings are supported by a Chi-square test conducted to determine SCMP influence on SME performance.

5.9.2 Key findings on Objective 2

To identify the characteristics of manufacturing SMEs in Ghana in relation to how the SMEs are being managed by the regulatory bodies.

SMEs in Ghana exhibit several characteristics unique to the country's business environment.

Employment Generation

SMEs in Ghana are significant contributors to employment generation in the country. They play a crucial role in job creation and reducing unemployment rates. In addition, they

provide job opportunities for a significant portion of the population, particularly in rural areas. According to the GSS, SMEs accounted for approximately 70 percent of total employment in the non-agricultural sector (GSS 2017). Job opportunities, rural employment, women's employment, youth employment and informal sector employment are some of the employment generations by SMEs in Ghana (GSS 2017; World Bank 2019; Asiedu-Appiah and Amponsah-Tawiah 2018).

Size

SMEs in Ghana are characterised by their relatively small size in terms of various parameters, with exact definitions and thresholds of SMEs varied, as these are based on the context and industry. Typically characterised according to their small size, in terms of employee count, assets, and turnover. Nevertheless, the GSS (2017) states SMEs in Ghana generally employ less than 100 staff, while micro-enterprises are those with 1-4 employees, small enterprises have 5-19 employees, and medium enterprises employ 20-99 workers.

The relatively modest annual revenue turnover of SMEs in Ghana cannot be compared to that of larger enterprises. Again, based on sector and industry, the thresholds for turnover may vary. In general, lower annual revenues generated by SMEs in comparison to large corporations (GSS 2017). In addition, the relatively limited total assets Ghanaian SMEs have, compare poorly to that of larger enterprises. The specific thresholds for asset size may vary across sectors and industries; however, SMEs are generally characterised by their moderate levels of capital investment and asset base (World Bank 2019).

Local Market Focus

In Ghana, the focus of SMEs is often purely on the local market. Various factors drive this emphasis on the domestic market accompanied by related advantages and challenges. The domestic market is the primary target with many SMEs that cater local community needs, thereby contributing to their respective regions' development. A growing number of SMEs, particularly in sectors such as agriculture and manufacturing are, nevertheless, engaged in activities of international trade and export, (World Bank 2019). Consumer demand, proximity and accessibility, local networks and relationships, cultural and contextual understanding, and socio-economic impact are some of the reasons SMEs in Ghana focus on local market (GSS 2017 Asiedu-Appiah and Amponsah-Tawiah 2018).

Access to Finance

Access to finance remains a significant challenge for SMEs in Ghana. Several factors contribute to this challenge, limiting their ability to obtain affordable and long-term financing. SMEs in Ghana encounter difficulties in accessing affordable and long-term financing. A survey by the GSS cited lack of access to credit as one of the main constraints faced by SMEs in the country (GSS 2017). Limited collateral, high interest rates, limited access to formal financial institutions, lack of financial records and documentation, lack of alternative financing options and inadequate government support are a few issues complicating SME access to finance in Ghana (GSS 2017; World Bank 2019).

Informal Networks

In Ghana, informal networks—which are made up of connections, interactions, and collaborations between members of the informal economy—are essential to the functioning and success of SME. In Ghana, SMEs commonly rely on unofficial networks and connections to gain access to resources and receive assistance for their operations. These networks have a critical role in fostering collaboration, knowledge exchange, and a sense of community among SME owners (GSS 2017). Additionally, unofficial networks give SMEs access to vital resources including data, expertise, skills, and inputs. Through these networks, SME owners can thus benefit from the experiences of others, get market knowledge, and gain a better understanding of business practices and prospects. According to Nunoo et al. (2017), informal networks enable collaboration and partnerships between SMEs, giving entrepreneurs the chance to work together to share resources, cut expenses, and develop joint ventures. Additionally, by working together, SMEs are able to take on bigger projects, expanding their market reach and utilizing one another's skills.

Additionally, informal networks might help SMEs in Ghana get around obstacles to official finance. Additionally, network members may occasionally offer financial assistance through ad hoc lending or investment agreements. Through trust and close connections within these networks, access to capital can be made easier for people who might otherwise find it challenging to do so (Asiedu-Appiah and Amponsah-Tawiah 2018).

This is supported by the review of literature indicating business networking is one of the most important factors that can foster creativity inside small organisations, where networking is any ongoing relationship that benefits both parties between a business and

an individual (Hallen and Johanson 2004). Ludmila and Stanisava (2015) and Scott et al. (2018) described networks as strategic ways formed to spread new ideas that promote innovation and nurture growth.

5.9.3 Key findings on Objective 3

To identify the relationship between government support through NBSSI and SME management for growth and sustainability of manufacturing SMEs in Ghana

The relationship between government support and SME performance in Ghana can be significant and influential. Government support plays a crucial role in creating an enabling environment for SMEs to thrive and contribute to the country's economic growth. Access to financing, capacity building, regulatory environment, business support services, market access and trade promotion and infrastructure development, are some of the support measures the government is meant to provide SMEs in Ghana (ChatGPT 2023).

Additionally, a clear lack of government support for SMEs has emerged. Over the years, the government has taken a number of direct and indirect actions to support entrepreneurship, however, SME owners interviewed by various academics did not acknowledge any type of government action. This could be attributed to SMEs either being unaware of or unable to obtain such interventions. Credit facility access is an ongoing challenge found in all SMEs research, where strict lending criteria are imposed by institutions, with high interest rates charged, and collateral requested, which SMEs find difficult to obtain (Asunka 2017).

Lack of government support will affect the organization's survival

The absence of government backing has a big impact on SMEs in Ghana. SME involvement in the economy is viewed as essential since these businesses foster innovation, produce jobs, and promote economic expansion. However, SMEs usually encounter a range of difficulties that are made worse by insufficient government assistance. According to the OECD (2019), Ghana's SME operations may be hampered by infrastructural limitations, which include dependable power supply, efficient transportation networks, and internet access. The US Dept. of State (2021) concurred as well, noting that the productivity of SMEs is directly impacted by government investments in infrastructure development, leading to higher operating costs and reduced competitiveness.

The current study findings do not concur with the literature in this regard, in that the lack of government support can significantly affect SME survival. This is indicated by the significant number of respondents (217 or 59.8 percent) that disagreed the lack of government support will eventually affect organizational survival, with a further 15 (4.1 percent) respondents that strongly disagreed with the assertion. Owners of SMEs in Ghana depend on informal networking, often relying on informal networks and relationships for business support and access to resources (GSS 2017; Nunoo *et al.* 2017).

Lack of government support will affect the organization's ability to compete effectively

SME productivity is directly impacted by the lack of government investment in infrastructure development, which results in higher operating costs and constraints to their ability to compete (OECD 2019; US Dept. of State 2021). The findings indicated almost half the respondents (175 or 48.2 percent) agreed the lack of government support will affect the organizations' ability to compete effectively in the corporate organizational space. A further 134 (36.9 percent) respondents also strongly agreed. Government funding has a statistically significant and direct impact on how well SMEs performed and were supported by other institutions. The findings also show government assistance improved the performance of SMEs through the partial mediation effect of assistance from other institutions (Ntiamoah *et al.* 2016).

Lack of government support will bankrupt the organization

Lack of government support can contribute to the financial struggles and potential bankruptcy of SMEs in Ghana. It is important to note bankruptcy is a complex outcome, influenced by multiple factors.

Factors such as market dynamics, management practices, and external shocks, can play a role in the financial health of SMEs in Ghana. It is, therefore, crucial for the government to prioritise and implement policies and programmes that provide the necessary support to SMEs, including access to finance, market development, resilience-building measures, and business development services (World Bank 2020; GEPA 2021; African Development Bank 2020). The findings of the study indicated 117 (32.2 percent) respondents were in strong disagreement with the statement, while 178 (49 percent) disagreed. However, 48

(13.2 percent) respondents remained neutral, while 17 (4.7 percent) and three (0.8 percent) strongly agreed the lack of support from government has the potential to bankrupt an organization. This suggests respondents do not believe the lack of support from government can cause bankruptcy in an organization.

According to Oppong *et al.* (2014), obstacles working against the expansion of SMEs in Ghana include a lack of capital, the high cost of acquiring operating equipment and facilities, lack of financial support from the government and financial institutions, and erratic raw material supply. Additionally, a clear lack of government support for SMEs has emerged. Over the years, the government has taken certain direct and indirect actions to support entrepreneurship, however, SME owners interviewed by various academics did not acknowledge any type of government action. It is possible they are either unaware of or unable to obtain such interventions.

Access to credit facilities is another challenging topic that permeates all SME studies; lending institutions impose strict criteria, charge high interest rates, and even ask for collateral, difficult for small SMEs to obtain (Asunka 2017). As stated by Agyapong *et al.* (2018), government taxation policies, which include oppressive local tax burdens and excessive customs charges, have a negative impact on net income levels.

The findings show small enterprises do not receive the same incentives as SMEs in developed countries. The local levy tax imposed by the local authority and the national tax level imposed by the government make up the dual tax burden SMEs in Ghana must bear. Many SMEs have failed, particularly those that do not support the current government. Primary causes include excessive government control, politicisation of funding, victimisation of business owners, and corruption. Apathy and carelessness in providing public services, as well as a reckless attitude towards public monies and property, are all fostered by the political culture in many developing nations, including Ghana (Mensah, Fobih and Adom 2019).

The organization is not expanding its operations because of lack of government support

SMEs in Ghana may indeed face challenges in expanding their operations due to the lack of government support. When SMEs do not receive adequate support from the

government, it can hinder their growth and expansion plans. The findings of the study indicated an overwhelming majority (254 or 70 percent) respondents conclusively strongly agreed and 86 (23.7 percent) agreed the lack of government support is a contributing factor to the inability of organizations to expand. SMEs often struggle to secure affordable financing from banks and financial institutions. Without sufficient government support programmes that facilitate access to capital, such as loan guarantee schemes or venture capital funds, SMEs may face difficulties in obtaining the necessary funds to expand their operations (ILO 2017; World Bank 2020).

Inadequate infrastructure, including unreliable power supply, poor transportation networks, and limited access to essential utilities, can impede the expansion efforts of SMEs. The lack of government investment in infrastructure development can, therefore, limit SME ability to scale up operations, reach new markets, or establish efficient supply chains (Oxford Business Group 2020; US Department of State 2021). In addition, SMEs play a crucial role in any country's economic activities and are crucial to the development of a nation; it is assumed as they develop and increase, so does the economy. SMEs are a key instrument for reducing poverty and fostering economic growth (Adjei et al. 2014).

To foster the expansion of SMEs in Ghana, it is thus crucial for the government to prioritise and implement policies and programmes that address these challenges. By providing access to financing, investing in infrastructure, facilitating market access, and offering technical support and training, as well as streamlining regulatory processes, the government can create an enabling environment that supports and encourages SME expansion.

