

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

**THE EFFECTS OF SUPPLY CHAIN MANAGEMENT PRACTICES ON
COMPETITIVE ADVANTAGE AT COCOA RESEARCH INSTITUTE OF
GHANA (CRIG). THE MEDIATION ROLE OF CUSTOMER LOYALTY.**

by

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(BSC FOREST RESOURCE TECHNOLOGY)

A thesis submitted to the Department of Supply Chain and Information Systems,
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of the degree of

**MASTER OF SCIENCE PROCUREMENTIN
AND SUPPLY CHAIN MANAGEMENT**

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DECLARATION

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

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HOD, SCIS

DEDICATION

This work is dedicated to my family and beloved friends.

KNUST

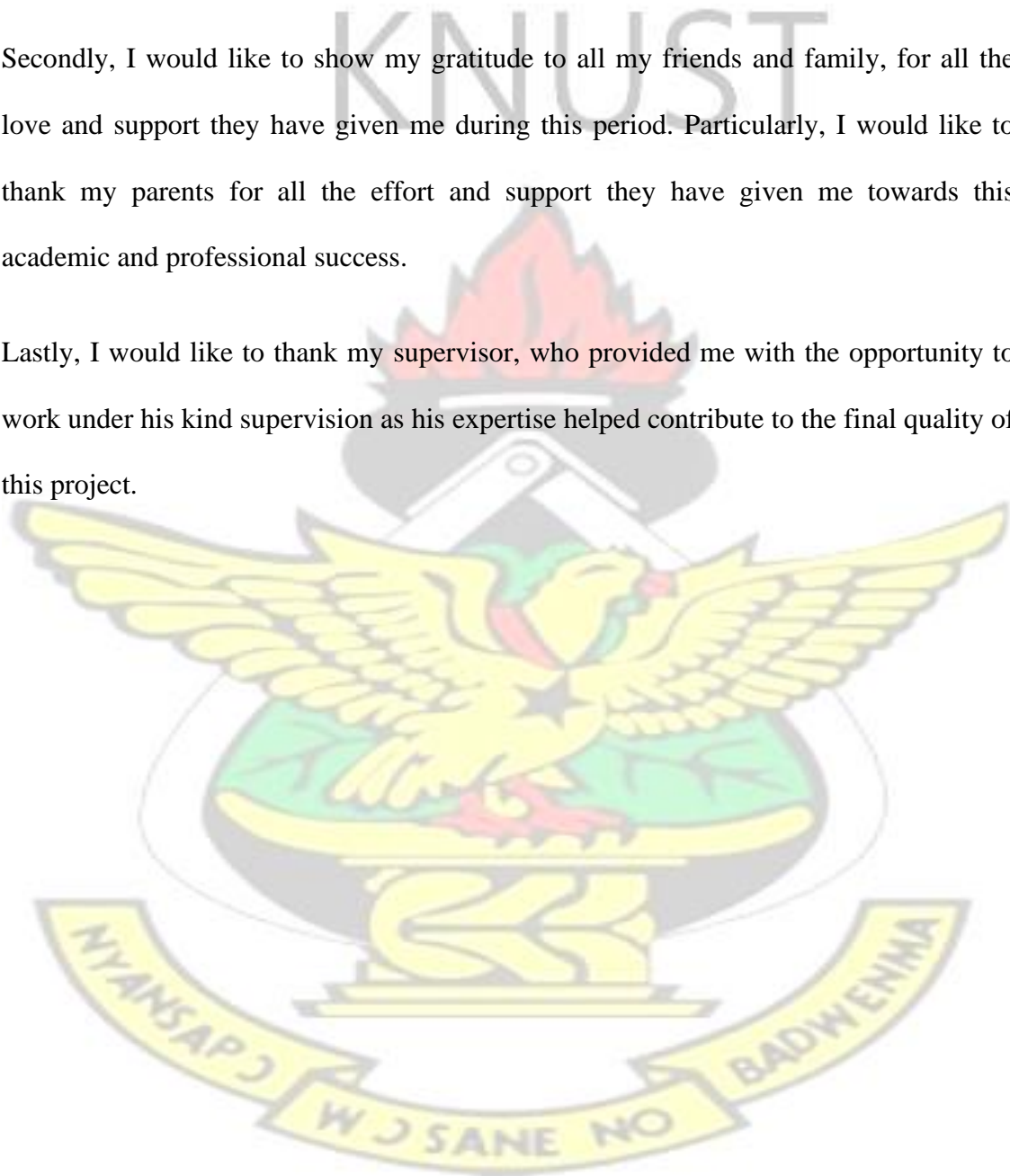


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ABSTRACT

The aim of the study was to investigate the mediating role of customer loyalty on the nexus between supply chain management practices, and competitive advantage at Cocoa Research Institute of Ghana (CRIG). The study aimed to achieve four main objectives: firstly, to investigate the connection between supply chain management (SCM) practices and competitive advantage; secondly, to assess how SCM practices impact customer loyalty; thirdly, to analyze the influence of customer loyalty on competitive advantage; and fourthly, to examine the mediating role of customer loyalty in the relationship between SCM practices and competitive advantage. The population of the study comprised of 200 management and staff of the Nestle Ghana. The study was grounded on quantitative, descriptive and case study approach to gather data from 133 respondents from Nestle Ghana, using convenient sampling technique. Statistical Package for the Social Sciences (SPSS) and Process Macro module were adopted in conducting analysis. The findings of the study revealed supply chain management practice was found to have a positive and significant impact on competitive advantage. SCM practices had a positive and significant influence on customer loyalty. Customer loyalty also had a positive and significant influence on competitive advantage. Customer loyalty mediated the nexus between supply chain management practice and competitive advantage at Cocoa Research Institute of Ghana (CRIG). It is recommended that organizations should implement integrated supply chain management strategies that prioritize customer-oriented practices to foster loyalty and gain a sustainable competitive advantage.

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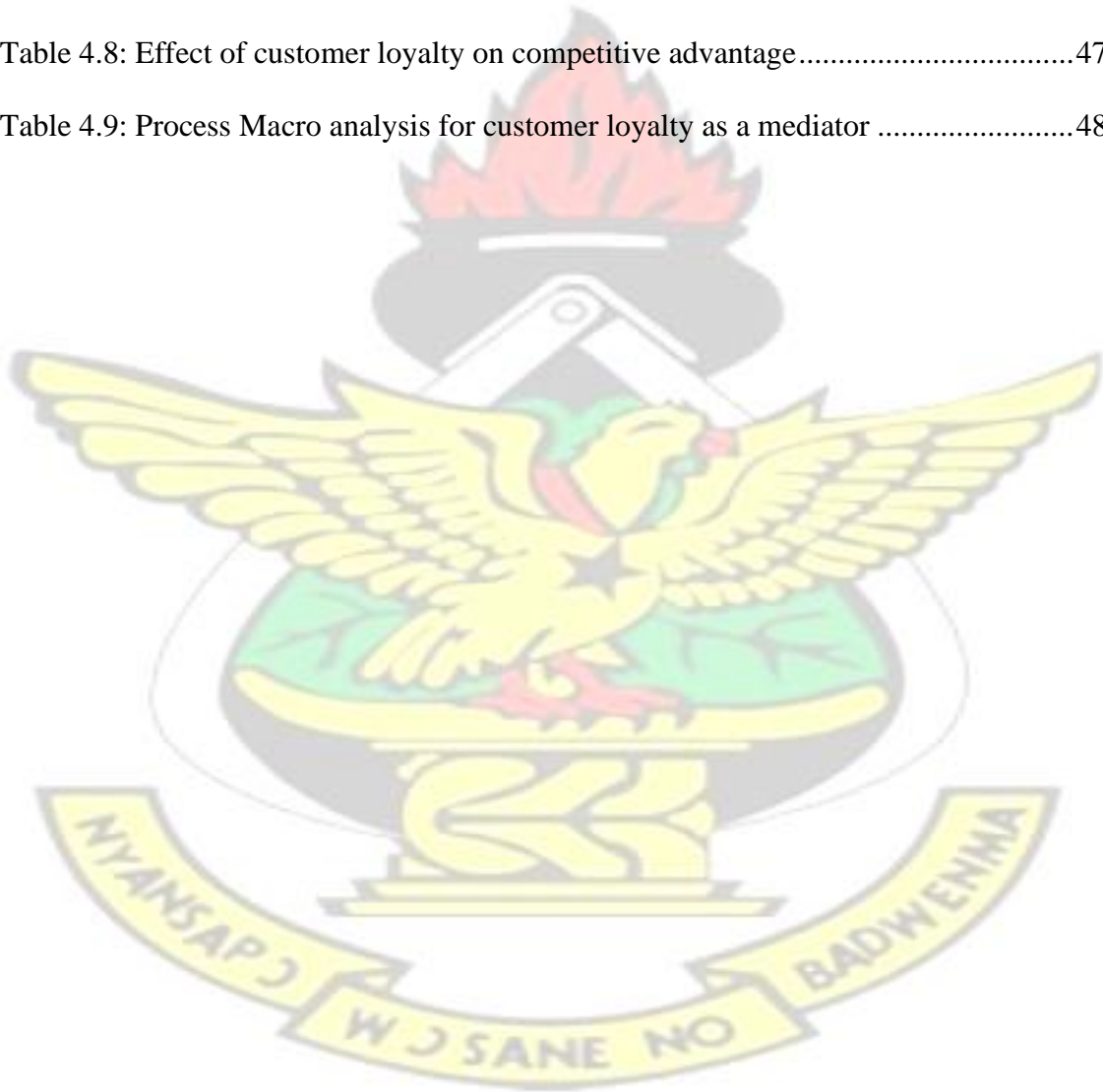
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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

In the realm of manufacturing industries, a wealth of studies has extensively explored the effects of supply chain management practices (SCM) across diverse sectors, including automobile, pharmaceuticals, aerospace, and electronics (Barber et al., 2017). However, in recent years, processing and production companies, exemplified by notable entities like Cocoa Research Institute of Ghana Company, has undergone a transformation driven by the ethos of fast retailing (Caro and Martinez de Albeniz, 2015). This paradigm shift emphasizes the customization and branding of products, underscoring the significance of SCM practices (Chan et al., 2017). Recognized as pivotal for fostering agility and responsiveness in manufacturing, SCM practices have gained prominence (Abeysekara et al., 2019; Cheng, 2019). Amidst this evolution, the question arises: How do the adopted SCM practices in processing and production industries lead to the development of dynamic capabilities and resource advantages that culminate in enduring competitive advantages (CA)?

Supply Chain Management (SCM) practices encompass a series of methodologies that intricately merge suppliers, manufacturers, logistics, and customers to optimize long-term performance (Veera Pandiyan Kaliani Sundram et al., 2011; S. Li et al., 2006). Through this integrative process, organizations establish a harmonious link between their upstream and downstream operations, enshrining vital stages such as production, processing, and distribution (Chojar, 2009). This integration goes beyond mere operational alignment; it operates as a strategic maneuver intended to secure a competitive advantage in the dynamic global market. At the heart of SCM practices lies their capacity to seamlessly orchestrate interactions across diverse supply chain stages,

ultimately translating into improved organizational performance and competitiveness (Abebe, Beyecha, & Gemed, 2020). These practices facilitate the synchronization of activities from the inception of raw materials to the ultimate destination of end customers.

