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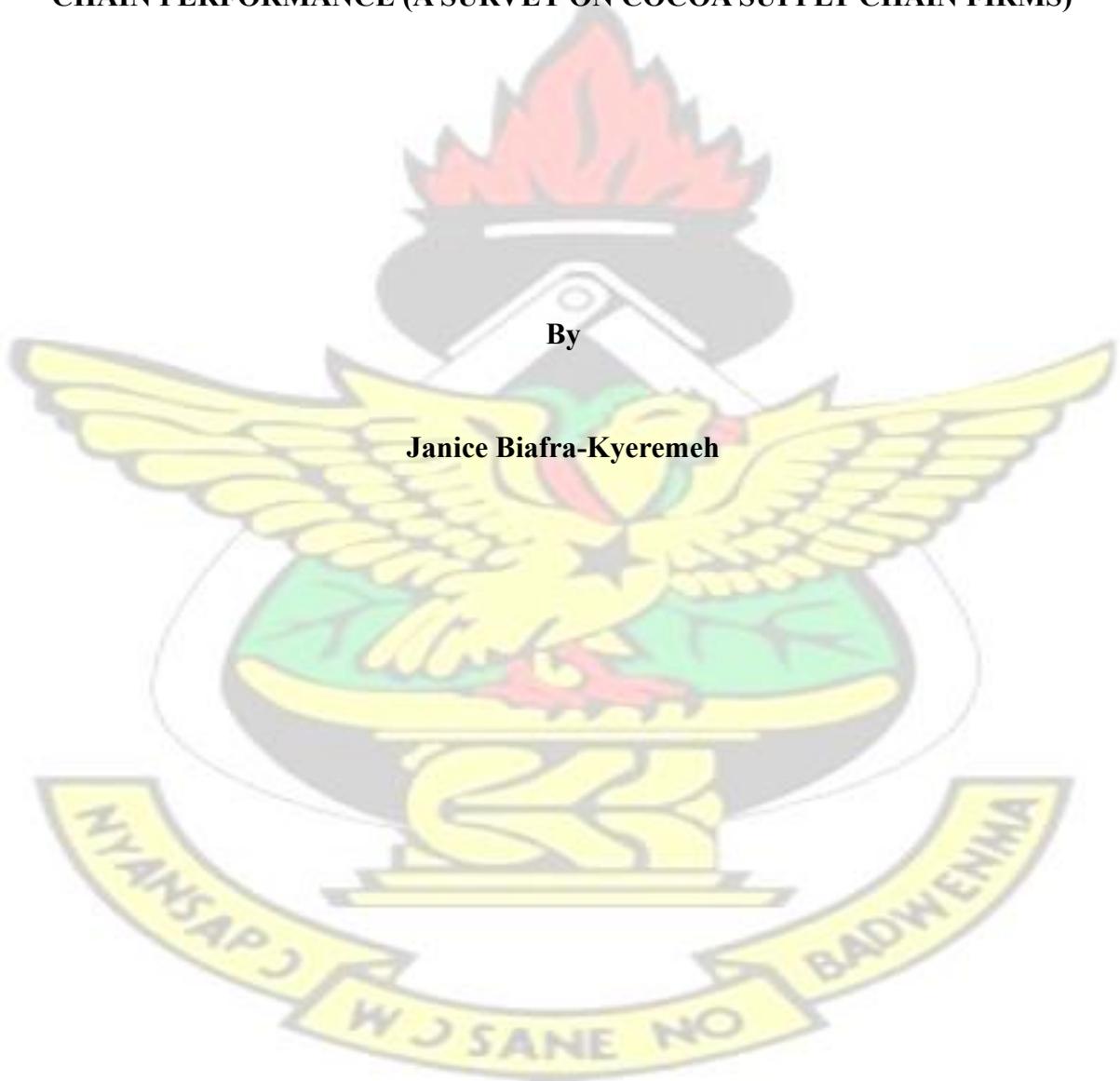
**INSTITUTE OF DISTANCE LEARNING**

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**THE EFFECTS OF SOCIAL SUSTAINABILITY PRACTICES ON COCOA SUPPLY  
CHAIN PERFORMANCE (A SURVEY ON COCOA SUPPLY CHAIN FIRMS)**

**By**

**Janice Biafra-Kyeremeh**



**NOVEMBER, 2023**

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**KNUST**

By

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A thesis submitted to the Institute of Distance Learning, Kwame Nkrumah University of  
Science and Technology in partial fulfillment of the requirements for the degree of

**MASTER OF SCIENCE IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

NOVEMBER, 2023

# KNUST



## DECLARATION

I hereby certify that the content of this thesis is entirely original work done in pursuit of my **Master of Science in Logistics and Supply chain management** and does not contain any previously published or accepted for the award of any other degree by the University material where appropriate acknowledgements have been provided.