Government has been strictly controlling the operations of the organization

Unfavourable government policies and regulations are another issue frequently mentioned as a barrier to SME expansion in Ghana. Tax regulations, registration requirements, and other legal requirements can occasionally be so onerous that SMEs find it impossible to comply. The findings of the study indicated 279 (76.9 percent) respondents claim they strongly disagreed the government has been strictly controlling the operations of their organizations, while 55 (15.2 percent) disagreed. However, 15 (4.1percent) respondents remained neutral on the subject matter, while 14 (3.9 percent) agreed they believe the government has been strictly controlling the operations of their

respective organizations. This insinuates the majority organizations believe they have a more controlling hand in the operations of their business.

SMEs are of the opinion that local authority levies, withholding taxes, and VAT have a detrimental effect on their companies; they believe these taxes destroy their profits. The exorbitant fees SMEs must pay to access utilities (such as electricity and water) is another nagging issue that receives a lot of attention in this context. The majority SMEs use electricity in their operational procedures. Therefore, increased utility costs reduce profit margins and, in some situations, make up a significant portion of the entire cost of manufacturing. The average cost of a product is increased by these taxes and tariffs, to the point where the producer must pass those costs on to the customer. Consumers find these prices outrageous, reducing demand and, more crucially, make SMEs vulnerable to competition, particularly from foreign rivals (Muriithi 2017). From the above, it is noted owners and managers of SMEs might not be aware of some government policies that indirectly control their operations and affect their survival in the long-term.

5.9.4 Key findings on Objective 4

To examine the existing supply chain model used by manufacturing SMEs in Ghana

Variation of SCMPs in SMEs in Ghana depends on the industry and company type. Some common SCM models and strategies are, however, frequently employed by SMEs in Ghana to improve their supply chain operations. According to the study, 147 respondents (40.5%) prefer the collaborative supply chain model, while 164 respondents (45.2%) said they prefer to use a traditional/linear supply chain model. 34 respondents (9.4%) claim to utilize an outsourced supply chain model, compared to five respondents (1.4%) who claim to use an e-commerce/direct-to-consumer supply chain approach. Four respondents, or 1.1 percent, said they preferred to use the sustainable and responsible supply chain model. Three respondents, or 0.8 percent, said they preferred to use the fast supply chain model. Six respondents, or 1.7 percent, said they did not use any supply chain model at all. Therefore, SME adoption of SCM models in Ghana varies, contingent on factors including the industry, company size and resources available. Individual SMEs will thus select the SCM model or combination of models best aligned with their specific needs and goals.

Traditional/Linear Supply Chain model

Many SMEs in Ghana follow a traditional or linear supply chain model. This model typically involves a sequential flow of activities from suppliers to manufacturers, distributors, retailers, and finally, to end customers. The findings indicated 164 (45.2 percent) respondents prefer to use a traditional supply chain model in their operations.

Outsourced Supply Chain model

Some SMEs in Ghana opt to outsource certain aspects of their supply chain to external partners or service providers. This model allows SMEs to focus on their core competencies while relying on specialized third-party providers for specific functions such as logistics, warehousing, or distribution. By outsourcing, SMEs can access expertise and resources that may not be available in-house. SMEs in Ghana often partner with 3PL providers to outsource logistics and distribution functions. A moderate number of respondents (34 or 9.4 percent) in the study claim to use outsourced supply chain model.

Collaborative Supply Chain model

Another supply chain model observed in Ghana is collaboration among SMEs, where these enterprises enter alliances or partnerships in collaborating on a variety of supply chain activities, including joint procurement or marketing, as well as shared distribution. Through Collaborative supply chains, SMEs leverage collective strengths and capabilities, thus allowing them to pool resources, reduce costs, and improve efficiency. The CPFR model emphasises collaboration and sharing information between supply chain partners. The findings of the study indicated 147 (40.5 percent) respondents indicated their preference in using the Collaborative supply chain model.

E-commerce/Direct-to-Consumer (D2C) Supply Chain model

Another supply chain model some SMEs in Ghana use is the D2C model, motivated by and well-suited to the e-commerce and digital platform rise. With this model, SMEs are able to leverage online platforms and marketplaces, bypassing traditional intermediaries, thus selling their products directly to customers., which allows SMEs to not only reach a wider customer base, they also have greater control over channels for sales and distribution. The results of the study indicated five (1.4 percent) respondents use the E-Commerce/D2C supply chain model.

Sustainable and Responsible Supply Chain Model

results of the study indicated four (1.1 percent) respondents prefer to use the sustainable and responsible supply chain model in their operations. The model focuses on minimising environmental impact and promoting sustainability, with SMEs in Ghana that use this model accordingly implementing eco-friendly practices. This includes waste reduction waste, transportation route improvements, and the use of renewable energy sources, as well as prioritising environmentally responsible suppliers as materials/product source.

No Model

Six (1.7 percent) respondents stated they do not use any form of supply chain model, at all, in the operations. It is believed they produce the raw materials and consume the end product or they use a hybrid of any of the above stated models.

5.9.5 Key findings on Objective 5

To suggest a prototype model to help manufacturing SMEs ensure their sustainability, growth and future expansion in Ghana

Designing a prototype supply chain model to support SME sustainability, growth, and future expansion in Ghana requires a holistic approach that considers the specific challenges faced by SMEs in the selected regions under study.

Supplier Management (SM)

Manufacturing SMEs should identify reliable and cost-effective suppliers for their raw materials or products. Building long-term relationships with suppliers and ensuring timely delivery of quality inputs is essential. This may involve conducting supplier assessments, negotiating contracts, and implementing quality control measures. SM is a crucial aspect of the operations of SMEs in Ghana, as it directly impacts the efficiency, competitiveness, and overall performance of these businesses. Effective SM involves identification, evaluation, selection, and ongoing collaboration with suppliers to ensure a reliable supply of goods and services at competitive prices.

In conclusion, effective SM is crucial for SMEs in Ghana to ensure a reliable supply of goods and services, maintain competitiveness, and foster growth. This finding is justified by literature reviewed indicating suppliers are important external partners, as Bothof and van Weele (2018) explain, because of their obvious necessity in new product development and innovation of processes. Allowing for specialised supplier knowledge and resources,

Reiss (2010) considered it a useful strategy to incorporate suppliers in company networks. Raassens *et al.* (2012), furthermore, determined supplier inclusion enables production network growth and a more receptive approach regarding concepts deemed fresh and inventive.

Inventory Management (IM)

Effective IM is crucial for SMEs to balance stock levels and avoid stockouts or excess inventory. SMEs should maintain an optimal inventory level to meet customer demand, while minimising holding costs. Implementing inventory tracking systems, forecasting demand, and adopting JIT inventory practices can help optimize IM. It plays a crucial role in the performance and success of SMEs in Ghana, as it does in businesses worldwide. Efficient IM can lead to cost savings, improved cash flow, enhanced customer satisfaction, and increased overall productivity.

Distribution/Logistics

Distribution is a crucial aspect of business operations for SMEs in Ghana. It refers to the process of moving products or services from the producer to the end consumers through a network of intermediaries or channels. An efficient distribution strategy can significantly impact SME success and performance in Ghana. SMEs need to plan and manage the distribution of their products to reach customers effectively, which may involve selecting appropriate distribution channels, managing transportation logistics, and coordinating with third-party logistics providers or delivery services. Efficient distribution helps ensure timely delivery, minimise transportation costs, and enhance customer satisfaction.

Marketing and Sales

Considered essential components of the supply chain prototype model for SMEs in Ghana, effective marketing and sales strategies should be used to promote SME products and attract customers. The supply chain prototype model, in this regard, indicates the processes and activities required for a product or service from inception to end user, with these being interconnected. The processes and activities include aspects such as market research, branding, advertising, and management of sales channels. To help reach a wider customer base and expand market reach, SMEs need to embrace digital marketing techniques and leverage online platforms.

Customer Relationship Management (CRM)

CRM plays a crucial role in the supply chain prototype model for SMEs in Ghana. IT is a strategic approach that focuses on managing and nurturing relationships with customers throughout the entire customer lifecycle, which involves the use of technology, processes, and data to enhance customer satisfaction, loyalty, and retention. CRM systems allow SMEs to gain a comprehensive understanding of their customers by collecting and analysing customer data. SMEs are thus able to distinguish the preferences, needs, and behaviours of their customers that are identifiable with the African market (Ramasodi *et al.* 2018). Building strong customer relationships is crucial for SMEs in Ghana.

SMEs should focus on providing excellent customer service, addressing customer inquiries, and managing customer feedback. This may involve implementing CRM systems and leveraging technology to enhance customer engagement and loyalty. CRM refers to all operations that take place where company and clients interact (Chopra 2019: 26). Customer happiness and financial performance of businesses are improved by CRM organisation (Dah *et al.* 2023). The key success criteria include maintaining solid customer relationships, providing quality goods or services, being skilled at marketing, and developing a name that people can relate to (Douglas *et al.* 2017). Peter and William (2016) claim businesses that use CRM strategies to market their products and services to customers, employees, and other stakeholders are more successful and competitive.

After-sales Support

A vital component of the supply chain prototype model for SMEs in Ghana, after-sales support comprises customer support and assistance once a purchase is completed. When successful, after-sales service results in satisfied customers who are loyal, along with overall SME success in Ghana. SMEs should, therefore, make after-sales support available to customers that are adequate, which include warranties, repairs, and customer assistance. Customer satisfaction and loyalty can be enhanced through a reputation built on reliable after-sales service.

Sustainability and Social Responsibility

As integral aspects of the supply chain prototype model for SMEs in Ghana, sustainability and social responsibility practices should be adopted throughout the supply chain. Not only would this benefit the environment and society, it will also contribute to SME long-

term success and competitiveness in Ghana. In order to integrate such practices throughout their supply chain resources that are sustainable may be needed, with consideration for waste reduction and energy-efficient processes, in addition to the promotion of fair labour practices, and initiatives concerned with community development.

5.9.6 Key findings on Objective 6

To identify environmental factors which influence manufacturing SME growth and sustainability in Ghana.

The growth and sustainability of manufacturing SMEs in Ghana can be influenced by various environmental factors. Barriers to SME sustainability in Ghana's manufacturing industry include financial difficulties, technological market penetration and acceptance, and research and development (Amoah *et al.* 2021). According to Agyapong *et al.* (2018), SME expansion in Ghana is impacted by the level of education, inadequate energy supply, access to external financing, and competition, as well as inflation, and governmental regulations.

Government Policies and Regulations

The policies and regulations set by the government can either support or hinder SME growth. On the one hand, favourable policies, such as tax incentives, reduced bureaucratic red tape, and support for access to finance, can stimulate growth. On the other hand, burdensome regulations and high taxes can impede SME development and sustainability. Government policies and regulations, therefore, play a crucial role in shaping the business environment for SMEs in Ghana. The impact of these policies can be significant in either fostering growth or hindering SME development.