On the other hand, Customer loyalty stands as a foundational pillar for thriving businesses (Abeysekara et al., 2019;). Loyalty emerges when companies consistently meet consumer needs, thereby fostering trust and cultivating enduring relationships (Caruana, 2000). These loyal customers play a pivotal role in driving revenue growth and contributing to the overall success of a brand (Aaker, 1996). The definition of customer loyalty extends to the cultivation of long-term relationships, enhancing customer lifetime value, and acting as a buffer against price-driven competition (Fornell, 1992; Fournier & Yao, 1997). In recognition of their substantial value over time, businesses actively seek to establish and maintain loyal customer bases (Zeithaml, 2000; Stahl, Matzler, & Hinterhuber, 2003). Such loyalty not only fosters repeat business but also holds the potential to amplify a brand's reputation and influence.

Competitive advantage serves as the outcome of strategic decisions that organizations make to distinguish themselves from their competitors (Banerjee & Mishra, 2015). This differentiation involves attributes like pricing, quality, reliability, and delivery times that set an organization apart within the marketplace (Rakhman et al., 2016). Previous research has illuminated various dimensions of competitive advantage, encompassing elements such as price, quality, product innovation, and time to market (Sundram et al., 2011). In the context of this study, the notion of competitive advantage adopts a multidimensional perspective, encompassing attributes like pricing, quality, and

dependability. Such a comprehensive understanding acknowledges that organizations can secure advantage by excelling across a spectrum of essential attributes.

While SCM practices are widely acknowledged as a multifaceted construct, a consensus regarding its scope remains elusive (Tatoglu et al., 2016). Li et al. (2006) elucidated six key components of SCM practices: "strategic supplier partnership, customer relationship, information sharing, information quality, internal lean practices, and postponement." However, these components are often deemed generic in the context of the manufacturing industry. Therefore, Kumar (2016) proposed a refined set of practices tailored to the dairy supply chain, encompassing "Information and Communication Technology Practices, Supplier Relationship Practices, Supply Chain Manufacturing Practices, Inventory Management System, Warehousing Management System, Transportation Management System, and Customer Relationship Management (CRM)." The present study employs a comprehensive range of SCM practices, including CRM practices, ICT practices, Logistics Management (LM) practices, Strategic Sourcing (SS) practices, and Supplier Development (SD) practices. These chosen practices intricately interlink the various stages of the dairy supply chain with the internal operations of the dairy processing firm.

In the dynamic landscape of cocoa research and production, SCM practices play a pivotal role in optimizing processes, bolstering customer relations, harnessing technological advancements, and fostering collaborations with suppliers (Chan et al., 2017; Cheng, 2019). However, despite their apparent significance, the complex interplay between SCM practices and the consequent competitive advantage within the context of CRIG remains underexplored. Based on the aforementioned holistic perspective on SCM practices, the study seeks to brighten the complex mechanisms

through which these practices collectively contribute to the competitive advantage of the Cocoa Research Institute of Ghana (CRIG) through customer loyalty.

1.2 Problem Statement

In today's rapidly changing business landscape, Supply Chain Management (SCM) practices have gained widespread recognition for their role in fostering agility and responsiveness, particularly in manufacturing firms (Gligor et al., 2019). While this recognition has sparked extensive research on the relationship between SCM practices and competitive advantage (Chan et al. (2017; Abeysekara et al., 2019), a notable gap persists in the understanding of their implications within specific industries, such as the processing manufacturing sector. Moreover, within this domain, the unique context of processing companies such as CRIG remains understudied. These companies often face distinct challenges and requirements for agility (Chan et al., 2017; Abeysekara et al., 2019; Cheng, 2019), making an investigation into the effects of SCM practices on competitive advantage highly relevant.

Numerous recent articles have explored the link between SCM practices and competitive advantage in various industries. Gligor et al. (2019) delved into the domain of supply chain agility (SCA) within the context of manufacturing firms. Although their research provided insights into agility and responsiveness, their focus on manufacturing firms as a whole has left a gap in the understanding of how these concepts apply to specific sectors like beverage manufacturing, where agility is of paramount importance. Similarly, Chan et al. (2017) and Abeysekara et al. (2019) have contributed to the discourse on agility but have not addressed the unique demands of processing companies. Cheng (2019) also emphasized the significance of competitive advantage through SCM practices such as supplier development practice, information and

communication technology, strategic sourcing, customer relationship management, logistic management.

While there has been research linking SCM practices to competitive advantage, the understanding of this relationship remains incomplete. Li et al. (2006) and Paulray et al. (2012) touched upon how SCM practices influence competitive advantage. However, these studies did not provide a comprehensive understanding of the causal pathways between SCM practices and competitive advantage, particularly in the context of the Cocoa Research Institute of Ghana (CRIG). Again, there is scarce studies on the mediating role of customer loyalty between and among the nexus. Therefore, a gap exists in the literature. Hence, this study addresses the gap by investigating the impact of SCM practices on competitive advantage within the cocoa research and production sector through the mediating role of customer loyalty.

1.3 Research Objectives

The main aim of the study is to investigate the mediating role of customer loyalty on the nexus between supply chain management practices, and competitive advantage at Cocoa Research Institute of Ghana (CRIG).

1. To assess the relationship between SCM practices and competitive advantage.
2. To evaluate the influence of SCM practices on customer loyalty.
3. To analyse the effect of customer loyalty on competitive advantage.
4. To gauge the mediating role of customer loyalty on the nexus between SCM practices and competitive analysis.

1.4 Research Questions

1. What is the relationship between SCM practices and competitive advantage?
2. How does effective SCM practices affects customer loyalty?
3. Does customer loyalty influence competitive advantage?
4. Does customer loyalty mediate the nexus between SCM practices and competitive advantage?

1.5 Significance of the Study

The study adopted quantitative approach which involved the collection of data so that information can be quantified and subjected to statically treatment in order to support refute alternate knowledge claims (cresswell 2003). Primary source of data was used. Under primary source of data, questionnaire was designed and deployed to the grounds to solicit for data to support the study. Practitioners in the field of supply chain management within agricultural and research institutions, particularly those dealing with cocoa production, will benefit from this study. The findings will provide valuable insights into the relationship between supply chain management practices and competitive advantage, specifically tailored to the context of CRIG. Practitioners can gain actionable knowledge on which supply chain practices contribute most significantly to enhancing the competitive advantage of an organization. Understanding the mediation role of customer loyalty will guide them in developing strategies to improve both supply chain operations and customer loyalty, leading to improved organizational performance. Also, Policymakers in the Ghanaian government or related agricultural bodies can leverage the study's findings to inform policy decisions related to cocoa production and research. By understanding how supply chain management practices impact competitive advantage and customer loyalty, policymakers can design

and implement regulations that promote the adoption of effective supply chain practices. This can lead to improved overall efficiency in the cocoa industry, benefiting not only individual organizations like CRIG but also contributing to the growth and sustainability of the broader cocoa sector in Ghana.

The study makes substantial contributions to the existing literature in multiple dimensions. Firstly, through its focused examination of CRIG, it provides empirical validation of the connections between supply chain management practices, competitive advantage, and customer loyalty within the distinct milieu of a cocoa research institute, thus bolstering the evidential foundation for these linkages. Secondly, the study's investigation into the intermediary function of customer loyalty enhances our comprehension of how supply chain practices wield influence over competitive advantage. This mediation perspective offers a more intricate grasp of the underlying mechanics in play, thereby augmenting the theoretical frameworks within the field. Lastly, the study's specific concentration on CRIG within the framework of the Ghanaian cocoa sector introduces contextual specificity that enriches the broader literature. Given the potential disparities in the impacts of supply chain practices on competitive advantage and customer loyalty across industries and regions, this study's locale-specific discoveries contribute to a more all-encompassing appreciation of these dynamics.

1.6 Overview of Methodology

1.7 Scope of the Study

The research employed a positivist approach, specifically quantitative survey, to describe the relationship between supply chain management practices, customer loyalty, and competitive advantage. A detailed blueprint research design was adopted, aligning the study's objectives, methods, and tactics. The study's ontology and epistemology were carefully considered. The chosen approach was deductive, drawing conclusions from facts or theories measured using statistical procedures. The study employed descriptive and explanatory research designs to justify variables and ascertain associations. A pilot study ensured questionnaire validity and reliability. Primary data from employees of the Cocoa Research Institute of Ghana (CRIG) were collected through a structured questionnaire, employing close-ended Likert scale questions. The research involved a population of CRIG employees, with a sample size of 260 determined using Yamane's formula. Data were analyzed using SPSS, Excel, and Andrew-Hayes Process Macro Analysis, including descriptive, reliability, correlation, regression, and mediation analysis. Ethical considerations ensured participant anonymity and consent.

1.8 Limitations

Possible limitation could rise up in the course of this project. Among some these limitation is transportation from the place of the researcher to the company where data would be collected. Another possible limitation to the study could also be financial issues. This is because, finances may be needed to in order to carry out an effective and efficient research. Since research is about investigating into works done by authors, one needs to get appropriate literature in reference to the study undertaking. Sometimes it becomes very difficult to get right literature to gather knowledge to support your work.

Sometimes, you need to buy some of these literature and all these are associated with cost. A financial challenge that may tends to compromise the quality of the work. Another, limitation could be time factor. Time is one of the factors that could underpin this project. Sometimes much time will be needed to come out with quality work but due to limited time frame, this could not be realised. The gathering of the data from the respondents may also tend to be limitation because some respondents may not respond to the questionnaire very well and if much education is not been given to the respondents, it will eventually compromise the quality of the thesis.

1.9 Organisation of the Study

This study comprises of five main chapters. Below is the summary of the chapters. The chapter one contains the background of the study, problem statement, research objectives, research questions, significance of the study, overview of methodology, scope, and limitations. The chapter two talks about the literature review. Introduction under literature review we have theoretical framework where key concepts were explained, conceptual model, development of hypothesis, empirical literature review etc. Chapter three focuses the on methodology. The chapter four is discussions and interpreting of results and finally chapter five which looks at conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter discusses the research's literature review, in which the prior works of supply chain scholars are analyzed in support of the current investigation. This chapter is divided into four main sections: Section 2.1 examines the conceptual review of the thesis; Section 2.2 also places emphasis on the theoretical literature; Section 2.3 examines the empirical aspect of the study; and Section 2.4 examines the development of the study's conceptual framework and hypotheses.

2.1 Conceptual Review

In this section, many critical words including supply chain management practices, competitive advantage are described. This section also looks at the conceptual evaluation of the research. We also look at the definitions of terminology like supplier development practice, information and communication technology, strategi sourcing, customer relationship management, logistic management, and supply chain competitive advantage in connection to supply chain management.

2.1.1 Supply Chain Management Practices

The coordination of goods during their distribution from warehouses to customers, often by truck or air, is referred to as logistics services. Logistics might alternatively be defined as the systems in place to transport commodities using vehicles or the air to get them to their final destination. Several warehouses are used to deliver some of these products. The strategic significance of logistics services in a company's overall performance is becoming more widely recognized by businesses and supply chain

practitioners (Bienstock, Mentzer, and Bird 1997; Bowersox, Mentzer, and Speh 1995; Brensing and Lambert 1990; Mentzer, Gomes, and Krapfel 1989). Logistics excellence appears to have a major influence on revenue and customer loyalty, according to anecdotal evidence from companies like Dell Computer Corporation, Nabisco, and Federal Express (Mentzer and Williams 2001).