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## ABSTRACT

Cocoa is a vital agricultural commodity in Ghana, with the cocoa industry contributing significantly to export earnings and supporting millions of livelihoods. However, issues like child labour, unfair wages, and unsafe working conditions have posed challenges to social sustainability within the cocoa supply chain. This thesis examined the effects of social sustainability practices on the performance of firms operating in Ghana's cocoa supply chain industry. A quantitative methodology was adopted, with survey questionnaires distributed to

206 employees of cocoa trading and logistics companies in the Greater Accra Region of Ghana. The respondents included managing directors, procurement officers, logistics managers, and other supply chain professionals directly involved in buying, transporting, and distributing cocoa. The findings revealed positive relationships between supplier, manufacturer, and customer social sustainability practices and cocoa supply chain performance. Supplier practices like avoiding child labour, ensuring fair wages, and promoting safe working conditions were associated with greater supply chain resilience and efficiency. These practices help build supplier legitimacy and strong relationships with other stakeholders like manufacturers and exporters. Manufacturer practices including ethical sourcing policies, community investments, and supporting employee wellbeing reduced supply chain risks and strengthened relationships with suppliers, communities, and employees. Customers prioritizing social sustainability further created market incentives for ethical practices as meeting this customer demand led to competitive advantage. Overall, the results suggest that social sustainability practices can enhance cocoa supply chain performance in multiple ways in Ghana. The findings imply that companies should actively engage suppliers on improving labour policies, source cocoa ethically, support community development programs, and respond to customer preferences for sustainably produced cocoa.

### **DEDICATION**

This thesis is dedicated to my beloved family for their immense support and encouragement throughout my academic journey. To my caring parents, your unconditional love, guidance, and belief in me gave me the strength to undertake this research. I could not have accomplished this milestone without you all.

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## LIST OF ABBREVIATIONS/ACRONYMNS

SC - Supply Chain

OM - Operations management

SSSP - Supplier Social Sustainability practices

MSSP- Manufacturer Social Sustainability practices

CSSP- Customer Social Sustainability practices ss

SCP - Supply Chain performance

SCM - Supply Chain Management

CSR - Corporate Social Responsibility

3BL - Triple Bottom Line

LBCs - Licensed Buying Companies

CMC - Cocoa Marketing Company

COCOBOD - Ghana Cocoa Board

PPRC - Producer Price Review Committee

WCF - World Cocoa Foundation

KMO - Kaiser-Meyer-Olkin

AVE - Average Variance Extracted

EFA - Exploratory Factor Analysis

ANOVA - Analysis of Variance

SPSS - Statistical Package for Social Sciences



# CHAPTER ONE

## INTRODUCTION

### 1.0 Background of the Study

The concept of sustainability, deeply rooted in politics and societal norms, is being heralded as the "new standard" in the realm of business and operations management (OM) (Roy, Schoenherr, Charan, 2018). Because of the intricate nature and extensive reach of sustainable supply chains, alignment in operations, plans, goals, and most significantly, institutional logic, is necessary across various organizations (Sayed, Hendry, Bell, 2017). The vast consumption of natural resources by human activities has sparked growing anxiety among businesses and stakeholders about both environmental conservation and societal welfare. Numerous investigations have identified a connection between industrial growth and environmental harm, which poses risks to human health and safety (Rosen, 2001). This escalating awareness has driven a greater demand for corporations to reveal details about their manufacturing processes, resource consumption, and adherence to sustainable practices (Zedek, 2004). Sustainability rests on three interconnected yet separate foundations: environmental integrity, social responsibility, and economic stability. These aspects compound the complexity of institutions and the techniques used in sustainable supply chain management (Govindan, Shankar, & Kannan, 2020). Bruntland (1987) defines sustainable development as the mode of progress that caters to current necessities without hindering the capacity to fulfill the needs of future generations. Experts propose that genuine sustainability can be attained by simultaneously advancing in environmental stewardship, social responsiveness, and economic achievements (Elkington, 1997; Carter and Rogers, 2008). A large corporation's commitment to social sustainability can be summed up by its efforts to ensure the continued health of its workforce (excluding upper management), its supply chain (including lower-level workers and the owners of small supplier businesses), and the local communities in which it operates (Sodhi 2015).