SME expansion in Ghana was found to be significantly impacted by bureaucracy, an unpredictable political atmosphere, unfavourable customs and trade laws, strict monetary and credit policies, corruption, and onerous tax regimes. This point is supported by works of Mupemhi *et al.* (2013) and Kanhukamwe and Chanakira (2013), indicating the government of any country is responsible for instituting policies, legal frameworks and procedures that govern how business is conducted within its borders (Mupemhi *et al.* 2013). This is particularly apparent in a country such as Zimbabwe, where inconsistent government policies make the business sector uneasy, slowing the progress of economic

recovery. Small enterprises in Zimbabwe find it incredibly tough and challenging to exist (Chanakira 2011).

It is concluded strong legal and regulatory structures are required for SMEs to flourish and prosper. In addition to easing the registration procedures for SMEs, lowering and reforming tax rates, designing efficient price stabilisation policies, and creating flexible customs and port regulations, the government must also relax credit policies to support the growth of entrepreneurship. This must be done while maintaining transparency and accountability among public officials in charge of SME regulation (Nyarko and Oduro 2018). Government funding has a statistically significant and direct impact on how well SMEs were performed and supported by other institutions. The findings also show government assistance improved SME performance through the partial mediation effect of assistance from other institutions (Ntiamoa *et al.* 2016). However, government officers who are knowledgeable in SME policies were able to tell the elite group, and all SME sector experts were made aware of the government's plans. However, this information did not trickle down to the SME implementers (Musabayana, Mutambara and Ngwenya 2022).

Access to Finance

Limited access to finance is a common challenge for SMEs in many developing countries, including Ghana. SMEs often face difficulties in obtaining loans from banks due to high interest rates, collateral requirements, and perceived risks. Adequate and affordable financing options are crucial for SMEs to invest in technology, expand their operations, and enhance competitiveness. Furthermore, access to finance is a critical factor that significantly influences SME growth and development in Ghana. Similar to many other developing countries, SMEs in Ghana often face challenges in obtaining adequate and affordable financing. According to Nyanzu and Quaidoo (2017), access to credit is a significant barrier for SMEs in Ghana, which has an impact on how well they operate and expand.

Access to finance, as one of the environmental factors that influence SME growth and expansion in Ghana, is supported by the literature review of the study, which showed financial resources frequently determine the rate of SME development and sustainable growth (Torres *et al.* 2015). It is widely acknowledged access to such resources

significantly enables the transformation capacity of manufacturing SMEs to adopt more efficient production techniques that guarantee profits (Quartey *et al.* 2017).

Infrastructure

Infrastructure is one of the environmental factors which influence the growth and sustainability of manufacturing SMEs in Ghana. Infrastructure plays a crucial role in SME growth and success in Ghana. Adequate infrastructure, including reliable electricity, transportation networks, and access to water, is essential for manufacturing SMEs. Unreliable infrastructure can lead to production delays, increased costs, and inefficiencies. Infrastructure plays a crucial role in SME survival and growth in Ghana. SMEs are the backbone of the Ghanaian economy, contributing significantly to job creation, innovation, and economic development. However, they often face challenges in accessing and utilising basic infrastructure, which can hinder their ability to survive and thrive.

Strategic development would, on the one hand, make it possible to more economically provide the fundamental infrastructures—like electricity—needed for operations and spin-offs. On the other hand, a lack of infrastructure or its deterioration might cause SMEs to collapse (Akuru and Okoro 2014). The biggest barriers to SME growth, according to Juma and Said (2019), include marketing challenges, a lack of business training, inadequate business skills, poor infrastructure, and technology challenges. SME performance in Nigeria is positively and significantly impacted by funding, infrastructure, and training. This shows appropriate attention must be paid to finance, infrastructure, and training, because these three areas are the driving force behind improving SME performance in Nigeria (Abdullahi *et al.* 2015).

The availability and quality of infrastructure directly impact various aspects of SME operations, efficiency, and overall competitiveness. From the literature review, it can be concluded inaccessible roads impact distribution networks, while power outages influence the creation of goods and services. This also impacts transportation expenses, with the creation of alternatives potentially expensive, endangering company viability (Agwu and Emeti 2014). Routine disruptions to service supply result in additional backup expenditure for manufacturing SMEs that affect their business operations negatively, reducing profit margins in the long run (Muriithi 2017).

Market Access and Competition

Access to local and international markets can significantly impact SME growth prospects, as barriers to market entry and intense competition can make it challenging for SMEs to expand their market share and sustain growth. Access to markets and competition are critical factors that significantly impact SMEs in Ghana; these aspects play a vital role in determining SME growth prospects, profitability, and long-term sustainability. A lack of raw materials can be a barrier to success, whereas inadequate raw material supply ensures good performance of businesses. As a result, there is a link between access to market and the success of micro and small businesses (Jha, Makkad and Mittal 2018). This point is not supported by the literature review but as an objective of the study.

Technological Advancements

Technological advancement is another environmental factor that influences the growth and sustainability of manufacturing SMEs in Ghana. Technology helps SMEs in a number of ways, which according to Morse, Fowler and Lawrence (2007), include increased SME productivity, lower costs, and increased market share, both locally and internationally. Embracing and adopting technological advancements can enhance manufacturing processes, increase efficiency, and reduce costs. SMEs that invest in technology and innovation are, therefore, better positioned for long-term sustainability.

Technological advancements play a crucial role in shaping SME growth, competitiveness, and sustainability in Ghana. Transformative changes in various aspects of SME operations may result from embracing and adopting modern technologies. However, technology still requires a large investment from SMEs that typically lack such funds, even though its use has become commonplace nowadays and is, therefore, a competitive need. Moreover, technology acts as a catalyst for enhancing organizational performance and mitigating the detrimental effects on performance in the aftermath of the COVID-19 pandemic (Manasseh and Peprah 2023). From the literature review, it can be concluded adopting IT is one of the essential factors in maintaining competitiveness (Agwu 2018). Improving their competitive position and preserving their sustainable growth requires manufacturing SMEs to dedicate much of their financial resources to IT (Ghobakhloo *et al.* 2012).

Environmental Regulations

Compliance with environmental regulations is increasingly important for businesses worldwide. SMEs must, therefore, adapt to eco-friendly practices to meet international standards and gain a competitive advantage in the global market. Environmental regulations play a crucial role in shaping the operations and sustainability of SMEs in Ghana. These regulations are designed to protect the environment, promote sustainable practices, and minimise the negative impact of business activities on natural resources and ecosystems.

It is held by Fening *et al.* (2008), the political environment of Ghana contains elements such as corruption and favouritism that have hampered the growth of Ghanaian SMEs, while Carsamer (2009, cited in Okeniyi *et al.* 2020) asserted government policies hindered the growth of the private sector. Furthermore, environmental regulations can have both positive and negative impacts on SME growth and expansion. While these regulations may present challenges to SMEs, they can also create opportunities and foster long-term business sustainability and impact SME growth and expansion both positively and negatively.

Although they encourage sustainable practices, innovation, and access to green markets, environmental regulations can also present challenges in terms of compliance costs, administrative burden, and competitiveness. Policymakers should, therefore, consider the unique circumstances of SMEs and provide support, incentives, and capacity-building programmes to assist in navigating these challenges and promoting their growth, while advancing environmental protection and sustainability.

Political Stability and Security

Political stability and security are critical for business operations. A stable political environment can instil investor confidence and encourage long-term investments in the manufacturing sector. Furthermore, political stability and security are critical factors that significantly influence SMEs in Ghana, specifically, but also other countries. A stable political environment and adequate security measures create a conducive atmosphere for businesses to operate, grow, and thrive. In addition, with SMEs considered the backbone of many economies, including in Ghana, these enterprises contribute significantly to employment, economic growth, and innovation.

Beshir (2022) showed the war in Ethiopia's Amhara region caused enormous material damage in the region, which has a total worth of 288 billion Ethiopian currency, and the political context has a large and positive impact on small company success. The most pressing issues small businesses in Ethiopia's Amhara region must deal with, were found by Beshir (2022) to include, difficulty in obtaining funding, poor infrastructure, corruption, and challenges in acquiring raw materials, along with a shortage of skilled workers, issues with peace and security, difficulties in obtaining licenses, and a lack of specific small business authority, among others.

According to Adefeso (2018), the quest for economic development in African countries did not materialise over decades, due to the prevalence of poor governance and coup d'états, social and internal unrest, religious and ethnic conflicts, as well as civil wars, frequently occurring poverty incidents, a high rate of unemployment and youth unrest, and pervasive corruption, in addition to political instability in the continent. As stated by Matta *et al.* (2018, cited in Boamah, Ofori-Yeboah and Appiah 2023), political unrest following the "Arab Spring" hampered the expansion of Tunisian small, export, hospitality, and tourism businesses. Moreover, political instability deters investment in countries with political instability. These points are justified in the literature reviewed of the study by Ingram (2017), indicating market circumstances are impacted by any political unrest and this, subsequently, influences consumer behaviour, along with how much assistance and support government makes available to small enterprises; which concurs with findings by Stimpson and Smith (2015).

Cultural Factors

Cultural norms and practices can influence business operations. In addition, understanding and adapting to local customs and preferences can enhance SME acceptance and success in the domestic market. Cultural factors have a significant influence on SME operations, strategies, and success in Ghana. The cultural context in which SMEs operate shapes their interactions with customers, employees, suppliers, and other stakeholders. Therefore, understanding and adapting to cultural factors are essential for SMEs to thrive in the Ghanaian market, as they significantly influence SME performance in Ghana. As a culturally diverse country with a rich heritage and traditions, these cultural elements can have both positive and negative impacts on SMEs in Ghana.

Understanding and navigating these cultural factors is thus crucial for SMEs to succeed in the Ghanaian market. Furthermore, SMEs in Ghana operate within a unique cultural context that significantly influences their performance and success.

Ghanaian culture, deeply rooted in traditions, beliefs, and social structures, shapes various aspects of business operations, decision-making, and customer behaviour. Cultural norms prevent the acquisition of financial knowledge. Additionally, cultural values increase the likelihood SMEs will seize growth possibilities brought on by financial literacy. The study concludes the cultural environment affects the association between financial literacy and SME growth.

Protestantism as a religious conviction is crucial to SME performance in Ghana, but this is only achievable in a setting where Protestants have access to financial expertise. Ironically, the presence of Protestants in financial environments lowers SME performance (Agyei 2018). While socio-cultural variables define informal institutions, political and economic forces define formal institutions. These sociocultural, political, and economic issues significantly impact the level and type of entrepreneurship in emerging countries (Adomako, Danso and Ampadu 2015). Cultural factors as influencer of SME growth and expansion in Ghana are not justified by the literature reviewed in the study but as a sub-objective of the study.

Access to Raw Materials

Access to reliable and affordable raw materials is vital for manufacturing SMEs, where dependence on imports or fluctuating prices can impact production costs and overall business sustainability. Access to raw materials is, therefore, a critical factor that significantly influences SME operations and competitiveness in Ghana, particularly those involved in manufacturing and processing industries. The availability, affordability, and quality of raw materials directly impact SME production costs, product quality, and overall business viability. Furthermore, access to raw materials can significantly impact SME performance in Ghana, as it does in many other countries.