Businesses now consider logistics as a crucial source of competitive advantage as part of a firm's overall market operations, rather than only as a place to reduce costs, according to Novack, Rinehart, and Langley (1994). Customer service, for instance, has long been a focus of the logistics and supply chain community. As a result of this line of research, logistics service capabilities can be enhanced to increase market share, enable mass customization, enable customer response-based systems, improve customer satisfaction, create customer loyalty through service performance, positively affect customer satisfaction and, in turn, corporate performance, and provide a differentiator (Dresner and Xu 1995).

The capacity to adapt to unforeseen changes is often the definition of supply chain agility (Sheffi, 2004). Van Hoek et al. (2001) were the first to introduce the focus on supply chain management practices from the standpoint of the supply chain. Responding swiftly to short-term changes in demand or supply and managing issues that may impair supply chain management practices externally are the primary goals of supply chain management practices, according to Lee (2004). Sometimes the terms adaptability and resilience, which are comparable but distinct from supply chain management practices, can be used interchangeably. While adaptability is utilized for more significant medium-term adjustments, SCM is the capacity to deal with and benefit from uncertainty and instability. Adaptable supply chains alter and adapt the

supply network to strategies, goods, and technologies as well as update their architecture to account for market structural developments (Lee, 2004). Resilience strives to reduce foreseeable risks and maintain business continuity for the organization. Resilience was described by Christopher and Peck (2004) as a system's capacity to either regain its initial condition or shift to a different, preferable state following a disturbance.

No	Definition	Author (s)
1	Supply chain management practices is the process of planning , implementing, and controlling the operations of the supply chain with the purpose to satisfy the customer requirements as efficiently as possible	Oliver and webber 1982
2	Competitive advantage refers to the way that a company can produce goods or deliver services better than its competitors. It allows company to achieve a superior margin and generate value for the company and its shareholders.	Kyle peterdy, 2020

2.1.1.1 Logistics Management Practice

Logistics Management Practices (LMP) are integral routines executed by organizations to enhance the effective management of their logistics operations (Gitonga, 2017). Positioned within supply chain practice, logistics management aims to meet customer demands by strategically planning, implementing, and controlling the flow and storage of goods. Extensive research has underscored the impact of various aspects of LM practice on competitive advantage and overall organizational performance. For instance, Mukolwe and Wanyoike (2015) assessed information management, warehousing management, transport management, and physical distribution practices to gauge their influence on Mumias Sugar Company Limited's operational efficiency. This

study acknowledges a comprehensive approach to LM practices, encompassing transport management, material handling, warehousing management, packaging, inventory management, order processing, physical distribution, and information flow management.

2.1.1.2 Customer Relationship Management Practice

Customer Relationship Management (CRM), defined by various perspectives, emerges as a critical facet of Supply Chain Management (Paul, 2019). From cultivating long-term relationships with customers to handling complaints and enhancing satisfaction, CRM spans a wide range of practices. The diverse literature concurs on CRM's significance in building relationships and maintaining them. Sukati, Abdul Hamid, Baharun, and Tat (2014) highlight its role in inbound and outbound customer relationships, crucial for delivering products and services with precision. Through close CRM, product differentiation, customer loyalty, and increased customer value can be achieved. Recognizing the pivotal role of CRM, this study incorporates customer evaluation, customization, segmentation, differentiation, and interactive communication as CRM practices.

2.1.1.3 Information and Communication Technology Practice

Information and Communication Technology (ICT) forms a technological system that facilitates electronic information exchange among supply chain partners, including customers. ICT's unique value lies in its ability to shape distinctive technology configurations and business processes that result in competitive advantages (Asabere, Oppong, and Kusi-Sarpong, 2012). As a dynamic force in the modern business landscape, ICT facilitates improved forecasting, synchronized production and delivery,

inventory coordination, and performance bottleneck identification. High levels of ICT lead to cost reduction, cycle time improvement, and overall enhanced competitive positioning. Furthermore, ICT practices foster reduced paperwork, efficient transactions, better customer service, communication, increased productivity, and responsive supply chain management. This research encompasses information sharing, integration, tracking and monitoring systems, and procurement systems as ICT practices.

2.1.1.4 Supplier Development Practice

Supplier Development (SD) practices play a vital role in sustaining competitive advantage and organizational performance. The complex array of definitions for SD reflects its multifaceted nature (Yildiz Çankaya, 2020; Ketema, 2017). A cooperative buyer-supplier relationship yields cost reduction, shorter lead times, increased productivity, and enhanced quality (Li et al., 2012). This study acknowledges both direct and indirect SD approaches. While indirect SD involves supplier identification and selection, direct SD programs necessitate collaborative efforts to enhance supplier performance for mutual benefit. Supplier development practices, such as credit support, artificial insemination, veterinary services, animal feeds, and extension education, are pivotal in securing sustainable competitive advantage.

2.1.1.5 Strategic Sourcing Practice

Strategic Sourcing (SS) serves as a fundamental aspect of Supply Chain Management, encompassing sourcing activities aimed at achieving long-term organizational goals (Ketema, 2017). SS significantly contributes to competitive advantage and organizational performance by enhancing sales margins, quality, logistics

arrangements, and customer satisfaction (Koobair et al., 2017). The process enables organizations to achieve strategic advantages and mitigate business challenges efficiently. Recognizing its strategic significance, this study embraces supplier identification, selection, evaluation, communication, relationship-building, and quality assessment as strategic sourcing practices.

2.1.2 Competitive Advantage

Some types of comparative advantage, such as those associated with economies of scale and scope, are rooted in market positions. Others are rooted in business models; still others in the processes or competencies of organisations. Although the value of market positions and the relevance of business models can wax and wane, ‘tacit’ competencies – internal processes – have been thought to be more enduring because they are harder to copy. Nevertheless, it turns out that confidence residing in proprietary processes is also built upon temporary underpinnings.

Dupont, for example, enjoyed years of unparalleled capability to formulate new organic compounds. Its scientists did their work through collaborative trial and error. Comparative advantage allows supply chain managers to make the right choices in terms of acquiring assets and implementing strategies that would give them an edge over their competitors.

2.1.3 Customer Loyalty

Customer loyalty is crucial in the corporate world. When businesses are able to meet or cater to their consumers' requirements at the appropriate moment, they are demonstrating customer loyalty. As a result, they will grow to trust you and win the loyalty of their clients. Customers that have grown devoted to a certain brand,

according Caruana 2000, P. 811, are crucial to the success of that company's operations. According to claims made by Aaker (1996) on page 106, it acts as the foundation for a price premium and a shield against harmful price competition in the market for logistics outsourcing (Fornell, 1992 and Fournier and Yao 1997). Customer loyalty is defined as the development and maintenance of a long-term relationship with the customer that would increase revenue by increasing the customer's lifetime value. One of the most important businesses in the contemporary fraternity is maintaining long-term relationships with their clients. Customer loyalty mostly occurs when a person, as a result of receiving excellent service, gradually grows to love a certain brand.

Zeithaml, 200) argued that businesses in competitive marketplaces have recognized to seek for a loyal client base (Kalwani and Narayandas 1995; Stone et al. 1996). This is reflected in the idea of customer lifetime value (also known as customer equity), which also emphasizes that significant parts of the customer value to the service provider (base potential, growth potential, and networking potential) are only generated as a result of loyalty (stahl, Matzler, and Hinterhuber 2003). Focusing on operational efficiency is very significant because it helps to optimize a firm's time, money and effort. Operational efficiency also contribute to the important value and growth potential to a business. Tracking it can serve as a basis of strategic decision-making efforts in relation to decreasing costs, increasing revenue and improving employees' and customers.

2.2 Theoretical Literature

According to Carter and Easton (2011), 87% of the articles presented between 1991 and 2000 did not apply a theoretical framework for their supply chain research literature reviews. In the subsequent ten years, 33% of studies in the area of green and sustainable supply chains have included some theoretical underpinnings. There are a number of hypotheses that have been used to explain how logistics flexibility activities affect customer loyalty. constituted the central idea of green literature (Wernerfelt, 1984). They are described in further detail in each of these claims below.

2.2.1 Stakeholder Theory

'Every organization tries to assist and gratify its stakeholders, including: governments, owners, legislative groups, customers, suppliers, society, unions, and workers,' according to Freeman, who developed the stakeholder theory in 1984. In response to the numerous stakeholder groups, such as employees, customers, environmental organizations, and legislative organizations that are frequently impacted by firms' decision-making, According to Frooman and Murrell (2005), businesses are now embracing SCM initiatives. Recently, Freeman (2004) claimed in his updated stakeholder theory that businesses should cater to the requirements of the stakeholder groups and people who could be impacted by their decisions.

These individuals are recognized as potential winners or as potential sources of risk for the organization (Post et al., 2002). As a result, Freeman comes to the conclusion that beneficiaries should be changed from shareholders to stakeholders and given the proper ability to make decisions in line with the management of the organization (Stieb, 2009). This viewpoint is supported by Ayuso et al.'s (2012) assertion that theoretical issues with stakes are closely related to corporate social responsibility (CSR), which,

according to Key (1999), summarizes the interaction between the organization, its external surroundings, and its actions in this setting. In addition to identifying the key players, the author hopes to inspire both the participants' individuals and groups. This idea is used in the study to explain why certain organizations have higher levels of collaborative skill than others and, in turn, how collaborative capability improves performance.

2.2.2 Institutional Theory

Early in the 1980s, DiMaggio and Powell (1983) introduced the institutional hypothesis, which postulated that firms were attempting to fit into their environment by abiding by legitimate and statutory regulations on the one hand while pursuing social fitness on the other. These academics also assert that a company's behavior may be influenced by a strong societal impact that drives it to take any action. Such a factor might be any form of social motivator, including custom, law, or regulation. However, Zhu and Sarkis (2007) discover that firms are moving toward social credibility and organizational sustainability as well as efficiency when using green supply chain management.

Government regulations may function as a major structural catalyst for businesses to adopt supply chain practices. Companies in developed economies like the United States and Europe thus adhere to SCM rules more frequently than businesses in other locations where environmental restrictions are less stringent. This might be costly, especially if companies choose for cutting-edge technologies to lessen their environmental effect (Groenewegen and Vergragt, 1991). Scholars have employed structural theory in several academic disciplines, including business continuity planning, overall quality management, and quality loops (Lin and Sheu, 2012).

According to Lin and Sheu (2012), institutional drivers can increase operational effectiveness both internally by using ISO 9000 or externally by applying pressure to use Total Quality Management (TQM) in order to gain legitimacy. Institutional theory could be able to explain why such attempts for social fitness are internally or externally motivated and how they affect efficiency. Thus, this hypothesis is employed to explain why businesses frequently adopt green policies and the favorable impact this has on their performance:

2.2.3 Resource Based Theory

The third principle describes the organization's resource-based perspective and links its operations to the finest internal property management. It includes all tangible and intangible assets, including financial capital and intangibles like reputation, staff skills, experience, and organizational culture. Wernerfelt (1984) challenged the notion that a company's competitiveness depends exclusively on the external environment and asserted that every company's competitive edge is a component of its unique qualities. The company needs to restrain its drive to become more efficient and perform better than its competitors. According to Russo (1996), a business will outperform its competitors in terms of environmental efficiency by developing internal mechanisms for resource and waste control and introducing new physical infrastructure.