However, it is safe to assume that most companies operating in the cocoa industry are linked. In addition, consumers have increased the demand for ethically and sustainably sourced cocoa from consumers. This is supported by data from Tropical Commodity Coalition (2009). There is no doubting the widespread significance and tremendous contribution cocoa makes to the global commodities market. In 2014, the global cocoa market was projected to be worth \$150 billion (Financial Times, 2015). Forty to fifty million people's incomes are directly tied to the cocoa supply chain (Beg et al., 2017). As the second-largest producer and exporter of cocoa beans on the globe, Ghana's cocoa industry is responsible for one-fifth of the world's total production, according to Monastyrnaya et al. (2016). The revenue from this sector constitutes 30% of the nation's entire earnings from exports. (Monastyrnaya et al., 2016).

Despite the importance of both social and environmental sustainability, several scholars have noticed that the latter has received more attention (Zorzini et al., 2015; Yawar and Seuring, 2017, Silva et al., 2019). Most existing studies on social sustainability, as discovered by Huq et al. (2014), come from wealthy nations. Managers value environmental and economic sustainability more highly than social sustainability (Kusi-Sarponga et al., 2019). By reading his review, Abbasi (2017) discussed how business professionals might benefit from learning about socially sustainable supply chains' primary themes and problems. To better manage social risk, Köksal et al. (2017) conducted a thorough literature analysis on social sustainability in the textile and clothing business. Their work integrated focal enterprises and multi-tier suppliers, identifying enablers, drivers, and constraints, and emphasizing the need for additional investigation of lower-tier suppliers.

Little emphasis is placed on social sustainability practices in multi-tier supply chains (Cocoa) in the existing body of supply chain literature; thus, more study is required to fill this gap and better understand the effect these practices have on the performance of firms operating in the Cocoa industry's supply chain.

### **1.1 Statement of the Problem.**

Serious environmental and social practice breaches are often committed by suppliers or those upstream, including their sub-suppliers (Meinlschmidt and Schleper, 2018). Several cases of unsustainable behaviour and violations of environmental or labour laws by suppliers or sub-suppliers of multinational firms that resulted in reputational damage and financial loss to major brands have been reported (Seuring and Müller, 2008; Wolf, 2014). The 2013 collapse of the Rana Plaza building in Bangladesh, which killed over a thousand employees, garnered international attention, and generated major concerns about failures on the part of suppliers to maintain safe working conditions for the workers (Huq et al., 2014).

Despite the importance of both social and environmental sustainability, several scholars have noticed that the latter has received more attention (Zorzini et al., 2015; Yawar and Seuring, 2017). Most existing studies on social sustainability are from rich nations, as discovered by Huq et al. (2014); the issue is much more difficult in developing countries, and Ghana's cocoa supply chain is no exception to this.

Multi-tier supply chain performance was analyzed by Mena et al. (2013), who looked at its structure and dynamics (SCMP). Takizawa & Wong (2014) surveyed the literature on multitier SCM performance and offered a methodology for researching the topic of multi-tier supply chain sustainability. Their research zeroed in on environmental sustainability but ignored social sustainability. Multi-tier supply chain management was the focus of Mena et al. (2013)'s research on the structure and dynamics of the field (SCM). After reviewing the literature and ideas surrounding multi-tier SCMP, Tachizawa and Wong (2014) developed a framework for investigating the topic of sustainability in such supply chains. The topic of social sustainability was not included in their research as much as environmental sustainability. After conducting a comprehensive literature analysis on social sustainability in the sector, managing social risk in the textile and apparel industry was the focus of a conceptual framework created by Köksal et al. (2017).