Nkwabi and Mboya (2019) indicated raw materials are the basic inputs SMEs use to produce goods or provide services, and their availability, cost, and quality can influence various aspects of SME operations and overall performance. Coleman and Okyere (2016)

stated most oil palm farmers lack access to the raw material, which is palm fruit, resulting in low production. Access to raw materials is key for SME survival and sustenance in Ghana, justified by a literature review confirming SMEs frequently encounter obstacles related to expensive administrative costs, stringent collateral requirements, and banks' unwillingness to lend to them. The economic situation in developing nations can improve by encouraging innovation, improved comprehension of the SME function, and capital available to SMEs for development, as well as the ensuing growth in GDP, and lessening of unemployment (Govori 2013).

5.10 CONCLUSIONS ON THE VARIABLES MATCHED WITH THEORIES

The theories pertinent to SCMPs and manufacturing SMEs are examined in this section, with empirical results of this investigation also incorporated with these theories.

According to Barney (1991, cited in Sibiya and Kele 2019), researchers using the RBV theory contend SMEs with non-replaceable, unique, valued resources have a long-lasting competitive advantage, frequently employed to boost market expansion. RBV theory offers valuable guidance for SMEs in Africa to identify, develop, and leverage their unique resources and capabilities to create a sustainable competitive advantage in their industries. By focusing on their strengths and finding innovative ways to overcome constraints, SMEs can position themselves for long-term success in the African market.

Transaction Cost Analysis (TCA) is a theory initially propounded by economist Oliver E. Williamson in the 1980's. This is another important theory in the field of economics and management, which focuses on understanding the associated costs in conducting transactions between economic agents, such as firms, suppliers, customers, or other entities. These costs include not only the monetary aspects but also the time, effort, and uncertainty involved in completing transactions. TCA provides insights into the decision-making processes of firms and how they choose between various governance structures based on transaction costs. It is a popular model for understanding and analysing a broad array of strategic decisions of manufacturing firms (Madhok 2002).

This study sees SME characteristics, government policies, government financial assistance and challenges of SCMPs as factors that influence manufacturing SME ability

in Ghana to achieve sustainable growth and contribute significantly towards the economic growth of the country.

Furthermore, government barriers such as high taxes and duties, as well as SME registration, were also identified by the findings as critical components that affected SME growth and survival in Ghana. The findings in this study inform the practices of SCM in the manufacturing SME sector in Ghana.

5.11 CONCLUSION

According to the data analysis and empirical findings of this study, it is clear Ghana's manufacturing SMEs face some insurmountable obstacles, however, other challenging circumstances might turn out to be manageable when internal and external environmental factors of the SMEs are managed sufficiently well. These problems, difficulties, and deficiencies faced by manufacturing SMEs were fully depicted by the tested factors.

Importantly, the results showed SCMPs, public regulations, and assistance were the primary drivers of sustained firm growth and survival. The success of manufacturing SMEs in Ghana was also seen to have been impacted by internal and external factors, as well as government assistance systems. Overall, it is evident SCMPs have a favourable impact on the performance of manufacturing SMEs in Ghana. These firms are better able to develop their skill sets and better coordinate, manage, and increase the efficiency of their company operations. This explanation of the study's primary empirical findings thus provides strong support for the literature.

A summary of the key findings is presented in the next and final chapter, as well as their implications, and recommendations from the study results. The proposed prototype model is outlined, as are recommendations from the study and for future research.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The aim of this research was to identify the critical factors influencing SCMPs on manufacturing SMEs performance in Ghana as a case study.

Arising from the study is a model developed to assist manufacturing SMEs to achieve good business results and sustainable growth in the manufacturing sector of Ghana's economy. A comprehensive literature search provided a rich foundation of secondary data, while the primary data were obtained from a detailed empirical study, broadly analysed to determine any significant correlations between the study variables. This chapter provides conclusions in the form of a summary of the key findings and evidence of the achievement of the research objectives. The hypotheses will also be discussed in relation to the study findings.

The study limitations, along with recommendations linked to findings, are also provided and explained. Finally, recommendations for further study are made.

6.2 SUMMARY OF THE KEY FINDINGS

This main study goals were to pinpoint important variables that affected how well manufacturing SMEs performed in Ghana and to suggest a prototype model based on data collected on the ground. The following conclusions can be formed in light of the results:

The biographical and background data obtained indicated:

- the largest group of owners/managers were between the ages of 40-49 years;
- the majority manufacturing SMEs within the study area were sole proprietorship;
- Almost all respondents had at least a basic education, with the majority having secondary/Technical and vocational education.

The respondents identified quality as one of the SCMPs that influence manufacturing SME performance in Ghana, with 99.4 percent responses indicating the belief their organisation places priority on the quality of services they render to customers. The results indicate, in order for manufacturing SMEs to perform well, there is a need to ensure quality services, which entails consistently meeting customer expectations by delivering reliable, responsive, competent, and courteous, as well as communicative, and credible services. It is indicated in the literature, providing quality service is essential for businesses to gain a competitive edge, build customer loyalty, and achieve long-term success. By doing so, SMEs can perform very well and stay in business for a long time, thereby creating jobs for the teeming, unemployed youths in the country.

According to the study findings, respondent perceptions on whether their organisations have an advantage over their competitors were considered as one of the variables influencing SCMPs on the performance of manufacturing SME in Ghana. In the view of 65.2 percent respondents, their respective organisations do have a competitive advantage over their competitor SMEs in the market. Competitive advantage refers to the unique attributes and strengths that allow a business to outperform its competitors in a particular market or industry. For SMEs in Ghana, developing and leveraging a competitive advantage can significantly impact their performance and long-term sustainability. It is important to note the competitive landscape for SMEs in Ghana can be diverse and dynamic, and factors contributing to competitive advantage may vary depending on the industry, market segment, and business context. The findings, thus, show competitive advantage can significantly impact their survival, growth, and contribution to the region's economic development.

More than three-quarter (75.3 percent) respondents indicated they have, in the course of doing business, built a strategic partnership/relationship with their suppliers. The findings indicate SCMPs are understood to have a significant influence on SME performance. Strategic supplier partnerships can have a significant impact on the performance of SMEs in Ghana. Collaborating closely with suppliers can bring numerous benefits that contribute to the growth, competitiveness, and overall SME success. Strategic supplier partnerships can be a valuable SME growth strategy in Ghana, helping them overcome challenges,

enhance their competitiveness, and achieve long-term success in a dynamic and competitive business environment.

In terms of managing customer complaints, 98.9 percent respondents indicated their organisation has a system in place for managing customer complains. It is believed this variable, indicating SCMPs are understood to significantly influence SME performance in Ghana. Managing customer complaints effectively is crucial for the performance of SMEs in Ghana. Addressing customer complaints promptly and satisfactorily can lead to increased customer loyalty, positive word-of-mouth, and improved business reputation. By effectively managing customer complaints, SMEs in Ghana can build stronger relationships with their customers, enhance their reputation, and ultimately improve their overall performance and competitiveness in the market. Happy and satisfied customers are more likely to become loyal advocates, referring others to the business and contributing to its sustainable growth.

On the issue of improving customer satisfaction, all respondents indicated their organisations have been improving customer satisfaction with services rendered. This implies SCMPs are understood to have a significant influence on SME performance in Ghana. Customer satisfaction is a critical factor that directly influences the performance of SMEs in Ghana. Satisfied customers are more likely to become loyal and repeat buyers, recommend the business to others, and contribute to its long-term success. Customer satisfaction is a fundamental pillar of SME success in Ghana, and businesses that prioritise the happiness of their customers are more likely to thrive in the competitive market landscape.

On sharing information with suppliers, 80.4 percent respondents indicated their organisations do share information with suppliers. This variable shows SCMPs are understood to significantly influence SME performance in Ghana. Sharing information with suppliers can have a positive impact on the performance of SMEs in Ghana, as open and effective communication with suppliers fosters collaboration, enhances efficiency, and contributes to overall business success. By fostering a collaborative relationship through information sharing, SMEs in Ghana can create a competitive advantage, improve their supply chain efficiency and, ultimately, enhance their overall performance and

sustainability. The findings, thus, show sharing of information is important in the performance and sustainability of manufacturing SMEs in Ghana.

The study findings on the use of IT in managing its operations, indicated 97.3 percent responses indicating their various organisations use IT in managing its business operations. The use of IT can have a transformative effect on SME performance in Ghana, where embracing IT solutions can enhance productivity, improve operational efficiency, expand market reach, and foster innovation. By embracing IT solutions and overcoming these challenges, SMEs in Ghana can improve their competitiveness, efficiency, and overall performance, contributing to economic growth and development in the country. The results show this variable, indicating SCMPs are understood to significantly influence SME performance in Ghana.

On customer service, 98.7 percent respondents indicated customer service is a good practice in their various organisations. This variable shows SCMPs are understood to have a significant influence on SME performance. Customer service plays a crucial role in SME performance in Ghana, since providing good customer service can lead to increased customer satisfaction, repeat business, positive word-of-mouth, and enhanced brand reputation. By prioritising excellent customer service, SMEs in Ghana can build a loyal customer base, increase their competitiveness, and achieve sustainable growth in the dynamic and competitive business landscape. The results of the findings show customer service is of importance to the performance and survival of manufacturing SMEs in Ghana.

The majority respondents (96.7 percent) believe goods and services within their organisations are delivered on time. Timely delivery of goods and services plays a crucial role in SME performance in Africa, as it directly impacts their competitiveness, customer satisfaction, and overall business growth. This variable has a significant influence on SME performance. This deals with CRM, which will go a long way to boost SME revenue and leading to good financial performance of SMEs.

Disagreement was indicated by 93.6 percent respondents that they employ more than 100 staff, reflecting manufacturing SME characteristics, as indicated by the GEA, formerly the NBSSI of Ghana. This finding is linked to SME characteristics, as stated by Abor and

Quartey (2010). SMEs play a crucial role in Africa's economy, contributing to job creation, poverty reduction, and economic growth. In addition, 92.3 percent respondents also disagreed almost all workers in the organisation do not have a basic education. In actual fact, the majority respondents have attained basic education and are literate. Furthermore, 89.3 percent respondents disagreed their operations or business process are automated. This variable, indicating the characteristics of manufacturing SMEs, shows operations are mostly simple and easy to work with, while it was further observed few organisations were using stand-alone desktop computers in their day-to-day activities.

On recruitment of staff for SMEs, 65.1 percent respondents disagreed recruitment of workers in their organisations is done in a professional manner. Recruitment of junior staff is done without recourse to professional ethics, while recruitment of senior staff is done professionally. Networking and referrals, direct applications and use of family members are a few of the recruitment modes used by SMEs in Ghana. This indicates a characteristic of SMEs in Ghana.

The study findings concerning relationship between government and manufacturing SMEs concluded there may be some regulations affecting SMEs in Ghana. This was indicated by 63.9 percent respondents that disagreed the lack of government support will affect the survival of the organization; 85.1 percent respondents believe the lack of government support will affect the organisations' ability to compete effectively in the corporate organisational space. The study also found more than half the respondents (81.2 percent) strongly disagreed the lack of government support will make organisations bankrupt. On the control of SMEs by government, 92.1 percent respondents strongly disagreed the government has been strictly controlling the operations of their organisations.