However, Conner's (1991) previous work, which came before Barney's (1986), showed that a company's resources were the sole way to compute the relationship between the firm's external environment and its internal assets. According to a research by Hunt (2000), organizations may use both tangible and intangible resources in an effort to expand value-added goods for the target sector. There is also a description of the seven main instruments: the physical, legal, human, economic, relational, informational, and

operational. Companies are under pressure to improve their operations and lower their carbon footprint, even if the aforementioned studies offer a variety of techniques for greening the supply chain by industry (Eltayeb et al., 2010). For instance, it will be crucial to proactively re-engineer material utilization and pollution reduction measures such end-of-pipe short-term processing and emission management (Hart, 1995). The only way for firms to get a competitive edge and benefit from SCM operations is through this approach (Laosirihongthong et al., 2013). This thesis describes how certain businesses are able to engage in logistical service operations and how this gives them a competitive advantage.

However, the theoretical underpinning for this research is shaped by the theoretical aims addressed, including the theory of stakeholders, institutional theory, and resource-based theory. The drivers of SCM are discussed in the parts that follow, along with an introduction, discussion, and summary of recent research on how various SCM techniques might be applied to various areas of organizational efficiency.

2.3 Empirical Literature

Pan et al. (2019) addressed the moderating influence of operational efficiency on logistics flexibility: operational efficiency of logistic flexibility management, based on survey results from 100 manufacturing enterprises in China. Based on the impact on SCM, and competitive advantage, the findings demonstrate that: (1) the level of logistical flexibility on customer loyalty declines, but does not affect economic efficiency and the positive effect of internal atmosphere. (2) Two facets of cooperative communication limit the benefits of SCM and how it affects competitive advantage.

The environmental, social, and economic impacts of the SCM were investigated by Han and Huo in 2020. Based on information gathered from 100 Ghana firms, this study employs structural equation modeling and evaluates the theoretical model using the maximum-like estimate approach. The results imply that SCM may be measured in many ways. Logistics flexibility paves the way for operational effectiveness and customer loyalty and is linked to outcomes in the social and environmental spheres.

Operational effectiveness has a moderating effect on logistical adaptability and customer loyalty. These two tasks are unique to an aggressive supply chain management. Survey information was gathered from 100 manufacturing businesses and analysed using moderated hierarchical regression. Results show a connection between customer loyalty and logistical flexibility operations. Stronger links between logistical flexibility and customer loyalty are frequently associated with higher SCM levels. Contrary to expectations, a positive relationship between SCM operations and client loyalty has been identified in the context of supply chain management.

Cankaya and Sezen (2019) investigated the impact of eight logistics flexibility dimensions, including green sourcing, green development, green delivery, green manufacturing, green promotion, environmental education, green management, and investment recovery, on the three areas of corporate sustainability. The links between SCM dimensions and sustainable efficiency are evaluated using a plant-level survey. Using face-to-face cross-sectional and mail sample data from the study's proposed models and results. The suggested ideas are evaluated using structural equation simulation. Except for green transactions, both SCM measures are contrasted with one or more output dimensions. The different aspects of SCM are found to be consistent with at least one of the performance metrics, with the exception of green buying.

Several writers have developed several models to describe SCM practices. Le (2020) used SEM to analyze the connections between SCM practice dimensions and several sustainability performances facets of Vietnam's building material producers. According to the research, green purchasing has no negative effects on the environment, but has a social and economic consequence. Thus, all parties involved in a building or project may gain knowledge of the SCM practices to improve operational effectiveness (Wibowo, Handayani, and Mustikasari, 2018).

Although not supported for financial and social connections, there is apparently a significant association between green distribution and environmental outcomes (Le, 2020). In order to maximize profitability and lessen the impact of their operations on the environment, businesses should also look for ways to eco-design their products (Le, 2020). SCM impact on green and economic success in Pakistan has been examined by Ahmed and Ahmed (2018) using SEM. They show that leadership and institutional pressures have an impact on the company's adoption of internal green practices and external green cooperation.

According to Bu et al. (2020), SCM had role in their investigation on the relationship between SCM and competitive advantage. To address environmental issues, SMEs are encouraged to look for, work with, and form partnerships with essential suppliers. SMES could also implement techniques for SCM particularly through eco-design and successful stakeholder collaboration when addressing environmental challenges. According to Rasit et al. (2019), the application of eco design also affects an organization's financial performance. However, the study only paid attention to three components of SCM: environmental selection, monitoring, and supplier collaboration.

The and outbound logistics) for SMEs in the southern region of India were also explored by Rao (2019). The outcome shows that the initiatives' greening extent of execution is considerably being attained but not accomplished. Significantly, from a process perspective Once more, considerable greening of outbound must be attained along with greening of production at a considerably greater rate in order to achieve meaningful environmental and economic performance. However, it is not a simple task to implement SCM techniques in the SMEs sector. According to 84% of SMEs in the UK, the biggest obstacle to implementing logistics flexibility was cost, which was followed by a lack of expertise, a lack of human resources, and a lack of supply chain integration.

According to study done by Noteboom et al. (2020) at the seaports of Rotterdam, Antwerp, North So Port, and Zeebrugge in the Netherlands and Belgium, the greening of the ports' supply chains has received significant attention from businesses since 2010. This is consistent with a 2018 research by Al-ghwayeon and Abdallah that found that SCM has a favorable and substantial impact on export performance as well as the environment. Péra et al. (2019) state that methods like using Capsize ships, which aim to lower the levels of Green House Gas (GHG) emissions in the export industry, also encourage the reduction of transport costs.

Numerous models (qualitative and quantitative) have been employed worldwide to examine the phenomena of SCM. Kaur et al. (2018) investigated SCM constraints in the Canadian electronic products manufacturing industry using the Decision-Making and Trial Evaluation Labonitory (DEMATEL) based approach. Barriers included a lack of knowledge of how the environment affects company, a lack of technical know-how, difficulties seeing environmental possibilities, a lack of corporate social responsibility,

and complexity of reuse/recycling product design. However, it was shown that the main obstacles to the application of SCM practices by manufacturing enterprises in Canada were a lack of training/knowledge and top management commitment. The relationship between SCM, and Innovation of the plastic manufacturing firms in Brazil was also examined by Pinto et al. (2019) using the DE MANTEL method. This analysis reveals that the perspectives of SCM and Innovation are influenced by one another and that both Innovation and KTT promote greater development in SCM. Li et al. (2020) used the Strategy Structure Performance (SSP) framework to demonstrate how a proactive environmental strategy combined with the integration of SCM can improve an organization's environmental performance. They also demonstrated how relationship capability can balance internal and external SCM integration.

Countries like Kenya, Ethiopia, Morocco, Zimbabwe, Uganda, and Ghana in Zimbabwe have also been noted in the research SCM practices throughout the African continents. For the objective of having an environmental discourse, SCM methods have been embraced in the retail industry (Mopfiga. 2019). According to Peprah, Opoko-Fofie, and Ndure (2016), the study also identified lack of awareness campaigns and prioritizing profit above the environment as obstacles that prevent the implementation of CSCM programs.

According to Anikiya (2015), reverse supply chain (RSC) practices, other aspects of CSM, in developing nations like Morocco, has the potential for firms to generate cash while maintaining their compliance with sustainability and requirements from their stakeholders, regulations, etc. Green manufacturing is the most significant predictor of firm performance in Kenya. Therefore, one of the most important factors in RSC initiatives is a company's attitude (be it positive or conservative). As a result,

companies should improve their business models to better manage RSC operations (Haz and Fret, 2017).

Ethiopia's leather and leather product business has attempted to incorporate multiple aspects SCM practices to enhance its environmental performance, which is similar to Mupfiga (2010)'s results (Work and Viridi, 2010). Five SCM practices' effects on environmental performance, financial gains, and economic outcomes in Ligands' manufacturing SMIs have been investigated. The study came to the conclusion that internal environmental management practices significantly influence all three indicators, namely environmental performances, economic benefits, and economic returns (Namagems. Ryan and Sridharan, 2019). Eco-design and green purchasing also significantly influence environmental performance and economic benefits, respectively.

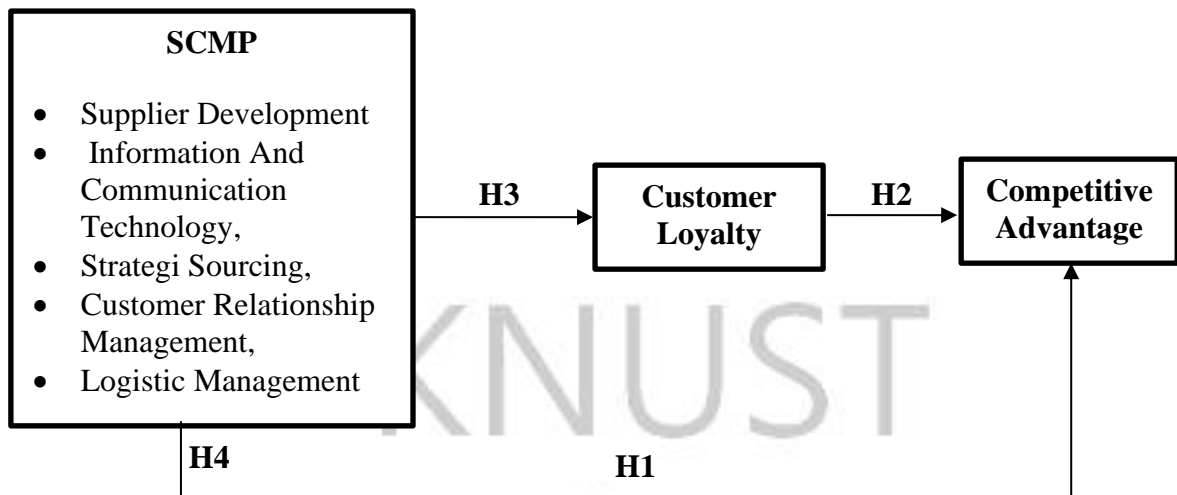
In Ghana, the mining and manufacturing industries have investigated SCM techniques. Utilizing information from the developing world, Afum et al. (2020) study the direct link between green manufacturing practice (CMP), green supply chain integration (OSCI), and sustainability success. A design for an explanatory test was used in the study. Through the use of standardized questionnaires, information is collected from 178 small and medium-sized enterprises (SMEs) throughout Ghana. PLS-SEM, or partially least square structural equation modeling, was suggested and assessed. The results demonstrate that GMPs have a strong favorable impact on sustainable performance. Once more, GIMP's good impact on SCM is advantageous.

Additionally, SCM acts as a mediator between GMPs and sustainable performance. Lack of information and the financial advantages of SCM, as stated by Kaur et al. (2018), are important variables impacting SCM in mining firms, according to Peprah et al (2016). Other problems include the high cost of expertise required for logistic

flexibility, a lack of knowledge about the programs that promote it, a lack of operational efficiency, and a lack of customer loyalty. In order to increase operational competitive capacities in terms of flexibility, quality, and cost, developing nations like Ghana should invest in logistical flexibility to ensure customer loyalty (Famiych, Kwarteng, and Asante-darko, 2018). This is in accordance with the findings of Quintana-Garcia et al. (2020), who discovered that flexible supply chain logistics assist businesses boost competitive advantage through an improved reputation in addition to efficiency. According to Younis, Sundarakani, and O'Mahony (2019), the logistical flexibility initiative that boosts business performance is likewise built on the installation and certification of the EMS.