The cocoa industry in Ghana has a lengthy and intricate supply chain. It is not just Ghana's cocoa supply chain that is complicated; logistics for transporting other agricultural goods are just as involved. (Antwi et al., 2015). When it comes to the production, transportation, and sale of cocoa beans, the whole supply chain relies on the many different parties involved. However, the cocoa supply chain has several social dangers and difficulties, such as unfair working conditions, forced and child labour. (CRS Report RL32990, 2005)

The supply mentioned above chain literature demonstrates little or no attention to the terms of social sustainability practices' impact on cocoa supply chain firms. Therefore, further research is needed.

Hence, this research will attempt to fill this gap and add to the existing knowledge by probing the effects of sustainable social practices (supplier social issues, manufacturer social issues, and customer social issues (Marshall et al., 2015) on the cocoa supply chain performance in Ghana.

## **1.2 Objectives of the Study**

This research aims to determine the effects of social sustainability practices on cocoa supply chain performance in Ghana. The study's specific objectives are as follows;

1. To examine the effects of supplier social sustainability practices on Cocoa supply chain performance
2. To examine the impact of manufacturer/processor social sustainability practices on the Cocoa Supply chain industry in Ghana
3. To examine customer social sustainability practices on Cocoa Supply chain performance in Ghana

### 1.3 Research Questions

1. What are the effects of supplier social sustainability practices on Cocoa Supply chain performance in Ghana?
2. How do manufacturer social sustainability practices impact Cocoa supply chain performance in Ghana?
3. What are the effects of customer social sustainability practices on Cocoa supply chain performance in the Cocoa industry?

### 1.4 Significance of the Study

Diverse stakeholder groups are under more pressure due to heightened interest in the sustainability practices of food supply chains (consumer organizations, environmental advocacy groups and policymakers). It is essential for the management of business enterprises to be aware of all Sustainability practices and to know how they may affect the overall productivity of their organizations.

Much research has been conducted on social sustainability techniques and related topics. However, there are few statistics on social sustainability practices and the influence of these practices on corporate performance, especially in the areas where these firms operate. In light of this, this study may unearth pertinent information that will aid in learning about Cocoa supply chain management, social concerns, and the influence on company performance in Ghana.

This study will also provide theoretical depth to the cocoa supply chain sector by evaluating the influence of social sustainability practices/issues on the performance of the cocoa supply chain. Therefore, the model of this study clarifies in depth the relationship between Sustainability practices/issues and cocoa supply chain performance.

The findings of this study may represent one of the first scholarly attempts to shed light on how enterprises in Ghana's cocoa supply chain cope with social sustainability challenges. Utilizing the study's findings, firms in the cocoa processing manufacturing industry may produce distinctive and competitive offers. This research is a valuable addition to the current body of literature for anyone with an academic interest in cocoa cultivation.

### **1.5 Brief Methodology**

A quantitative method will be used for this investigation. The research method would take the form of a survey. This is because the scope of information that may be gathered via a survey design is much broader. Primary and secondary data will be collected. Questionnaires will be used to obtain information for this investigation. The study's sample will comprise two hundred and six people (206). The target audience/respondents would comprise Managing Directors, Procurement officers, Logistics Managers, Supply chain Managers and officers, Store Officers, Cocoa traders (LBCs) Employees, and Cocoa Supply chain companies. (Management and staff). The study's sampling methods will be based on probability sampling to give all population members a fair shot at being included in the sample. Both descriptive and inferential analyses will be performed using SPSS, version 26. The study will also meet all ethical, validity, and reliability standards.

This study will use an Alpha Cronbach alpha coefficient and an exploratory factor analysis to test for reliability and validity.

### **1.6 Scope of the Study**

In order to determine the implications of social sustainability issues/practices on the cocoa supply chain business, the research will centre on Cocoa License Buying Companies (LBC) and logistics companies in the supply chain industry. LBCs and logistics firms carrying the cocoa are crucial in assuring and marketing the highest quality Cocoa in Ghana. As a result,

they directly trade with Ghana's cocoa-growing regions. It is fair to assume that businesses tasked with maintaining and boosting Ghana's cocoa industry would give much thought to social sustainability concerns.