According to the study findings on government of Ghana policies and programmes, 94.8 percent respondents agreed the Ghana government has a policy on manufacturing SMEs growth in Ghana. Furthermore, 93.9 percent respondents agreed the government of Ghana has policies and programmes designed by the government on manufacturing SME development in Ghana. Whether the policy of import duties and tariffs is helpful to manufacturing industries, 89.5 percent respondents disagreed with that statement. The respondents claimed the tariffs were a disincentive for SME growth and survival in Ghana.

On the existing supply chain model being used by SMEs in Ghana, 45.2 percent respondents prefer to use a traditional/linear supply chain model. A further 40.5 percent respondents prefer the collaborative supply chain model, with 9.4 percent respondents claiming to use an outsourced supply chain model, 1.4 percent respondents use the E-Commerce/D2C supply chain model and 1.1 percent respondents prefer to use the sustainable and responsible supply chain model. In addition, 0.8 percent respondents use a fast supply chain model, while 1.7 percent respondents indicated they do not use any form of supply chain model at all.

6.3 CONCLUSIONS

The conclusions are drawn in accordance with the study objectives.

6.3.1 Conclusions as to the research objectives

The conclusions of the study are summarised in the section that follows, in accordance with the study research goals. Based on a statistical examination of the empirical results, several conclusions have been drawn. The questionnaire (Appendix 1), created in accordance with a thorough literature study and the research objectives, served as the foundation for the variables investigated and detailed below. The questionnaire was administered personally to the target population in order to collect the primary data for this study.

When the data were reviewed, a variety of difficulties and important elements were revealed that impact manufacturing SME performance in Ghana.

According to the results, a prototype model that offers crucial guidance for achieving both sustainability, growth and expansion may be created, put into practice, and used to the advantage of owners and managers of manufacturing SMEs. The next section presents and discusses the suggested prototype model.

Sub-objective 1: To identify critical factors affecting manufacturing SME growth and sustainability in Ghana

The findings of the study show a host of critical factors affecting manufacturing SME growth and sustainability in Ghana. There are several factors that contribute to SME growth, sustainability and performance. These factors include adequate access to finance, well-developed infrastructure, access to business support services, and

conducive regulatory environment by government, as well as collaboration and integration among supply chain partners.

Sub-objective 2: To identify the characteristics of manufacturing SMEs in Ghana in relation to how SMEs are managed by regulatory bodies

The study concludes SMEs in Ghana exhibit several characteristics unique to the country's business environment. SMEs in Ghana are significant contributors to employment generation in the country, characterised by their relatively small size in terms of various parameters, they have a strong focus on the local market, difficulty in accessing finance, and often rely on informal networks and relationships for business support and access to resources.

Sub-objective 3: To establish the relationship between government support through National Board Small Industries (NBSI) and management of SMEs for manufacturing SME growth and sustainability in Ghana

It is concluded the relationship between government support and SME performance in Ghana can be significant and influential. Government support is essential for fostering an atmosphere where SMEs may prosper and promote the nation's economic expansion. A few of the supports the government is expected to provide to SMEs in Ghana include access to funding, capacity building, a favourable regulatory environment, and business support services, along with market access, trade promotion, and infrastructure development.

The lack of government support can significantly affect SMEs in Ghana, while the lack of government investment in infrastructure development directly affects SME productivity, lack of government support can contribute to the financial struggles and potential bankruptcy of SMEs in Ghana. When SMEs do not receive adequate support from the government, it can hinder their growth and expansion plans, and unfavourable government policies and regulations are another issue mentioned frequently as a barrier to SME expansion in Ghana.

Sub-objective 4: To examine the existing supply chain model used by manufacturing SMEs in Ghana

The study concludes there are some common SCM models and strategies SMEs in Ghana often utilise to improve their supply chain operations. The adoption of SCM models by SMEs in Ghana can vary depending on factors such as industry, size of the company, and available resources. It is further concluded the manufacturing SMEs may choose the supply chain model or combination of models that aligns with their specific needs and goals. These include the following: the traditional/linear supply chain model; the collaborative supply chain model; the outsourced supply chain model; and the E-Commerce/D2C supply chain model, as well as the sustainable and responsible, and the fast supply chain models.

Sub-objective 5: To suggest a prototype model to help manufacturing SMEs ensure their sustainability, growth and future expansion in Ghana

Designing a prototype supply chain model to support the sustainability, growth, and future expansion of SMEs in Ghana requires a holistic approach that considers the specific challenges SMEs face. The following are some of the approaches: the use of SM, effective IM, efficient distribution strategy, and effective marketing and sales strategies, as well as CRM, and effective after-sales service support.

Sub-objective 6: To identify environmental factors that influence manufacturing SME growth and sustainability in Ghana

Internal and external environmental factors were thought to have a significant impact on SMEs and the achievement of sustainable growth. The growth and sustainability of manufacturing SMEs in Ghana can be influenced by various environmental factors. These include policies and regulations set by the government and limited access to finance, in addition to infrastructure, access to local and international markets, technological advancement, and environmental regulations, as well as political stability and security, cultural norms and practices, and access to reliable and affordable raw materials, shown to be vital for manufacturing SMEs.

6.4 IMPLICATIONS

The findings of this study have implications for how businesses can achieve sustainable growth and for how manufacturing SMEs in Ghana are performing.

6.4.1 Implications of business innovative leadership theory

The main goal of this study is to advance knowledge by developing a prototype model that includes the crucial elements that affect SME ability to expand sustainably and perform well in the SME sector, with particular emphasis on manufacturing SMEs in Ghana. According to the literature reviewed and empirical findings of this study, these manufacturing SMEs face a variety of difficulties that limit their potential and, as a result, their capacity to experience sustainable growth and performance.

The proposed prototyped model illustrates the key elements of business performance and sustainable growth for manufacturing SMEs, including SM, IM, distribution strategy, as well as marketing and sales strategies, CRM, and after-sales service support. Therefore, it is critical company owners and managers pay close attention to these ideas, as well as other pertinent growth theories that would aid in navigating the tumultuous and complex business climate currently present, particularly in light of the COVID-19 epidemic aftermath. These theories can also assist SME owners and managers in comprehending the factors that influence their development and effectiveness.

For manufacturing SMEs to function and expand sustainably, there needs to be a clearer understanding of the environmental constraints that affect SCM methods. Since manufacturing SMEs are regarded as the backbone of the Ghanaian economy, the conceptual framework's development suggests SME owners and managers should start thinking of adopting and implementing the framework. Moreover, they should apply some of the study's theories in order to improve the performance, growth, and sustainability of their businesses.

6.4.2 Implications for manufacturing SME practice

Ghanaian manufacturing SMEs are in a position to make a significant contribution to the country's economic transformation, notably by creating jobs, raising GDP, and fostering economic growth and transformation. In light of this, it was deemed crucial to research and examine potential strategies for creating a model that would serve as the foundation for assisting the manufacturing SME sector. The empirical results showed, in the perspective of SME owners and managers, improved performance is possible with the correct business climate, good education, training, and government support in various ways.

Owners and managers of SMEs should be better equipped to adopt current cutting-edge business strategies and growth models when financial limitations can be eased and access to suitable education and training improved. This will make sustainable growth and performance easier to achieve. Simplified access to government assistance, including funding and training, as well as less onerous registration, tax, and other government regulatory compliance procedures, were all noted as important drivers for SME performance. It was also noted understanding ICT in all of its forms is crucial for SME owners and managers in the modern era, and being aware of changing societal norms and requirements is crucial, particularly in a global marketplace where competition and rivalry are very necessary.

6.5 RECOMMENDATIONS BASED ON THE STUDY RESULTS

The study recommendations are discussed below, based on the empirical findings of the investigation.

Conceptual framework formulated through variables identified from literature review

In the preceding chapters, a thorough literature search was conducted to develop the objectives and data collection tool. The review of the literature was a key resource for determining and choosing the variables that helped to construct this research study (Figure 6.1)

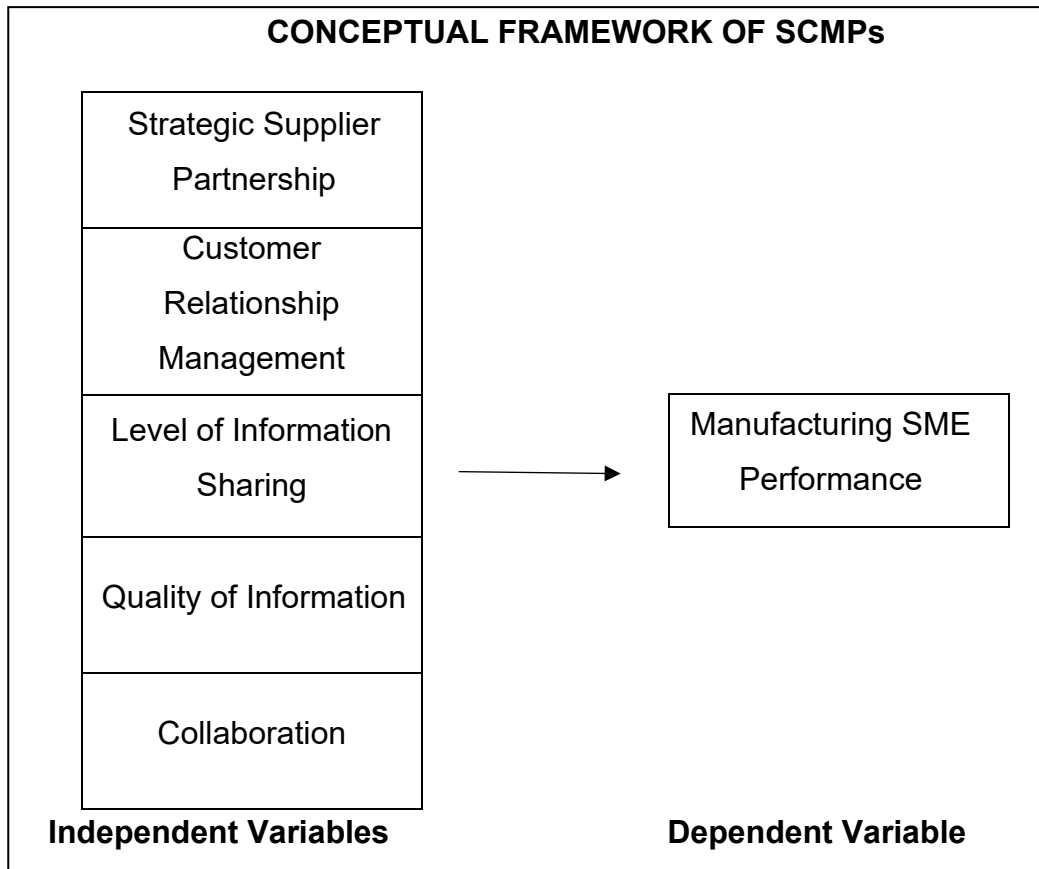


Figure 6.1: Conceptual framework for SCMPs and SME performance

Based on the literature analysis, it can be said SME owners and managers within the manufacturing SME sector face a variety of difficulties that can seriously impede their growth and development. To provide the research study a focus, these difficulties were recognised and grouped into research themes. As seen in the conceptual framework (Figure 6.1), key factors that affect manufacturing SME performance and ability to grow sustainably include education and training, technical skills, resources, and government regulations, as well as government support, and environmental barriers. The proposed prototype model has been developed and illustrated below (Figure 6.2). These variables were utilised to create the questionnaire and were scientifically tested.