2.4 The Conceptual Framework

The conceptual framework indicates the research model that indicates the philosophical meaning of between the study variables (supply chain management, competitive advantage, and customer loyalty) and the supporting theories (stakeholder's theory, institutional theory and resource-based theory). The study first relationship examines the relationship between SCMP and competitive advantage (H1); second relationship evaluate the influence of SCMP on customer loyalty (H2); third relationship analyse the impact of customer loyalty and competitive advantage (H3) and; fourth relationship assess' the mediating effect of customer loyalty on SCMP and competitive advantage. Hence, the framework is indicated in the model below;



2.5 Hypothesis Development

2.5.1 SCM Practice and Competitive Advantage:

The relationship between Supply Chain Management (SCM) practices and competitive advantage can be understood through the lens of the Resource-Based View (RBV) theory. According to RBV, a firm's competitive advantage is driven by its unique and valuable resources and capabilities. SCM practices, such as green sourcing and supplier collaboration highlighted by Barriers et al. (2020), can be considered as valuable resources that differentiate an organization from its competitors. The ability to effectively manage the supply chain can provide a source of sustained competitive advantage by improving efficiency, reducing costs, and enhancing overall performance. The Stakeholder Theory also applies here, as effective SCM practices can lead to improved relationships with suppliers, customers, and other stakeholders, ultimately contributing to the organization's competitive advantage.

Based on the literature, it is hypothesized that there is a positive relationship between Supply Chain Management (SCM) practices and competitive advantage. Pan et al. (2019) reveal that operational efficiency and internal atmosphere positively impact competitive advantage, and Barriers et al. (2020) find that SCM practices, including

green sourcing and supplier collaboration, can enhance competitive advantage through improved relationships with suppliers. The study by Bu et al. (2020) also supports the idea that SCM practices contribute to competitive advantage by promoting collaboration with essential suppliers. Thus, this study proposes that;

H1: SCM practices has a positive influence on competitive advantage

2.5.2 SCM Practices and Customer Loyalty:

The relationship between SCM practices and customer loyalty aligns well with the Stakeholder Theory. SCM practices can influence customer loyalty by enhancing the value proposition delivered to customers. Logistical flexibility, as highlighted by Pan et al. (2019) and Han and Huo (2020), can lead to quicker response times, better order fulfillment, and improved customer experiences. These practices cater to the needs and preferences of customers, strengthening the organization's relationship with its customers and fostering loyalty. Additionally, the Institutional Theory could also apply, as organizations that embrace SCM practices aligned with industry norms may be perceived as more legitimate and trustworthy by customers, thereby enhancing customer loyalty.

The literature suggests a positive link between SCM practices and customer loyalty. Pan et al. (2019) suggest that logistical flexibility influences customer loyalty, and Han and Huo (2020) find that logistics flexibility is linked to customer loyalty and operational effectiveness. Additionally, Rasit et al. (2019) indicate that eco-design and other SCM practices can positively impact an organization's financial performance, potentially enhancing customer loyalty as well. Hence, this study proposes that;

H2: SCM practices has a positive influence on customer loyalty

2.5.3 Customer Loyalty and Competitive Advantage:

The relationship between customer loyalty and competitive advantage can be explained through the Resource-Based View (RBV) theory. Loyal customers are a valuable resource for organizations as they provide a steady stream of revenue and often require lower acquisition costs compared to new customers. The loyalty of customers, as indicated by Quintana-Garcia et al. (2020), can lead to enhanced reputation and efficiency, both of which can contribute to a sustained competitive advantage. Additionally, the Stakeholder Theory applies here, as loyal customers are important stakeholders who contribute to the organization's success by continuously choosing its products or services.

The literature suggests a positive connection between customer loyalty and competitive advantage. Pan et al. (2019) reveal that positive internal atmosphere positively impacts both customer loyalty and competitive advantage, while Quintana-Garcia et al. (2020) demonstrate that customer loyalty contributes to competitive advantage through an improved reputation and enhanced efficiency. Thus, this study proposes that;

H3: Customer Loyalty has a positive influence on competitive advantage

2.5.4 Mediation of Customer Loyalty:

The mediation of customer loyalty in the relationship between SCM practices and competitive advantage can be understood from both Resource-Based View (RBV) and Stakeholder Theory perspectives. SCM practices are valuable resources that can enhance a firm's capabilities, leading to improved customer loyalty. This, in turn, can contribute to sustained competitive advantage as indicated by the RBV theory. From a Stakeholder Theory perspective, loyal customers are key stakeholders who are

influenced by effective SCM practices and can positively impact the firm's overall performance and reputation.

The literature supports the hypothesis that customer loyalty mediates the relationship between SCM practices and competitive advantage. Han and Huo (2020) suggest that logistics flexibility paves the way for operational effectiveness and customer loyalty, which can, in turn, impact social and environmental outcomes. The study by Bu et al. (2020) indirectly supports this by demonstrating that SCM practices promote customer loyalty, which contributes to competitive advantage. Thus, the study proposes that;

H4: Customer loyalty mediates the relationship between SCM practices and competitive advantage

Established Hypothesis

Hypothesis 1: There is a positive relationship between Supply Chain Management (SCM) practices and competitive advantage.

Hypothesis 2: There is a positive link between SCM practices and customer loyalty.

Hypothesis 3: There is a positive connection between customer loyalty and competitive advantage.

Hypothesis 4: Customer loyalty mediates the relationship between SCM practices and competitive advantage.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodological and technological techniques and methodologies used to investigate the influence of knowledge sharing and e-collaboration on employee performance at the CRIG, with the function of organisational culture serving as a moderator. These techniques include research design, population, selection, and sampling procedures, data collecting sources and instruments, data analysis, correlation, multiple regression, linearity, normalcy, validity, and reliability, as well as study ethics.

3.2 Research Methods

3.2.1 Research Approach

This study adopted the positivist approach (quantitative survey) to research which conditions that it is only in using the natural science method that certain knowledge, prediction and control can be made (Kamil, 2011). According to Aaker et al. (2019), the research design is a "detailed blueprint" whereby a researcher works toward a study's research objectives by ensuring that the study's aim, method, and tactics are all in sync. Kamil (2011) also stated that, a researcher's stance of ontology and epistemology is very important to the contribution of knowledge since it may affect how research is conducted and reported. Creswell et al. (2016) concludes that the positivist approach is deductive in nature and works from a more general reasoning to a specific reasoning and conclusions are drawn from available facts or theories, which are measured with numbers and analyzed by using statistical procedures in order to draw conclusions. The approach is also objective and there is validity and reliability of

the findings which are logically communicated and corollaries are made from conclusions. Punch (2003) contends that quantitative data involves the measurement of the countable or tangible nature of society, the study therefore employs the quantitative research method in approach.

3.2.1 Research Design/Purpose

Research design according to Baxter (2003), is a solution-based strategy that researchers depend on in order to overcome the research problem. In this work, research is defined in terms of objectives. With the research design in mind, the population, sample size and techniques and sources for data collection are defined (Baxter, 2003). Creswell (2009) also described that the research design is the strategic means that researcher follow in their pursuit of research. In this article the descriptive and explanatory research design is considered to respectively justify the study variables and ascertain the association between the different variables used in the study. As widely known, social phenomenon and its prospective influence on a confine aspect of human existence are well clarify using the combination of explanatory and descriptive research design (Creswell, 2009). In the views of Cooper and Schindler (2003), the most efficient and effective way the purpose of research can be realized accurately is using a collected and analyzed data. In this specific study, in order to successfully examine the investigate the mediating role of customer loyalty on the nexus between supply chain management practices such as supplier development practice, information and communication technology, strategi sourcing, customer relationship management, logistic management, and competitive advantage, both explanatory and descriptive research designs will be utilized.

3.4 Pilot Study

Validity and the reliability will be obtained by pretesting the instruments (Li et al., 2004). Questionnaires will be tested beforehand in order to ensure that the objectives of the study would be achieved. Pretesting would also allow the researcher in order to avoid errors and prejudices in the answers to the data in order to guarantee the best version of the questions. Pretesting would be carried in order to ensure consistency in the answers of the respondents' and also to obtain accuracy in analysing the results of the data.

3.4.1 Data Source

The study uses primary data, this is the most appropriate and available form of data for the study. Zikmund et al., (2010) defines data as records or fact that examine a particular phenomenon. According to Burns and Grove, (1997) a practice of systematically choosing respondents and collecting information is known as data collection.

3.4.2 Data Collection

A questionnaire is a data collection instrument that has pre-recorded questions that allows specific respondent responds to with or without the help of the researcher (Monette et al., 2011). The study employs close ended questionnaires for this study. The questionnaire is divided into four sections. Section I was used to collect general information on the participants. Sections II – V each measured the four variables of this study and participants' responses measured using a Likert scale. The table below specify the items;

3.4.3 Research Instrument

The structured questionnaire will be the major tool for collecting primary data. Keeping with Anderson (2011), the questionnaire could reach a wider audience. Although in comparison with interview, there is deficient on certain characters, but it is a very effective data collection tool which, due to its autonomy, is the most popular research option (Ruane, 2016). All questions, excluding the demographics of the respondents', will be adapted and modified to the objectives of the survey. Closed ended questions will be used to enable the respondents to predetermine the alternatives to the answers on a five-point Likert scale. Where the answers will be ranked from 1 to 5: 1= strong disagreement, 2= disagreement, 3= neutral, 4= agreement and 5= strong agreement. The study will utilize closed ended questions because they provide time and effort needed in encoding the answers to supplement the information and the research, also they provide the opportunity to addressing non-response (Ruane, 2016). The Table presents the details of the measurement instruments.

Table 3.1: Instrumentality

Variables	Items	References
Supply Chain Management Practices	1. Our organization provide credit support to our milk suppliers 2. Our organization support farmers with affordable artificial insemination 3. Our organization support farmers with veterinary services 4. Our organization support farmers with quality animal feeds	Maina et al (2020)
Competitive Advantage	1. Our organization offer competitive milk price to our customers 2. Our organization can offer prices lower than our competitors. 3. Our organization offer high-quality products to our customer. 4. Our organization offer highly reliable products	Maina et al (2020)
Customer Loyalty	1. Our organization has very high customer retention rate 2. Our organization is able to increase its share of customers business with time 3. Customers willingly recommend our organization to others 4. Customers patronise new products when introduced	Lamptey (2014)

3.5 Population

Research population according to the definition of Saunders et al. (2009) is the set of elements, facts, objects, places, and groups of people that are taken by to form the sample by the researcher. The research population includes all items, objects or persons that have commonalities and that the researcher uses to guide the research (Saunders et al., 2009). Burns and Grove (1993) define the population in the same way as the whole research population out of which the researcher chooses the sample size. A group of object, things or people can be deemed as research population if they share similar properties which are by the interest of a researcher to investigate. For the current study employees from the Cocoa Research Institute of Ghana (CRIG) will be considered as the population. In particular, the survey population will comprise of the Administrative Officers, Research Scientists, Public Relations Officers and other staff. The estimated total population for the study is general estimate of the presented in the Table 3.1.