### **1.7 Limitations of the Study**

This investigation is confined to the companies engaged in the trading of cocoa in Ghana, specifically Licensed Buying Companies (LBCs), and logistics institutions. These will be the sole entities from which data will be gathered. The findings of this research may not be extendable to the broader context of the global cocoa industry. The study will consider the effects of social sustainability only; potential future studies may do the same for other relevant variables.

### **1.8 Organisation of the Study**

This investigation is organized into five principal sections, encompassing Chapters 1 through 5. Chapter 1 functions as the introduction and includes various components such as the justification for conducting the research, an elucidation of the problem being addressed, questions that the investigators intend to answer, the comprehensive and specific objectives of the study, and its overall significance. Chapter 2 is dedicated to an examination of the relevant literature to identify insights into theories, ideas, and empirical issues that will underpin the research. In contrast, Chapter 3 delineates the methodology of the study, explaining the research design, target population, sampling techniques, determination of sample size, methods of data collection, sources of data, and approaches to data analysis. The fourth chapter is reserved for the analysis and interpretation of the findings, whereas the final chapter, Chapter 5, provides a summary, conclusion, and recommendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter delves into an extensive review of the literature relevant to social sustainability practices and the performance of the cocoa supply chain. It is systematically segmented into four significant portions. In the initial segment, the conceptual review, there are detailed elucidations and insights related to the constructs of the study. Following that, the second segment encompasses the theoretical framework, articulating the underlying theories that serve as the foundation for the research. The subsequent portion, the empirical review, provides a critical examination of prior investigations focusing on social sustainability practices and how they relate to the cocoa supply chain's performance. The concluding segment is devoted to constructing the study's model and formulating the hypotheses that guide the study's exploration.

#### **2.1 Conceptual Review**

This section explains social sustainability practices and cocoa supply chain performance.

#### **2.2 Sustainability**

Sustainability models have become all the rage in academia in the past twenty years. Many of these sustainability models incorporate environmental/biophysical, ethical, and social accountability metrics and monetary accountability. The significance of sustainability in business, encompassing environmental, social, and ethical dimensions, has been recognized and reinforced. This growing public sentiment has led various stakeholders, including customers, governmental bodies, and organizations advocating for social justice, to become more assertive in demanding that businesses take responsibility for their actions and the

consequential effects they may induce. For instance, environmental regulation is frequently seen as a cost-benefit analysis between ecology and economy (Porter and van der Linde, 1995). At first, regulatory actions would set commercial entities against other groups in society, despite all stakeholders being interconnected. Businesses have realized that their CSR initiatives may provide a competitive advantage and innovation by encouraging better inputs, boosting product quality, and increasing product yields (Porter and Kramer, 2006). Porter "transcends conflicts between corporate interests and societal welfare" and "reflects a deepseated view that competition leads to better outcomes" in his work across several policy sectors (Argyres and McGahan, 2002).

Sustainable development, as defined over a quarter of a century ago by the Bruntland Report, is the principle of fulfilling the current generation's needs and desires without hindering future generations' ability to fulfill their own requirements (World Commission, 1987). Within the scholarly and commercial literature, the 'Triple Bottom Line' (3BL) framework has emerged as one of the most prevalent interpretations of sustainability. This concept, originating in the 1990s, has been widely embraced both in academia and within the business community. While it may appear counterintuitive to propose that an organization's "bottom line" could encompass aspects other than financial gain, there exists a broad consensus that these elements are vital for long-term success. Some have advocated for an extension of the 3BL to include additional dimensions beyond the essential 'three pillars' (Hacking and Guthrie, 2007; Parkin et al., 2003; Roberts, 2003), but the general understanding is that any new facets would be regarded as "subcomponents" of the initial trio. Therefore, obtaining the acceptance of stakeholders serves as a motivating factor for organizations in addressing sustainability challenges.

Additionally, there exists the opportunity to secure a competitive advantage, a factor that is increasingly pertinent as numerous enterprises embark on sustainability endeavors. This issue can be a determinant in gaining or losing competitive advantage since procurement agents and

committees are increasingly considering sustainable criteria in the processes of selecting, certifying, and evaluating suppliers. The procurement process within the industry extends the reach of sustainability beyond the individual organization, involving the entire supply chain (Golicic and Smith, 2013).