6.6 PROPOSED PROTOTYPE MODEL

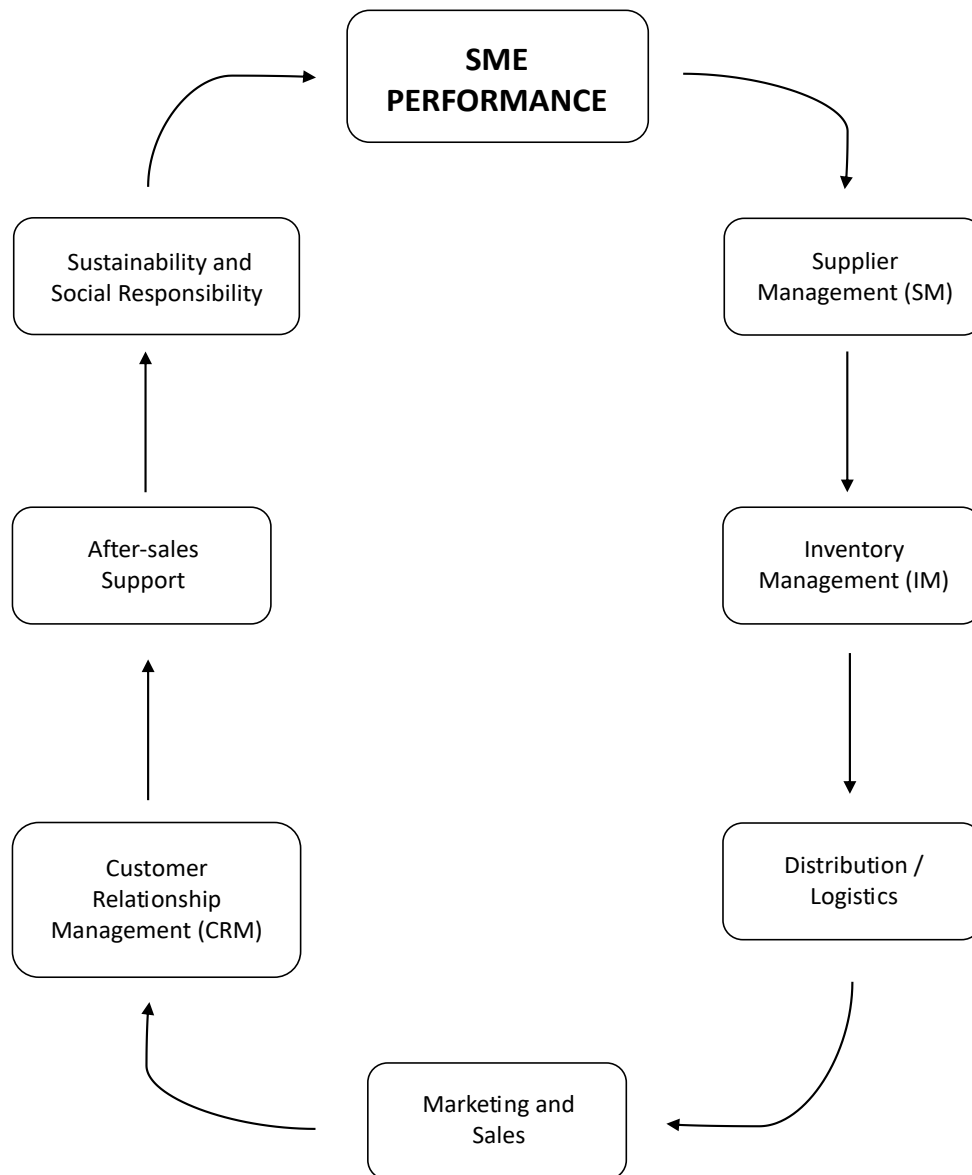


Figure 6.2: Proposed Prototyped Model

6.6.1 Supplier Management (SM)

It was discovered SM is crucial to SMEs. It is also essential to establish long-lasting partnerships with suppliers and to guarantee the prompt delivery of high-quality materials. This could entail evaluating suppliers, negotiating deals, and putting quality control procedures in place. SM is a vital component of SME operations in Ghana, since it has a

direct impact on their effectiveness, competitiveness, and overall success. It is, thus, recommended SM be practiced religiously to ensure a reliable supply of goods and services at competitive prices, which will enhance manufacturing SME performance. The study findings are further supported by Reiss (2010) that the incorporation of suppliers in a company's networks is a useful strategy.

6.6.2 Inventory Management (IM)

Effective IM was identified as crucial for SMEs in the study. SMEs should maintain an optimal inventory level to meet customer demand, while minimising holding costs. Implementing inventory tracking systems, forecasting demand, and adopting JIT inventory practices can help optimise IM. The study, therefore, recommends SMEs should efficiently use IM that can lead to cost savings, improved cash flow, enhanced customer satisfaction, and increased overall productivity.

6.6.3 Distribution/Logistics

An efficient distribution strategy can significantly impact SME success and performance in Ghana. This deals with getting products or services from the producer to the end consumer through a network of intermediaries or channels. It is recommended SMEs plan and manage the distribution of their products to reach customers effectively. Efficient distribution helps ensure timely delivery, minimise transportation costs, and enhance customer satisfaction, thereby ensuring manufacturing SME stability, growth and performance.

6.6.4 Marketing and Sales

Marketing and sales can be considered essential components of the supply chain prototype model for SMEs in Ghana. The study identified marketing and sales as the key aspects with which owners and managers needed assistance. It is recommended SMEs should be able to develop effective marketing and sales strategies to promote their products and attract customers. It is further recommended SMEs leverage digital marketing techniques and online platform to assist in expanding its customer base and increase market reach.

6.6.5 Customer Relationship Management (CRM)

The study identified CRM as a vital approach in supply chain management that focuses on managing and nurturing relationships with customers throughout the entire customer lifecycle. CRM systems will allow SMEs to gain a comprehensive understanding of their customers by collecting and analysing customer data. This enables SMEs to identify customer preferences, needs, and behaviours specific to the target market. The study recommended SMEs to use CRM in order to market their products and services to customers, employees, and other stakeholders to be more successful and competitive in the manufacturing business.

6.6.6 After-sales Support

After-sales service is an important component of the supply chain prototype model for SMEs identified by the study. The service concerns support and assistance provided to customers after they have made a purchase. Effective after-sales service plays a crucial role in customer satisfaction and loyalty, and this would lead to the overall success of SMEs. It is recommended SMEs should provide adequate after-sales support to customers, including warranties, repairs, and customer assistance. Building a reputation for reliable after-sales service can enhance customer satisfaction and loyalty.

6.6.7 Sustainability and Social Responsibility

Sustainability and social responsibility are integral aspects of the supply chain prototype model identified for SMEs by the study. Adopting and practicing sustainable and socially responsible practices throughout the supply chain is not only beneficial for the environment and society, it also contributes to long-term SME success and competitiveness. Therefore, it is recommended SMEs should integrate sustainable and socially responsible practices throughout their supply chain. This may involve sourcing sustainable inputs, reducing waste, adopting energy-efficient processes, and promoting fair labour practices, as well as engaging in community development initiatives.

In order for manufacturing SMEs to achieve successful, sustainable growth and performance, it is recommended they carry out thorough analyses of the impediments affecting them, in order to identify the most suitable corrective approaches for their circumstances and in their particular sectors of operation.

6.7 RECOMMENDATIONS

6.7.1 Access to finance

The findings of the study showed the sustainability, growth, and performance of manufacturing SMEs in Ghana are hindered by access to finance, which is a critical factor that significantly influences SME growth and development in Ghana.

SMEs in Ghana, similar to many other countries, often face challenges with regard to accessing finance, therefore, the following recommendations are made:

- It is recommended manufacturing SMEs need to create a well-structured and comprehensive business plan that can demonstrate the viability and potential of the business to lenders and investors. A strong business plan should include information regarding the business model, market analysis, revenue projections, and repayment plans. A business plan serves as a crucial tool for demonstrating the viability, potential, and credibility of the business to potential lenders, investors, and other stakeholders. This can help build trust and confidence with potential financiers.
- Manufacturing SMEs need to explore alternative financing options beyond traditional banks. This includes angel investors, venture capital firms, crowdfunding platforms, and peer-to-peer lending. Angel investors are individuals who provide capital to startups and SMEs in exchange for equity or convertible debt. They often bring not only financial support but also mentorship and industry expertise. Venture capital firms invest in early-stage companies with high growth potential. These firms provide funding in exchange for equity and are often interested in innovative and scalable business ideas. Peer-to-Peer lending platforms connect borrowers directly with individual lenders. SMEs can secure loans from a network of individuals willing to lend money at agreed-upon terms. These sources can provide more flexible terms and may be more open to investing in startups and smaller businesses.
- To make it simpler for SMEs to receive financing from banks and lenders, the government needs to consider a supporting and protective legal and regulatory framework that shields manufacturing SMEs from exorbitant interest rates and prevents them from providing collateral to banks.
- Microfinance institutions should specialise in providing financial services to smaller businesses and individuals who may not have access to traditional banking services.

These institutions often have a better understanding of local markets and can offer more tailored financial products. They should understand the challenges faced by SMEs and should be willing to work with businesses that might not meet the stringent criteria of larger financial institutions.

- Microfinance institutions should offer smaller and soft loans suitable for meeting SME financing needs. Microfinance institutions should offer collateral-free loans or accept non-traditional collateral, such as equipment, inventory, or future cash flows.

6.7.2 Government policies and regulations

The study findings indicate manufacturing SME performance is affected by government policies and regulations in their operations. The government, therefore, has to implement policies and regulations to promote SME growth and performance in the country. These policies should aim to create a conducive environment for SMEs to thrive, contribute to economic development, and generate employment opportunities.

- There should be a national SME policy to outline government commitment to supporting SME development and growth. The policy should focus on enhancing access to finance, improving business support services, fostering innovation, and promoting entrepreneurship. Furthermore, the policy should provide a strategic framework and guidelines for creating an enabling environment that supports SME development, enhances their competitiveness, and contributes to economic growth.
- The government should pay much attention to its flagship programme, known as the 1D1F programme, which aims to establish at least one factory in each district of Ghana to promote industrialisation and create jobs. The main 1D1F programme objectives included industrialisation, job creation, rural development, and export promotion, along with value addition and poverty reduction.
- Efforts have to be made by government to simplify and expedite the process of registering and licensing businesses. SMEs should take advantage of online platforms such as the Ghana Electronic Procurement System (GHANEPS) to facilitate business interactions with the government. This will eliminate unnecessary delays prospective investors and SME owners have to go through to register a business and acquire a license to operate a business in Ghana.