3.6 Sampling Techniques

Sampling is a term used to denote the choosing of certain portion of the entire study population to stand as the representative. The portion of the population that is sampled is where the attention of the researcher and the study is executed on to generalized the findings for the whole population. In this investigation, the researcher used a probability sampling approach called simple random sampling. This simple sample approach was chosen since it reduces the amount of difficulty that would be encountered throughout the data gathering procedure. With 200 workers in CRIG, this simple random sample approach ensures that every member of the population has a chance of being picked.

3.7 Sample Size

To choose the sample size, the researcher follows the sampling methods or strategies. In the motives of Skinner et al. (2000), the sampling strategies are the means through which a sample size is chosen. Based on simple random sampling technique, the sample size for the study will be 260. The researcher used Yamane's (1967) generalized formula quoted in Appiah et al. (2019), which assume that 95% confidence interval ($P=0.05$) to gauge the sample size for the entire population. The applied error is 5%, which is the within the standard appreciable by social researchers. The acceptable error margin is the margin of error. So, the formula is as follows

$$n = \frac{N}{1 + N(e)^2}$$

Where n = sample size

N = population and

e = margin of error

$n=200/1+200(0.025)$

$n= 133$ respondents

With the entire population number of about 200, only 134 employees were engaged in undertaking this research thus representing the sample size.

3.8 Research Approach

The method for data collection and analysis procedures used in a study is term as the research approach. Formally, as reviewed by studies including Skinner et al. (2000), primary and secondary sources are the two fundamental ways to accumulate research data. The structured questionnaire will be the major tool for collecting primary data. Data analysis includes the following processes: data editing, data comparison, data

categorization, data synthesizing, and data encoding in order to input them into statistical software. The statistical software for social sciences (SPSS), Microsoft Excel and Andrew-Hayes Process Macro Analysis will be used to analyse the data into descriptive, reliability, correlation, regression and mediation analysis. The descriptive statistics utilising means and standard deviation, the validity and reliability test using factor analysis and Cronbach alpha, the correlation matrix, and the multiple regression analysis will be provided.

3.9 Reliability and Validity Test

Cooper and Schindler (2012) defined reliability as the accuracy and precision of the procedures foreseen for the success of the study whereas validity refers to the duration of the study. The study would make use of Cronbach alpha and factor analysis in measuring validity and reliability of the study. The validity and reliability test both contribute to the accuracy of the results. The effectiveness of the questionnaires would also be validated by the initial and experimental testing, as well as by a review of the literature. The professionals carrying out the procurement/tendering would be given instructions on how to answer the questionnaires, according to the instructions given to them. The Cronbach alpha and the factor analysis would be used in order to assess validity and reliability.

3.10 Correlation Analysis

The correlation analysis is used to examine the connection between the dependent variable and the independent variables. When the p-value is 0.05, the association between the variables is regarded to be significant. Any association with a p-value greater than 0.05, on the other hand, is considered insignificant. A connection might be

significant either favourably or negatively. When the coefficient is -1, it indicates a complete inverse or negative connection between the variables. Furthermore, when the coefficient is +1, there is an indication of a totally positive association between the variables. When there is no coefficient, it means that there is no link between the relevant variables. The value of the coefficient is used to establish if there is a greater, lower, or moderate connection.

3.11 Ethical Issues

Ethical issues has been categorized into four factors according to Pallant (2007), thus, assuring the respondents identity, the protection of the collected information, giving the respondents consent in respecting their rights and ensuring that the collection of the data takes place in an environment that is safe in order to promote peace. There is a consideration of all the factors with regards to ethical issues in this study. The respondents will be asked to participate based on their interests. There will be assurance of anonymity in order to prevent uncertainty and to avoid third party participation in this research. Finally, there is assurance to the respondents that this information is purposely for academic.

3.12 Organizational Profile of Cocoa Research Institute of Ghana (CRIG)

The Cocoa Research Institute of Ghana (CRIG) is a prominent and pivotal organization within the cocoa industry, serving as a leading research institute dedicated to advancing cocoa cultivation, production, and related technologies in Ghana. Established in [year], CRIG operates under the aegis of the Ghana Cocoa Board (COCOBOD) and operates with a mission to enhance the sustainability, productivity, and competitiveness of the Ghanaian cocoa sector. CRIG's headquarters are located in [location] with additional

research stations and facilities strategically positioned across various cocoa-growing regions in the country.

CRIG's organizational structure encompasses a multidisciplinary team of researchers, agronomists, scientists, and experts specializing in diverse aspects of cocoa cultivation, post-harvest processing, disease management, genetics, and quality improvement. The institute's research initiatives span the entire cocoa value chain, ranging from seed selection and cultivation techniques to pest and disease management, innovative processing methods, and the development of higher-yielding and disease-resistant cocoa varieties tailored to the Ghanaian environment. CRIG plays a pivotal role in driving innovation and knowledge dissemination within the Ghanaian cocoa industry. It conducts comprehensive studies to address challenges faced by cocoa farmers, such as climate change impacts, disease outbreaks, and market fluctuations. Additionally, the institute collaborates closely with local cocoa farming communities, industry stakeholders, and international research institutions to foster knowledge exchange and capacity building.

The institute's extensive research findings and innovations contribute to the sustainable growth of the cocoa industry by enhancing crop yield, quality, and farmer income. CRIG's work also aligns with broader socioeconomic goals, including poverty alleviation, environmental conservation, and the promotion of best practices in cocoa farming. CRIG's reputation as a research powerhouse extends beyond Ghana's borders, as its insights and contributions have implications for global cocoa production. The institute's expertise informs international cocoa research agendas and policy discussions, making it a vital player in shaping the future of the cocoa industry on a global scale.

CHAPTER FOUR

PRESENTATION OF FINDINGS AND DISCUSSIONS

4.1 Introduction

This section demonstrates the research's findings and outcomes. The program software called IBM SPSS version 25.0 with imbedded Process Macro was utilised in analysing of the demographic profile for the data collected. The data analysis section is split into two sections. Preliminary tests included descriptive statistics, reliability analysis and correlation tests in the first part. The study's theory was put to the test in the second portion. We used Andrew F. Hayes PROCESS macro v3.3 (2018) SPSS extension software to test the study's hypothesis, it allows us to evaluate the mediating role of customer loyalty since it was effective enough in the suggested model.

4.2 Socio-demographic profile of respondents

The demographic features of those who took part in the study were examined. Age, gender, employment history and educational qualifications were among the factors examined. Of the 133 (n = 133) respondents who took part in the survey, 103 were males in terms of gender, representing 77.4% of the sample, and 30 were females, representing a percentage of 22.6 of the sample. This suggests that the men were the majority respondents in terms of gender who contributed in this research. In the sequential age, 16 respondents (12.0%) were between the ages of 20-29 years, 74 respondents (55.6%) were in range of ages of 30 to 39, 41 respondents (30.8%) were between the ages of 40-49 years and 2 respondents (1.5%) were between the ages of 50 to 59 years. The results showed that most of the respondents were between the age of 30 to 39 years. With regard to the sequential number of years spent with the organization, 21 respondents (15.8%) from the total of 133 had worked less than 5

years for their organisation, 50 respondents (37.6%) of the total respondents had worked at their organisation for between 6 to 10 years. 41 respondents (30.8%) of the total respondents had worked for their organisation for about 11 to 15 years and 21 respondents (15.8%) of the total respondents had more than 16 years of experience working for their organisation. However, it may be assumed that the bulk of respondents had been with their organization for up to 7 years. In relation with educational qualification participants, 2 participants (1.5%) of the entire participants were diploma graduates, 46 (34.6%) were bachelor's degree holders, 78 (58.6%) were holders of master's degree, and 7 (5.3%) were PhD degree holders. It is safe to assume that the most of the responders were master's degree holders.

Table 4.2: Demographic profile of respondents

Variable	Frequency	Percentage (%)
Age:		
20-29 years	16	12.0
30-39 years	74	55.6
40-49 years	41	30.8
50-59 years	2	1.5
Gender:		
Male	103	77.4
Female	30	22.6
Employment history:		
0-5 years	21	15.8
6-10 years	50	37.6
11-15 years	41	30.8
More than 16 years	21	15.8
Education:		
Diploma	2	1.5
Bachelor's degree	46	34.6
Master's degree	78	58.6
PhD	7	5.3
Total	133	100.00

Source: Field Data, 2023

4.3 Reliability analysis

The level of reliability determines how consistently the research instrument utilised measures throughout time. The results of reliability of this study's primary variables are display in table 4.3. Supply chain management practice attained the value of Cronbach's alpha as 0.854, score of 0.791 was achieved for competitive advantage and customer loyalty Cronbach alpha value was obtained to be 0.782. The variables in the study were all extremely reliable, since all the parameters had its Cronbach's alpha score larger than the value of 0.70 by Hair et al. (2010).

Table 4.3: Reliability test

Variable	No. of items	Cronbach's alpha
Supply chain management practice	29	0.854
Competitive advantage	8	0.791
Customer loyalty	7	0.782

4.4 Descriptive statistics

The main variables of the study such as supply chain management practice, competitive advantage and customer loyalty are discussed in this part of the study. The descriptive statistics of the constructs are shown in Table 4.4. The respondents were generally agreed that the organization offer competitive milk price to the customers and offer highly reliable products and lastly, offer prices lower than their competitors. The study further emphasized that, the employees agreed that the organization has very high customer retention rate and customers willingly recommend the organization to others and lastly, customers patronize new products when introduced. However, the respondents were not sure about whether the organization support farmers with affordable artificial insemination and provide credit support to their milk suppliers and

also were not sure whether the organization customize products based on customer specifications.

4.5 Descriptive statistics

Variables	Mean	Standard Deviation
Supply chain management practice	3.4756	0.46340
Competitive advantage	3.8316	0.61397
Customer loyalty	4.3756	0.79359

4.6 Correlation analysis

Correlational analysis is carried out in this part of the study to test the bivariate relationship between the main constructs of the study. Besides socio-demographic variables such as age, gender and education were used in the study. Supply chain management practice, competitive advantage and customer loyalty were the main constructs considered in the analysis. The result of the variables is shown in Table 4.5. supply chain management practice positively and significantly correlated with the competitive advantage. Thus, increasing supply chain management practice is associated with increasing competitive advantage. Supply chain management practice was positively and significantly correlated with the customer loyalty. Again, customer loyalty positively and significantly correlated with competitive advantage. Thus, increasing customer loyalty is associated with increasing competitive advantage.

Table 4.5: Pearson correlation

Variable	1	2	3	4	5
1. Gender					
2. Age	.067				
3. Education	-.070	.007			
4. Supply Chain Management Practice	-.045	.056	.012		
5. Competitive advantage	.017	.095	-.038	.584**	
7. Customer loyalty	.046	.095	-.007	.448**	.572**

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

4.6 Hypothesis Testing

The following are the established and tested hypothesis

4.6.1 Supply chain management practice and competitive advantage

In this section, a simple linear regression was conducted to test how supply chain management practice impacted on competitive advantage. Results of the regression model indicated that there was positive and significant relationship between supply chain management practice and competitive advantage, and that supply chain management practice accounted for about 34.1% of the variability in competitive advantage. The model was able to significantly predict competitive advantage. The results support H1. The implications of the current research means that an increase in supply chain management practice would lead to 58.4% increase competitive advantage and the ability to effectively manage the supply chain can provide a source of sustained competitive advantage by improving efficiency, reducing costs, and enhancing overall performance.