**2.2.1 Sustainability Performance (SP)** The definition of sustainability as provided by the Brundtland Commission is widely embraced. This commission stated that sustainable development is "a kind of development that accommodates the requirements of the present without jeopardizing the ability of generations yet to come to fulfill their necessities" (Brundtland, 1987). The 2015 United Nations Climate Change Conference asserted that preservation efforts must encompass the Earth, and measures of prevention should extend beyond merely the manufacturing sector (United Nations Framework Convention on Climate Change, 2015). The endurance of an organization hinges on its performances in economic, ecological, and social spheres (Ahi & Searcy, 2013; Carter & Rogers, 2008; Seth, Shrivastava, & Shrivastava, 2016).

For instance, the evaluation of sustainability performance considers the repercussions of financial activities on the environment across both developed and developing nations (Koo, Chung, & Ryoo, 2014). It considers the satisfaction of societal necessities, including those depicted in Maslow's hierarchy of needs (Seth, Shrivastava, & Shrivastava, 2016), along with the preservation of both renewable and exhaustible natural assets. Earlier studies have posited that the key to the sustained existence of an organization lies in the intersection of its monetary, environmental, and societal results (Carter & Rogers, 2008; Seth, Shrivastava, & Shrivastava, 2016)).

The definitions of the constructs of sustainability performance are as follows:

(1) Economic performance: Economic performance evaluations encompass the assessment of a firm's perceived growth, manifested in areas like sales expansion, enhancement of business volume, increment in market share, and its capacity to generate requisite profits. Additionally, it includes the evaluation of the firm's efficiency in minimizing expenses at diverse stages of consumption, such as the acquisition of resources, utilization of energy, management of waste, and penalties levied due to incidents that harm the environment (Chowdhury, 2014; Green et al., 2012; Zhu, Sarkis, & Lai, 2008).

(2) Environmental performance: The assessment of a company's environmental performance takes into consideration the effectiveness in diminishing pollution affecting water, air, and soil. This evaluation also includes an examination of practices in waste management, the handling and utilization of hazardous and toxic substances, the occurrence rate of incidents that harm the environment, and the achievements in reaching objectives related to conserving energy (Chowdhury, 2014; Rao, 2002; Zhu, Sarkis, & Lai, 2008; Zhu, Sarkis, & Lai, 2012).

(3) Social performance: Assessing a company's social performance entails gauging how its actions affect the community (Tsoi, 2010). The evaluation of an organization's social performance involves examining various factors such as the adherence to legal minimum wage requirements, provision of health insurance, compensation for vacation time, and the assurance of a work environment devoid of harassment and unsafe conditions. These criteria offer insight into the treatment and conditions faced by the employees within the organization (Bansal, 2005; Chowdhury, 2014; Tsoi, 2010)..

### **2.2.2 Social Sustainability**

To get an edge in the market, businesses must become more socially responsible and evaluate their and supplier chain's social impacts and performances (Qorri, 2018). Organizations must be aware of the approaches they might use to accomplish their sustainability objectives and make ethical judgments. For a supply chain to achieve social sustainability, it must tackle social issues at each of its three stages. These social matters are categorized by Marshall (2015) into two segments: fundamental, encompassing safety, welfare, and health, and advanced, dealing with factors related to products and processes. Wood (2010) posits that effective management of social matters necessitates the addressing of three essential questions. The first of these questions pertains to whether there is an existing plan for handling these matters. The second question may be answered by tracking specific individuals in the supply chain. According to the stakeholder theory, an organization's activities affect the well-being of its suppliers, consumers, manufacturers, government, and society. Thus, stakeholders play an essential role in compelling businesses to embrace practices that are responsible both socially and environmentally (Sodhi, 2015). Social issues related to the supplier, manufacturer, and consumer are societal matters that must be recognized at various stages in the supply chain (Mani, 2016).

The social concerns of suppliers, manufacturers, and customers all impact the supply chain and stakeholders, and they must be aware of them at every level (Mani et al., 2016).