- Tax incentives and exemptions have to made available to SMEs, particularly those in the manufacturing sector, to reduce their tax burden and encourage investment. These should include reduced corporate income tax rates and tax breaks for certain sectors such as manufacturing. The government of Ghana should ensure corporate income tax reduction, tax holidays, customs duty exemptions and value added tax (VAT) exemptions for manufacturing SMEs, in order to lessen their tax burden and improve their financial performance.

6.7.3 Access to infrastructure

Infrastructure is one of the environmental factors that influence manufacturing SME growth and sustainability. Access to reliable and well-developed infrastructure has a direct impact on the competitiveness, efficiency, and overall business environment for SMEs. Adequate infrastructure, including reliable electricity, transportation networks, and access to water, is essential for manufacturing SMEs; unreliable infrastructure can lead to production delays, increased costs, and inefficiencies.

- Based on the study findings, it is recommended there is a need for efficient transportation networks, including roads, highways, and ports, as these are essential for the movement of goods and materials. An efficient transportation network will play a crucial role in enhancing SME performance by improving supply chain efficiency, reducing costs, expanding market reach, and providing operational flexibility. SMEs should consider investing in transportation optimisation strategies to harness these benefits and stay competitive in today's dynamic business environment. Well-maintained roads reduce transportation costs, enable timely deliveries, and open up new markets for SMEs.
- Reliable and affordable energy supply is critical for SME operations and must be made available all the time. SMEs should explore energy-efficient practices, consider renewable energy options, and engage in energy management strategies to optimise their energy usage and positively impact their overall performance. Adequate access to electricity and other energy sources is essential for production processes, machinery, and overall business activities and should be available to manufacturing SMEs to ensure uninterrupted production.

- There is a need for manufacturing SMEs to have adequate water supply and sanitation services necessary for manufacturing processes and maintaining hygiene standards. SMEs should integrate water-efficient practices and prioritise responsible water management, not only to reduce operational risks but also to align with sustainable business principles that can enhance competitiveness and stakeholder relations. Manufacturing SME access to clean water can contribute to operational efficiency and product quality.
- Improved infrastructure connects remote and rural areas to urban markets, providing SMEs in those regions with better access to suppliers, customers, and business support services. This infrastructure can have a transformative impact on SME performance. It will open new opportunities, reduces costs, enhances access to resources, and foster innovation. Governments, policymakers, and local communities should, therefore, prioritise infrastructure development to empower SMEs, boost economic growth, and bridge the urban-rural divide.

6.7.4 Technological advancement

The findings of the study showed technological advancement is another factor that can influence manufacturing SME growth, sustainability and performance in Ghana. SMEs should try to invest in technology to enhance the operational efficiency of the organisations. Embracing and adopting technological advancements can enhance manufacturing processes, increase efficiency, and reduce costs. SMEs that invest in technology and innovation are better positioned for long-term sustainability.

Technological advancement has the potential to greatly enhance SME performance in Ghana by improving efficiency, innovation, market access, and customer engagement. Addressing the challenges associated with technology adoption is essential to fully harness these benefits and contribute to SME sector growth in the country.

- Technology allows SMEs to engage with customers more effectively through online communication channels, feedback mechanisms, and personalised experiences, enhancing customer satisfaction and loyalty. With the increasing adoption of digital tools and platforms, manufacturing SMEs in Ghana can use technology to engage with their customers in new and innovative ways.

- Various business processes can be automated and streamlined with technology, including IM, sales tracking, and financial reporting. SMEs should embrace various technological tools and solutions that will lead to streamlined operations, improved productivity, and overall business growth. This will increase efficiency and allow manufacturing SMEs to operate more smoothly and allocate resources effectively. By embracing technology, manufacturing SMEs in Ghana can drive operational efficiency, reduce costs, improve customer satisfaction, and position themselves for growth, sustainability and performance in an increasingly digital business landscape.
- Digital marketing tools, social media, and online advertising enable SMEs to promote their products and services to a wider audience, without the high costs associated with traditional advertising methods. Therefore, SMEs should embrace and adopt technology to simplify marketing and promotion for SME products that hitherto, has been very difficult to execute.
- Technological advancements encourage SMEs to innovate in terms of products, services, and processes. Embracing digital tools and software can lead to the creation of new business models, making SMEs more competitive. Manufacturing SMEs should thus embrace technological advancements that can lead to creative solutions, improved processes, and new product and service development. This will position the manufacturing SMEs for growth, sustainability and performance, way ahead of their competitors.

6.8 STUDY LIMITATIONS

It is significant to mention the study has limitations, despite the importance of the conclusions produced. The survey was limited to 370 managers, owners, and leaders of manufacturing SMEs and was carried out in eight regions of southern Ghana. Although the study only examined eight regions, as opposed to Ghana as a whole, nevertheless, it contains information manufacturing SMEs in the other eight regions or in northern Ghana can use. In addition, the study findings were restricted to five SCMPs, necessitating the performance of future studies that will incorporate the other SCMPs not covered in the current study. Therefore, care should be taken when applying the study conclusions. In addition, following a thorough review of the literature and the research objectives, a

closed- and open-ended questionnaire was used to collect primary data from the participants. This approach constrained the researcher's understanding of participant viewpoints. In addition, the scope of this study was restricted to manufacturing SMEs in Ghana, more precisely, the southern regions. The findings may not apply to all SMEs in underdeveloped nations, in addition to their probable limited generalisability to all SMEs in Ghana. For the aim of external validity, future studies may use a greater geographic area in Ghana, as well as other nations.

6.9 RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the findings of the study, it is recommended further research be undertaken into:

Longitudinal studies on manufacturing SME performance in Ghana, as this will help provide valuable insights into how SMEs evolve over time and how various factors, including SCMPs, impact their performance. The longitudinal studies will help uncover trends, patterns, and critical factors that influence SME performance in Ghana over time, particularly in relation to their SCMPs.

Further research needs to be conducted to determine the impact of government policies and regulations on SME development in Ghana. Studying the impact of government policies and regulations on SME performance in Ghana is a crucial research area. Government policies can significantly shape the business environment for SMEs and influence their growth, competitiveness, and overall success. By conducting a study on the relationship between government policies and SME performance in Ghana, the research can contribute to informed policymaking, facilitate a more supportive business environment, and ultimately enhance the growth and success of SMEs in the country.

Additional research should be conducted on technological adoption by manufacturing SMEs in Ghana. Conducting a study on the relationship between technological adoption and SME performance in Ghana is a very important research area, more so in today's rapidly evolving digital landscape. Technological advancements can significantly impact SME competitiveness, efficiency, and overall success. The study can provide actionable insights for SMEs, policymakers, and stakeholders seeking to harness technology's potential for driving growth, innovation, and competitiveness.

Research should also assess supplier relationship management (SRM) and the performance of manufacturing SMEs in Ghana. Effective SRM can have a significant impact on supply chain efficiency, product quality, and overall business performance. Hence, the need to undertake studies on SRM and SMEs in Ghana. By conducting in-depth research on the relationship between SRM practices and SME performance in Ghana, the study can provide actionable insights for SMEs, policymakers, and stakeholders aiming to enhance supply chain efficiency, product quality, and competitiveness.

Studying the impact of collaboration networks on SME performance in Ghana is another important research area. Collaborative networks can offer SMEs various benefits, including shared resources, knowledge exchange, and enhanced market access that will ensure their growth, sustainability and good performance.

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APPENDICES

Appendix 1: QUESTIONNAIRE

DURBAN UNIVERSITY OF TECHNOLOGY – SOUTH AFRICA

FACULTY OF ENTREPRENEURIAL STUDIES & MANAGEMENT

QUESTIONNAIRE

Dear Participant,

This questionnaire is part of a research being undertaken in partial fulfilment of a Doctor of Philosophy in Business Administration degree (PhD) from Durban University of Technology (DUT) of South Africa on the topic “The Influence of Supply Chain Management practices on Small and Medium manufacturing Enterprises (SMEs) performance in Ghana”. Please you are kindly asked to answer this questionnaire as frankly as you can. Any information provided in connection to this research will remain confidential and it is for academic purpose only. Your responses to this questionnaire will be much appreciated.

Please kindly tick (v) the appropriate box to indicate your response for each of the question.

SECTION A: General information of respondents

1. Sex: Male [] Female []

2. Age:

a. 19-29 [] b. 30-39 [] c. 40-49 [] d. 50-59 [] e. 60-69 []

3. Indicate highest level of education obtained.

- a. No formal education []
- b. Basic education []
- c. Junior High school []
- d. Secondary/Technical/Vocational []
- e. University/Polytechnic []
- f. Others (specify).....

4. Home region of your company. (Choose one):

- a. Western [] b. Western North [] c. Central [] d. Greater Accra []
- e. Eastern [] f. Ashanti [] g. Volta [] h. Ahafo []

5. Legal status of your business

- a. Sole proprietorship [] b. Partnership [] c. Limited Liability Company []
d. Others, please specify.....

6. Please state the type of business you are doing

.....

7. Products of your company are sold (choose one)

- a. Only in the market of the home region []
b. Mainly over 50% in the market of home region []
c. Mainly over 50% in the markets outside the home region []
d. Only in markets of outside home region

8. Number of employees (choose one):

- a. 1-3 [] b. 4-10 [] c. 11-50 [] d. 51-100 []

9. Indicate the number of years the business has been in operation.

- a. 1 – 5 years [] b. 6 – 10 years [] c. 11 – 15 years [] d. 16 – 20 years []
e. 20 years and above []

10. Have you register your business? Yes [] No []

11. If yes, with which department

- a. District Assembly [] b. Registrar General Department [] c. NGOs []
d. Others please specify.....

SECTION B:

Please indicate your response to the following questions regarding supply chain management practices and performance of manufacturing SMEs.

Please tick (✓) each statement that truly reflects your response where:

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

The following are statements based on factors influencing supply chain management practices on manufacturing SMEs in Ghana	SD	D	N	A	SA
	1	2	3	4	5
12. The organization place priority on quality services					
13. The organization has a competitive advantage over its competitors					
14. The organization has a strategic supplier partnership					
15. The organization has been managing customer's complaints					
16. The organization has been improving customer's satisfaction					
17. The organization has been sharing information with suppliers					
18. The organization uses information technology in managing its operations					
19. Customer service is a very good practice in the organization					
20. Goods and services are delivered on time to customers					
The following statements are based on characteristics of manufacturing SMEs					
21. The organization employs over 100 workers					
22. Almost all the workers in the organization does not have basic education					
23. The operations or business processes of the organization are automated					
24. Procedures and practices in the organization are made simple					
25. Recruitment of workers is done professionally in the organization					
The following statements are based on relationship between government support and manufacturing SMEs in Ghana					
26. Lack of government support will affect the organization survival					

27. Lack of government support will affect the organization's ability to compete effectively					
28. Lack of government support will make the organization become bankrupt					
29. The organization is not expanding its operation because of lack of government support					
30. Government has been strictly controlling the operations of the organization					
The following statements are based on government policies and programmes on manufacturing SMEs in Ghana	SD	D	N	A	SA
	1	2	3	4	5
31. The government has a policy on growth of manufacturing SMEs in Ghana					
32. The government has a policy and programmes on development of manufacturing SMEs in Ghana					
33. The government policy on import duties and tariffs have been helpful to manufacturing SMEs in Ghana					

The following questions are based on the existing supply chain management model for manufacturing SMEs in Ghana

34. What is the existing supply chain management model the organization is using in its operations?

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35. Has the supply chain management model been helpful to the organization? If yes, please explain.