Table 4.6: Effect of supply chain management practice on competitive advantage

Model	Unstandardized Beta	Std. Error	Standardized Beta	T	Sig
(Constant)	1.144	.330		3.471	.001
SCMP	.773	.094	.584	8.226	.000
Model Summary R = .584 R ² = .341 Adjusted R ² = .336 F = 67.672*					

Dependent Variable: Competitive advantage

*Significant at 5%

4.6.2 Supply chain management practice and customer loyalty

In this section, a simple linear regression was conducted to test how supply chain management practice impacted on customer loyalty. Table 4.7 presents results for direct effect of supply chain management practice on customer loyalty. Results of the regression model indicated that there was positive and significant relationship between supply chain management practice and customer loyalty, and that supply chain management practice accounted for about 20.1% of the variability in customer loyalty. The model was able to predict that an increase in supply chain management practice would lead to 44.8% increase in customer loyalty. The results support H2. The implications of the current research means that supply chain management practice has a positive influence on customer loyalty and supply chain management practice can enhanced the value proposition delivered to customers.

Table 4.7: Effect of supply chain management practice on customer loyalty

Model	Unstandardized Beta	Std. Error	Standardized Beta	T	Sig
(Constant)	1.709	.469		3.644	.000
SCMP	.767	.134	.448	5.735	.000
	Model Summary R = .448 R ² = .201 Adjusted R ² = .195 F = 32.893*				

Dependent Variable: Customer loyalty

*Significant at 5%

4.6.3 Customer loyalty and competitive advantage

In this section, a simple linear regression was conducted to test how customer loyalty impacted on competitive advantage. Table 4.8 presents results for direct effect of customer loyalty on competitive advantage. Results of the regression model indicated that there was positive and significant relationship between customer loyalty and competitive advantage, and that customer loyalty accounted for about 32.7% of the variability in competitive advantage. The model was able to predict that an increase in customer loyalty would lead to 57.2% increase in competitive advantage. The results support H3. The implications of the current research means that customer loyalty has a positive impact on competitive advantage. This means that loyal customers are important stakeholders who contribute to the organization's success by continuously choosing its products or services over other products.

Table 4.8: Effect of customer loyalty on competitive advantage

Model	Unstandardized Beta	Std. Error	Standardized Beta	T	Sig
(Constant)	1.895	.246		7.686	.000
Customer loyalty	.443	.055	.572	7.986	.000
	Model Summary R = .572 R ² = .327 Adjusted R ² = .322 F = 63.770*				

Dependent Variable: Competitive advantage

*Significant at 5%

4.6.4 Customer loyalty as a mediator

In this section, a mediating analysis was conducted using Process Macro analytical software. The mediation effect of customer loyalty in the relationship between supply chain management practice and competitive advantage has a significant relationship with a partial mediation in this study. The result support H4. This means that customer loyalty has an influence on competitive advantage. This also suggests that adopting supply chain management practice would influence competitive advantage when there is customer loyalty. That is, supply chain management practice is a valuable resource that can enhance a firm's capabilities that would lead to improved customer loyalty. This, in turn, would contribute to sustained competitive advantage.

Table 4.9: Process Macro analysis for customer loyalty as a mediator

	B	SE	t	P	LLCI	ULCI
<i>Direct effects</i>						
Dependent variable: Competitive advantage						
Supply chain management practice	.5425	.0954	5.6875	.0000	.3538	.7312
Customer loyalty	.3008	.0557	5.3999	.0000	.1906	.4110
Dependent variable: Customer loyalty						
Supply chain management practice	.7672	.1338	5.7352	.0000	.5026	1.0318
<i>Indirect effect</i>						
SCMP→CL→CA	.2307	.0789			.1048	.4065

Note: SCMP = Supply Chain Management Practice, CL = Customer Loyalty, CA = Competitive Advantage LLCI = Lowe-level confidence interval, ULCI = Upper-level confidence interval.

4.7 Discussion

4.7.1 SCM Practice and Competitive Advantage

In this section, the study conducted a straightforward linear regression to explore the impact of supply chain management practice on competitive advantage. The findings unveiled a noteworthy and statistically significant correlation between supply chain management practice and competitive advantage. The regression model indicated that approximately 34.1% of the variability observed in competitive advantage could be attributed to supply chain management practice. This relationship was robust enough to predict competitive advantage. The outcomes of the study validate the initial hypothesis (H1), affirming that an increase in the application of supply chain management practices could lead to a substantial 58.4% enhancement in competitive advantage. The research underscores the pivotal role of effective supply chain management in fostering efficiency, cost reduction, and overall performance improvement, which collectively contribute to sustaining a competitive edge.

The study's finding of a positive and significant relationship between supply chain management practice and competitive advantage is consistent with the literature. The Resource-Based View (RBV) theory emphasizes the role of valuable resources in achieving competitive advantage. Huang et al. (2019) argue that effective supply chain practices can lead to cost reductions, operational efficiencies, and improved customer satisfaction, all of which contribute to a sustained competitive advantage. Additionally, Shou et al. (2021) highlight that supply chain management practices can enhance responsiveness and agility, enabling organizations to adapt to changing market conditions and gain a competitive edge. These insights align with the study's findings, reinforcing the notion that well-executed supply chain practices can indeed lead to competitive advantage.

4.7.2 SCM Practices and Customer Loyalty

In this section, a basic linear regression was carried out to scrutinize the impact of supply chain management practice on customer loyalty. The analysis revealed a positive and statistically significant correlation between supply chain management practice and customer loyalty. It was determined that around 20.1% of the variation in customer loyalty could be explained by supply chain management practice. The results also forecasted that a heightened emphasis on supply chain management could result in a remarkable 44.8% increase in customer loyalty. These findings substantiated the study's hypothesis (H2) and accentuated the pivotal role of supply chain management practices in enhancing the value proposition delivered to customers, thereby reinforcing loyalty.

The positive correlation between supply chain management practice and customer loyalty found in the study is supported by existing literature. Logistical flexibility and customer-centric practices are emphasized in various studies as drivers of customer loyalty. Wei et al. (2020) suggest that flexible supply chain operations allow organizations to respond quickly to customer demands, leading to higher customer satisfaction and loyalty. Similarly, Sarin et al. (2020) highlights the importance of efficient order fulfillment and delivery processes in enhancing customer loyalty. By aligning supply chain practices with customer expectations, organizations can create a positive experience that fosters loyalty, which resonates with the study's findings.

4.7.3 Customer Loyalty and Competitive Advantage

This section delved into examining the connection between customer loyalty and competitive advantage through a linear regression analysis. The findings revealed a positive and statistically significant relationship between customer loyalty and competitive advantage. The regression model unveiled that customer loyalty could account for about 32.7% of the variance in competitive advantage. Notably, the results of the analysis suggested that a surge in customer loyalty could potentially lead to an impressive 57.2% increase in competitive advantage. These outcomes corroborated the study's hypothesis (H3), underscoring the significance of loyal customers as integral stakeholders who contribute substantially to an organization's success by consistently opting for its products or services over alternatives.

The study's discovery of a positive relationship between customer loyalty and competitive advantage aligns with established literature. Loyal customers contribute to a firm's sustained competitive advantage by generating higher revenue, reducing marketing costs, and promoting positive word-of-mouth. Keiningham et al. (2019)

emphasize that customer loyalty drives repeat purchases and referrals, leading to enhanced market share and profitability. Additionally, Reichheld and Sasser (1990) introduced the concept of the "loyalty effect," highlighting that customer retention has a disproportionately positive impact on an organization's long-term profitability. This body of research supports the study's finding that customer loyalty is a crucial factor in achieving and maintaining competitive advantage.

4.7.4 Mediation of Customer Loyalty

In this segment, the study employed a mediating analysis using Process Macro analytical software to explore the mediating role of customer loyalty in the relationship between supply chain management practice and competitive advantage. The results indicated a significant relationship involving partial mediation. Essentially, the findings supported the hypothesis (H4), revealing that customer loyalty does exert an influence on competitive advantage. This implies that the adoption of effective supply chain management practices can not only directly impact competitive advantage but also indirectly do so through enhanced customer loyalty. Thus, the study underscores the intricate interplay between these factors, suggesting that investing in supply chain management practices can foster capabilities that translate into improved customer loyalty, ultimately contributing to a sustainable competitive advantage.

The mediation analysis revealing the influence of customer loyalty on the relationship between supply chain management practice and competitive advantage is consistent with prior literature. The Resource-Based View (RBV) framework suggests that customer loyalty can act as a pathway through which supply chain capabilities translate into competitive advantage. Fornell et al. (2016) emphasize that loyal customers are more forgiving of occasional service failures and are likely to maintain a long-term

relationship with the organization, contributing to higher overall performance and competitive advantage. This underscores the significance of customer loyalty as a mediator in the relationship between supply chain practices and competitive advantage, aligning with the study's findings.

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CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter summarizes the major findings as well as presents the conclusions of the outcomes of the study. The objectives of the study are summarized with the results of the study. Also, recommendations are proposed based on the results of the study. Lastly, the limitations of the study are indicated with a recommendation for the course of future studies on the same or similar subjects.

5.2 Summary of Findings

The following are key summary based on study findings;

5.2.1 SCM Practice and Competitive Advantage

The study revealed a positive and significant relationship between supply chain management practice and competitive advantage. About 34.1% of the variability in competitive advantage could be attributed to effective supply chain management. This highlights the potential for organizations to enhance their competitiveness through efficient supply chain processes, leading to improved performance and market differentiation.

5.2.2 SCM Practices and Customer Loyalty

A positive and significant correlation was identified between supply chain management practice and customer loyalty. Supply chain management explained 20.1% of the variation in customer loyalty. This indicates that organizations can foster customer

loyalty by optimizing their supply chain operations, resulting in improved value proposition and customer satisfaction.

5.2.3 Customer Loyalty and Competitive Advantage

The study established a positive and significant relationship between customer loyalty and competitive advantage. Customer loyalty accounted for 32.7% of the variance in competitive advantage. This implies that organizations with loyal customer bases are poised to enjoy higher competitive advantages by consistently attracting and retaining customers.

5.2.4 Mediation of Customer Loyalty

The mediation analysis confirmed the influence of customer loyalty on the relationship between supply chain management practice and competitive advantage. Customer loyalty partially mediated this relationship, reinforcing the positive connections observed. This suggests that supply chain management practice not only directly affects competitive advantage but also indirectly through the enhancement of customer loyalty.

5.3 Implications

5.3.1 Practical Implication

The study's findings underscore the practical significance of implementing robust supply chain management practices within organizations. By demonstrating a positive and significant relationship between supply chain management practice and competitive advantage, the research highlights that organizations can strategically enhance their market position by investing in efficient supply chain processes. Focusing on streamlined logistics, inventory management, and coordination among

various stakeholders can lead to improved efficiency, cost reduction, and overall performance. This, in turn, can contribute to sustained competitive advantage by providing a differentiated offering that appeals to customers and outpaces competitors.