### **2.2.3 Social Issues**

Social concerns in supply chains encompass the "product or process-related aspects of operations that have an impact on human safety, welfare, and community growth," according to Klassen and Vereecke (2012). Firms can exhibit responsible social behavior in managing

social issues by initiating practices that deter involvement in unlawful or ethically objectionable conduct. The definition of a social concern, however, is subjective and relies on the unique context in which an organization operates (Hoejmose et al., 2014; Clarkson, 1995). The emergence of external stakeholders such as media, NGOs, and civil society participants has highlighted unethical corporate actions, prompting businesses to adopt efficacious remedies for social difficulties. Moreover, poor management of social matters may lead to consumer backlash if stakeholder expectations are not met. Various factors, including the robustness of buyer-supplier relationships (encompassing power and trust) and the efficacy of monitoring and reporting mechanisms, influence financial performance (Klassen and Vereecke, 2012). Even more, new regulations and laws regarding human well-being and safety underscore the significance of social issues in supply chains, pressing companies to attend to societal and social concerns.

he issues relating to wages, working hours, health and safety measures, and child labor, collectively referred to as "labor conditions," have been deduced in studies by Welford and Frost (2006), Zutshi, Creed, and Sohal (2009), and Preuss (2009). Subsequently, concepts such as human rights, minority advancement, gender equality, and the inclusion of disabled and marginalized individuals have been inductively amalgamated, as detailed below.

**Labour conditions;** Low salaries, long hours, the ability to establish unions, the use of contract labour, and other forms of employee exploitation are all part of employees' working circumstances. Léire and Mont (2009)

**Child labour;** Child labor is defined as the employment of children under the age of 15 in a manner that hinders their ability to attend school, or the employment of children under the age of 18 in activities that could be harmful to their physical or mental well-being, according to Zutshi et al. (2009).

**Human rights;** All people, regardless of race, gender, national or ethnic origin, religion, language spoken at home, or country of origin, are entitled to basic human rights. Fundamental

to the concept of human rights is the idea that everyone should be afforded the same set of protections under the law (2002)

**Health and safety;** All aspects of one's well-being, both body and mind, are included here, and they all have a direct bearing on occupational sanitation and safety. It also details potentially harmful working situations that can impact an employee's health over time.

**Disabled/marginalized people inclusion;** Individuals and communities who are marginalized due to social exclusion or government indifference, often owing to physical impairments. Subsistence-level earners, those with disabilities, and the politically powerless are all regarded as part of society's "marginal populations" as individuals living below the poverty line. Individuals or families living in extreme poverty are considered vulnerable.

**Gender;** The term "gender equality" describes the practice of providing for the unique requirements of women and transgender people and providing them with equal rights in the workplace.

#### **2.2.4 Supplier social sustainability.**

The majority of the literature regarding the social sustainability of supply chains centers on social concerns at the supplier level, issues that inevitably have an effect on all participants in the supply chain (Yawar and Seuring, 2015). Through a specific case study, Pagell and Wu (2009) analyze improved labor standards at supplier locations and the subsequent impact on the entire supply chain. Authors such as Kortelainen (2008) and Yu (2008) specifically explore labor-related issues from the standpoint of suppliers in developing nations. Discussions also extend to subjects like diversity, responsibility towards products, development of minority suppliers, ethical conduct, safety measures (Mani et al., 2016), child labor prevention (Huq et al., 2016), and philanthropic activities within the framework of a sustainable supply chain (Carter and Jennings, 2004).

The possibility of achieving social sustainability in the upper parts of the supply chain by engaging suppliers in addressing these issues has been outlined (Krause et al., 2007; Bai and Sarkis, 2011). Some research also delves into the processes by which social sustainability is adopted in the upstream supply chain, examining the various institutional pressures and how they relate to supplier performance, operational outcomes, and customer satisfaction. For instance, a study by Ehrgott et al. (2011) illustrates the positive correlation between pressures from customers and middle management and the uptake of socially sustainable practices. Interestingly, this analysis did not find any significant relationship between governmental enforcement and the implementation of such sustainable measures. In a similar vein, Sancha et al. (2015) identified different factors such as mimetic, normative, and coercive pressures that play a role in the adoption of social sustainability. Furthermore, some scholars advocate for the creation of a culture of sustainability that becomes an integral part of a company's plan for social sustainability (Marshall et al., 2015).