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36. If no, please explain.

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The following questions are based on the effect of Covid-19 pandemic on manufacturing SMEs in Ghana

37. Has the organization been affected by the Covid-19 pandemic? If yes, please explain.

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38. If no, please explain.

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SECTION C: Challenges of supply chain management practices on manufacturing SMEs in Ghana

Challenges of supply chain management practices on manufacturing SMEs in Ghana	SD	D	N	A	SA
	1	2	3	4	5
39. The supply chain management practices make the organization non-competitive					
40. The supply chain management practices are very difficult to apply in the operations of the organization					

41. What can be done to improve supply chain management practices to enhance performance of manufacturing SMEs in Ghana.

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Thank you very much for your time.

APPENDIX 3: INFORMED CONSENT



CONSENT

Full Title of the Study: The Influence of Supply Chain Management Practices on Small and Medium Manufacturing Enterprises (SMEs) performance in Ghana.

Names of Researcher/s: Mitchell Dodzi Morvey

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Mitchell Dodzi Morvey, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: 20170310,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

<u>Jacob Basintale</u>	<u>05 July, 2021</u>	<u>10:00am</u>	<u></u>	
Full Name of Participant	Date	Time	Signature	/ Right
Thumbprint				

I, Mitchell D. Morvey herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

<u>Mitchell Dodzi Morvey</u>	<u>05 July, 2021</u>	<u></u>
Full Name of Researcher	Date	Signature
<u>Stephen Graham Anaman</u>	<u>05 July, 2021</u>	<u></u>
Full Name of Witness (If applicable)	Date	Signature

Full Name of Legal Guardian (If applicable) Date

APPENDIX 4: PERMISSION TO CONDUCT RESEARCH

DURBAN UNIVERSITY OF TECHNOLOGY

FACULTY OF MANAGEMENT SCIENCES

DEPARTMENT OF ENTREPRENEURIAL STUDIES AND MANAGEMENT

The Manager
Sankofa Weavers Limited
P.O. Box KF 2022
Koforidua
Eastern Region

10th June, 2021

Dear Sir / Madam

REQUEST FOR PERMISSION TO UNDERTAKE RESEARCH

My name is Mitchell Dodzi Morvey, a student of Durban University of Technology (DUT) of South Africa with student number 22175054. I am a PhD student and wishing to conduct research on the topic "**The Influence of Supply Chain Management practices on Small and Medium manufacturing Enterprises (SMEs) performance in Ghana**".

I would be grateful if you can assist by granting me permission to have access to your organization's operations to enable me carry on with the research with Durban University of Technology (DUT) of South Africa. Any information made available to me will be treated with utmost confidentiality and will be used for academic purpose only.

Please find below details of my contact for more information: Name:

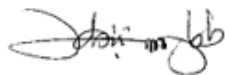
MITCHELL DODZI MORVEY

Cell Phone No.: 024 420 6851

Email Address: mitchmorvey@yahoo.com / 22175054@dut4life.ac.za

Thank you very much for your time and consideration. Yours

Sincerely



Mitchell Dodzi Morvey

APPENDIX 5: TURNITIN REPORT

Moverly

ORIGINALITY REPORT

18%

SIMILARITY INDEX

11%

INTERNET SOURCES

6%

PUBLICATIONS

12%

STUDENT PAPERS

APPENDIX 6: EDITOR'S LETTER

Helen Richter
Advanced Editing, Proofreading

editassist2023@gmail.com
+27 729227221

30 September 2023

To whom it may concern

CERTIFICATE OF EDITING & AUTHENTICATION

I have proofread and language edited the PhD dissertation titled:

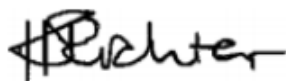
**“The Influence of Supply Chain Management practices on Small and Medium
manufacturing Enterprises (SMEs) performance in Ghana”**

by

Mitchell Dodzi Morvey

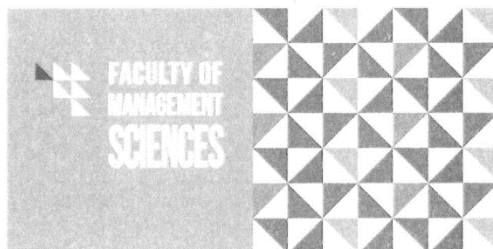
To the best of my knowledge, the work is free of spelling, grammar, structural and stylistic errors
and the contents are certified as the author's own work.

With thanks.



H. S. Richter

APPENDIX 7: PROPOSAL APPROVAL LETTER



Professor Fulu G. Netswera
Executive Dean
Faculty of Management Sciences
Durban University of Technology

P O Box 1334, Durban, 4000,
South Africa

15th December 2021

Student number: 22175054

Dear Mr M.D. Morvey

DOCTOR OF PHILOSOPHY IN MANAGEMENT SCIENCES: BUSINESS ADMINISTRATION

This serves to confirm the approval of your research proposal by the Faculty Research Committee, at its meeting on 15th December 2021, as follows:

1. Research proposal and provisional dissertation title:
The Influence of Supply Chain Management Practices on Small and Medium Manufacturing Enterprises (SMEs) Performance in Ghana

Supervisor: Dr L Lekhanya

Co-supervisor: Dr J Buor

Please note that any proposed changes in the thesis/dissertation title require the approval of your supervisor/s, the Faculty Research Committee, as well as ratification thereof by the Higher Degrees Committee.

2. Research budget to the amount of: **R10 000.00(Masters) / R15 000(DPHIL)**
Please note that this funding is not a scholarship or bursary and is therefore not paid directly to you, but is controlled by the Faculty. Any proposed changes to the use of this funding allocation requires the approval of your supervisor and the Dean. Please note that funding will be reimbursed to you after the provision of receipts.

The Institutional Research Committee has stipulated that:

- (a) This University retains the ownership of any Intellectual Property (patent, design, etc.) registered in respect of the results of your Masters/Doctors Degree in Technology studies as a result of the award and the provisions of the above Act;
- (b) Should you find any of the terms above not acceptable then you are given the option to decline the Research budget award to your project in writing.

May we remind you that in terms of Rule G25(2)(b), if you fail to obtain the Masters/Doctors degree within the maximum time period allowed after first registering for the qualification,

Senate may refuse to renew your registration or may impose any conditions it deems fit. You may apply to the Faculty Research Committee for an extension. Please note that you are required to convert your registration from the informal to the formal course and re-register each year.

Please note that the following must be adhered to:

Registration:

1. Ensure registration has taken place *(the onus is on the student and the supervisor to ensure registration takes places at the beginning of each year whilst the student is currently engaged with his/her Masters or PhD qualification)*
2. Ensure that application for Conferment of Status has been made in the event of your undergraduate qualification being different to this application. ***Your attention is drawn to the fact that Conferment of Status is required for registration.***
3. Ensure that your supervisor has submitted your proposal to the Faculty Research Officer (FRO) for IREC clearance (institutional research ethics committee). This is in the case of Ethics level 2 and level 3 IREC (in the case of a study dealing with vulnerable populations). See guideline attached. ***It is the researcher's responsibility to check the Ethics requirements and submit to the relevant bodies irrespective of the reviewer's recommendation.***

Dissertation submission for examination:

1. Ensure that you submit the intention to submit form **(PG 5)**, signed by the HOD and Supervisor
2. Ensure that the signed checklist is submitted with the **PG 5**
3. Once your dissertation is submitted to the supervisor for examination purposes, communication from here on will only be with you supervisor and not with the faculty.
4. Your supervisor **MUST** nominate the examiners three months prior to submission of the dissertation/thesis for examination.
5. On submission for examination, please note that a PDF signed copy must be submitted to your supervisor along with the completed and signed **PG 7** form, **FMS Checklist** and signed **Turn it in report**.
6. Feedback will be provided to your supervisor regarding the examination result after the result is ratified by the Higher Degrees Committee (HDC).
7. In the event of a resubmission the reports will be submitted to the supervisor who will communicate with you for revision. Once revision has taken place your supervisor will submit to the FRO for resubmission to the examiners.
8. In the case where there is a discrepancy in examiners results, an Arbiter will be nominated via the HOD and supervisor and tabled at FRC and ratified at HDC. On completion of this process, the Arbiters report will be tabled at FRC and ratified at HDC.
9. Results of the Arbitration process will be communicated to your supervisor

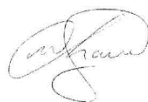
Graduation requirements:

1. Ensure that you submit a completed signed PG10 form
2. one hard bound dissertation/thesis with a pdf version to be sent upon HDC ratification
3. response to post graduate examination form
4. completion of study form (IREC form)

Should you experience any problems relating to your research, your supervisor must be informed of the matter as soon as possible. If the difficulties persist, you should then approach your Head of Department and thereafter the Faculty Research Coordinator.

Please refer to the 2020 General Rule Book and the Postgraduate Students' Guide 2020 concerning the rules relating to postgraduate studies, which include *inter alia* acceptable minimum and maximum timeframes, submission of thesis/dissertations, etc. Please do not hesitate to contact this office for any assistance. We wish you success in your studies.

Kind regards,



Dr Melanie Lourens obo the FRC Chair/Executive Dean: Professor Netswera
Faculty of Management Sciences

APPENDIX 8: ETHIC CLEARANCE LETTER



20 April 2023

Mr M D Morvey
Stores and Supplies Unit
Takoradi Technical University
P.O. Box 256
Takoradi
Ghana

Dear Mr Morvey

The Influence of Supply Chain Management Practices on Small and Medium Manufacturing Enterprises (SMEs) Performance in Ghana
Ethics Clearance Number: IREC 268/22

The DUT-Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the DUT-IREC acknowledges receipt of your gatekeeper permission letters.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the DUT-IREC according to the DUT-IREC SOP's.

Please note that any deviations from the approved proposal require the approval of the DUT-IREC as outlined in the DUT-IREC SOP's.

It is compulsory for a student or researcher to apply for recertification on an annual basis. The failure to do so will result in withdrawal of ethics clearance. It is the responsibility of the researcher and the supervisor to apply for recertification.

Please note that you are required to submit a Notification of Completion of Study form together with an abstract to the DUT-IREC office on completion of your study.

Yours Sincerely

Prof J K Adam
Chairperson: DUT-IREC

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