Also, the study's insights emphasize the importance of cultivating strong customer loyalty through effective supply chain management. Organizations should recognize that supply chain practices impact customer experiences and perceptions. By ensuring timely deliveries, product availability, and responsive customer service, businesses can strengthen customer loyalty. Aligning supply chain operations with customer preferences and needs enhances the overall value proposition, fostering enduring relationships. This translates into repeat business, positive word-of-mouth, and increased customer retention, ultimately bolstering competitive advantage.

Moreover, organizations can leverage the findings to strategically integrate customer loyalty and competitive advantage. Recognizing the positive and significant relationship between these factors, companies can adopt a holistic approach. By aligning supply chain practices with the goal of enhancing customer experiences, organizations can simultaneously drive both customer loyalty and competitive advantage. This entails focusing on supply chain optimization not only for operational efficiency but also for nurturing customer relationships. The interconnectedness between these factors offers a pathway for organizations to create a virtuous cycle, where improved supply chain practices lead to higher customer loyalty, resulting in sustained competitive advantage.

Lastly, the study underscores the need for continuous investment in supply chain management practices as a means to develop organizational capabilities. Organizations should prioritize skill development, process refinement, and technology adoption to

enhance supply chain efficiency. This investment is not only essential for direct operational benefits but also for its indirect influence on customer loyalty and competitive advantage. By nurturing a culture of continuous improvement and adaptability, organizations can stay agile in responding to market dynamics. This approach positions them to capitalize on evolving customer expectations and market trends, reinforcing their competitive advantage in the long term.

5.3.2 Theoretical Implication

Stakeholder Theory:

The study's outcomes align closely with the tenets of stakeholder theory, which underscores the interconnectedness of various stakeholders in an organization's success. The positive relationships identified between supply chain management practice, customer loyalty, and competitive advantage validate stakeholder theory's premise that satisfying the needs and expectations of stakeholders, including customers, contributes to superior organizational performance. By demonstrating that effective supply chain management positively influences both customer loyalty and competitive advantage, the study provides empirical support for the notion that stakeholder-oriented strategies can lead to sustained business success. This highlights the importance of considering a broader range of stakeholders and their interests when formulating supply chain and business strategies.

Institutional Theory:

The study's findings offer valuable insights from an institutional theory perspective, emphasizing the role of established practices and norms in shaping organizational behavior. The positive relationship between supply chain management practice and competitive advantage suggests that organizations adhering to effective supply chain

practices may gain legitimacy and reputation within their industries. The institutional context encourages organizations to adopt practices that are deemed appropriate by their peers and stakeholders. In this light, organizations can leverage the study's outcomes to align their supply chain practices with industry norms, thereby enhancing their competitive advantage through conformity and reputation building.

Resource-Based View Theory:

The study's results resonate with the principles of the resource-based view theory, which posits that unique and valuable resources lead to competitive advantage. In this context, effective supply chain management practices serve as valuable resources that contribute to an organization's competitive advantage. The positive and significant relationships identified between supply chain management practice and both customer loyalty and competitive advantage underscore that such practices are strategic assets that organizations can leverage for sustained success. This bolsters the resource-based view theory by emphasizing the role of intangible assets, like supply chain capabilities, in driving superior performance and market differentiation.

5.3.3 Policy Contribution

Enhancing Supply Chain Education and Training:

The study's findings highlight the critical role of effective supply chain management in driving competitive advantage and customer loyalty. To translate these findings into actionable policies, there should be a focus on enhancing supply chain education and training programs. Government bodies and industry associations can collaborate with educational institutions to develop curricula that incorporate the latest supply chain practices and technologies. By equipping current and future professionals with advanced supply chain management skills, these policies can facilitate the adoption of

efficient practices across industries, ultimately contributing to improved competitiveness and customer satisfaction.

Encouraging Industry Collaboration and Knowledge Sharing:

The study's results emphasize the interconnectedness of supply chain management, customer loyalty, and competitive advantage. Policymakers can promote industry collaboration and knowledge sharing platforms where organizations can exchange best practices, case studies, and insights related to supply chain management. Establishing forums for cross-sector discussions and partnerships encourages the diffusion of successful strategies, driving the adoption of effective supply chain practices on a broader scale. This policy approach nurtures a culture of continuous learning and improvement, benefiting the entire business ecosystem.

Incentivizing Technological Adoption and Innovation:

Given the study's outcome of supply chain management practices as strategic assets, policies that incentivize technological adoption and innovation can be impactful. Governments and relevant authorities can offer tax incentives, grants, or subsidies for organizations that invest in advanced supply chain technologies. By reducing the financial barriers to adopting technologies like AI, IoT, and data analytics, these policies encourage organizations to enhance their supply chain capabilities. This, in turn, leads to increased efficiency, reduced operational costs, and improved customer experiences, thereby bolstering competitive advantage.

Promoting Sustainable Supply Chain Practices:

The study underscores the value of effective supply chain management in contributing to competitive advantage while meeting customer expectations. Policymakers can leverage these findings to promote sustainable supply chain practices. Environmental

regulations, certifications, and sustainability benchmarks can encourage organizations to adopt green supply chain practices. By aligning supply chain operations with sustainability goals, organizations can enhance their appeal to environmentally conscious customers and gain a competitive edge in an increasingly eco-aware market. Policies that incentivize sustainable practices can drive positive environmental outcomes while simultaneously strengthening competitive advantage.

5.4 Conclusion

This study aimed to examine the mediating role of customer loyalty within the nexus of supply chain management practices and competitive advantage. Through the utilization of a quantitative research approach and statistical analyses, several significant findings have been uncovered. The demographic profile of the respondents indicated a majority of male participants, with a significant proportion falling within the age range of 30 to 39 years, holding master's degrees, and possessing employment experience of 6 to 10 years. The reliability analysis demonstrated the internal consistency and reliability of the study's main variables: supply chain management practice, competitive advantage, and customer loyalty. Descriptive statistics shed light on participants' perceptions regarding organizational practices, showing agreement with competitive milk pricing, product reliability, and customer recommendations. Correlation analysis highlighted positive and significant associations between supply chain management practice and both competitive advantage and customer loyalty. Moreover, customer loyalty displayed a positive correlation with competitive advantage, emphasizing its potential contribution to an organization's overall success.

Hypothesis testing using linear regression and mediation analysis provided substantial insights. Supply chain management practice was found to have a positive and significant impact on competitive advantage, while its relationship with customer loyalty was also positive and significant. Furthermore, customer loyalty exhibited a positive and significant influence on competitive advantage. The mediating role of customer loyalty between supply chain management practice and competitive advantage was established, suggesting that enhancing customer loyalty through effective supply chain management practices can contribute to sustained competitive advantage. In essence, this study underscores the vital role of supply chain management practices in shaping both customer loyalty and competitive advantage within organizations. The findings highlight the importance of fostering robust supply chain management practices that effectively drive customer loyalty, subsequently leading to enhanced competitive advantage.

5.5 Limitations of the Study

Future studies could explore the moderating effects of industry-specific factors on the relationships identified in this research. Additionally, investigating the influence of cultural and geographical variations on the links between supply chain management, customer loyalty, and competitive advantage would provide a broader perspective. Longitudinal studies could offer insights into the long-term sustainability of the identified relationships. Lastly, delving into the role of technology-driven disruptions and their implications for supply chain strategies in the context of evolving markets would be valuable for understanding contemporary business dynamics.

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APPENDIX

QUESTIONNAIRE

I am a postgraduate student at the Kwame Nkrumah University of Science and Technology, undertaking a MSc. Business Intelligence. As part of the requirements of the course, we are researching on **the effects of supply chain management practices on competitive advantage AT Cocoa Research Institute of Ghana (CRIG). THE mediation role of customer loyalty**. This Thesis will be used purely for academic purposes and for the partial fulfilment of our degree course. Please note the responses given will be treated with confidentiality and strictly for this study.

SECTION A: GENERAL INFORMATION

Kindly answer all the questions either by ticking in the boxes or writing in the spaces provided.

Please Tick (✓) the box that corresponds to your answer

1. Gender

- a) Male []
- b) Female []

2. Age

- a) 20-29 years []
- b) 30-39 years []
- c) 40-49 years []
- d) 50-59 years []

3. Level of Education

- a) SSCE []
- b) Diploma/HND []
- c) Undergraduate []
- d) Master's []
- e) Doctoral/PhD []

1. Working Experience

- a) 5 years []
- b) 6-10 years []
- c) 11- 15 years []
- d) 16 years and above []

SECTION B- SCM Practices

Using a scale 1-5 tick the appropriate answer from the alternatives, **1- Strongly Disagree,**

2-Disagree, 3-Neutral, 4-Agree, 5- Strongly Agree

CODE	ITEMS	1	2	3	4	5
SD1	Our organization provide credit support to our milk suppliers					
SD2	Our organization support farmers with affordable artificial insemination					
SD3	Our organization support farmers with veterinary services					
SD4	Our organization support farmers with quality animal feeds					
SD5	Our organization provide extension education to our milk suppliers					
ICT1	Our organization use ICT to share information with all our partners					
ICT2	Our organization use ICT to integrate communication within all our departments					
ICT3	Our organization use ICT to track milk transportation					
ICT4	Our organization use ICT in milk procurement activities					
ICT5	Our organization use ICT to monitor milk processing activities					
LogM1	Our organization have established a transport management system					
LogM2	Our organization have established material handling procedures					
LogM3	Our organization maintain our warehouse regularly					
LogM4	Our organization ensure proper packaging of our products					
LogM5	Our organization have established an inventory management system					
LogM6	Our organization have established systems to monitor our order processing					
LogM7	Our organization have established adequate physical distribution channels for our products					
LogM8	Our organization have the right communication infrastructure to manage information flow					
CRM1	Our organization evaluate our customer satisfaction					
CRM2	Our organization have segmented our clients					
CRM3	Our organization customize products based on customer specifications					
CRM4	Our organization have differentiated our products					
CRM5	Our organization maintain constant communication with our customers					
SS1	Our organization strive to build long term relationship with our suppliers					
SS2	Our organization have a mechanism for supplier selection					
SS3	Our organization have a continuous supplier identification					
SS4	Our organization maintain constant communication with our suppliers					
SS5	Our organization evaluate the performance of our milk suppliers					
SS6	Our organization have set quality standards measures for raw materials					

SECTION B- Competitive Advantage

Using a scale 1-5 tick the appropriate answer from the alternatives, **1- Strongly Disagree,**

2-Disagree, 3-Neutral, 4-Agree, 5- Strongly Agree

CODE	ITEMS	1	2	3	4	5
CA1	Our organization offer competitive milk price to our customers					
CA2	Our organization can offer prices lower than our competitors.					
CA3	Our organization offer high-quality products to our customer.					
CA4	Our organization offer highly reliable products					
CA5	Our organization can compete on a quality basis					
CA6	Our organization provide dependable delivery					
CA7	Our organization deliver customer order on time					
CA8	Our organization deliver the kind of products needed					

SECTION B- Customer Loyalty

Using a scale 1-5 tick the appropriate answer from the alternatives, **1- Strongly Disagree,**

2-Disagree, 3-Neutral, 4-Agree, 5- Strongly Agree

ITEMS	1	2	3	4	5
Our organization has very high customer retention rate					
Our organization is able to increase its share of customers business with time					
Customers willingly recommend our organization to others					
Customers patronise new products when introduced					
Customers patronise products of higher grade over time					
Our organization customers provide favourable word-of-mouth					
Our organization is successful in cross-selling to existing customers					