### **2.2.5 Manufacturer social sustainability**

Addressing social concerns within the production facilities of the focal company is essential for the complete sustainability of the supply chain. Manufacturer social sustainability pertains to the handling of social issues that could affect individuals involved in the manufacturing process, encompassing employees, consumers, and the broader community (Pullman, 2010). A study by Junior et al. (2017) investigated labor practices, human rights, societal impacts, and responsibility towards products in Brazilian and Spanish companies, employing the case study method to assess their importance in the context of supply chain sustainability. These researchers also posit that effective communication of sustainable policies to stakeholders and

customers fosters a positive perception and heightened interest in the organization (Wigley, 2008; Tang and Li, 2009).

Elkington (2000) emphasizes the obligation of a manufacturing organization to ensure equal opportunities, encourage diversity, and improve the quality of life both within and outside the community, as part of the principles of social sustainability. Others spotlight fair human resource strategies and policies aimed at enhancing well-being (Wilkinson et al., 2001; Daily and Huang, 2001). Improved management of social issues in manufacturing is linked to an increase in product quality (Pullman et al., 2009). Deming (2000) offers 14 principles for quality enhancement, encompassing aspects like fostering fearless work environments, providing on-the-job training, promoting self-development initiatives, and ensuring just compensation, all essential for bolstering product quality. Another empirical research reveals connections between quality improvements and factors like employee satisfaction, knowledge advancement, and participatory initiatives (Rothenberg et al., 2001; Pullman et al., 2009).

Furthermore, Gopalakrishnan et al. (2012) identify positive correlations between health and safety, community well-being, employment opportunities, and philanthropy with the strategic success of a company via its reputation and image among stakeholders. Building on the theoretical foundation of the stakeholder resource-based view, Mani et al. (2016) explore subjects like diversity, employee safety, welfare, practices related to child and forced labor, philanthropy, and ethical considerations. They also outline ways these concerns can be effectively managed within a company's facilities, to produce both social performance and other strategic advantages.

### **2.2.6 Customer social sustainability**

Customer social sustainability is concerned with the social issues in the downstream part of the supply chain, mainly focusing on human-related matters at the retailer and customer levels. This area can be divided into two main categories. The first category addresses social issues commonly found at retail locations, affecting people's safety and welfare. These, in turn, can have ramifications on retail businesses, and consequently, on the entire supply chain (Brito et al., 2008; Delia and Takahashi, 2013). Such concerns encompass matters like safety, health, human rights, corruption and bribery, job creation, consumer health and safety, respect for customer privacy, and ethical labeling, all of which influence the social sustainability of the supply chain. The literature on social sustainability topics in this context also includes diversity, safety and health, talent retention, human rights, ethical challenges, and job development (Brito et al., 2008; Kolk et al., 2010; Delia and Takahashi, 2013). However, companies are found to be more diversified in their subthemes and activities, varying in how they manage these issues through their actions (Kolk et al., 2010).

The second category pertains to product-related issues that may present safety and health risks to the end customer. The stakeholder perspective argues that a company's operations are influenced by various entities in the value chain, who exert pressure for the adoption of sustainable practices within the company (Shodi, 2015). Customers, due to their advantageous position within the downstream connection, are particularly significant in this regard, as they can influence both production and consumption (Jones et al., 2005). Literature related to customer social sustainability specifically ties topics to education, training and development, diversity practices, safety and health, talent retention, human rights, and local hiring practices (Brito et al., 2008; Delia and Takahashi, 2013). These elements are found to increasingly affect organizational performance (Mani et al., 2016).

Furthermore, it should be noted that despite an expanding body of research concerning retailer social sustainability practices, this field of study remains relatively new and necessitates additional exploration, particularly in emerging economies (Delia and Takahashi, 2013). The evolving nature of these practices, coupled with the inherent complexity of social concerns at the retail level, highlights the need for continued scholarly attention to enhance understanding and develop more effective approaches to customer social sustainability.



### 2.3 Supply Chain Management

The concept of a supply chain is multi-dimensional and encompasses all stages, whether directly or indirectly, involved in fulfilling a customer's request. Various scholars and practitioners have offered their perspectives on what constitutes a supply chain, reflecting the complexity and diverse nature of the term.

Chopra and Meindl (2017) define a supply chain as including manufacturers, suppliers, transporters, warehouses, retailers, third-party logistics providers, and clients. They emphasize the goal of maximizing overall value rather than focusing on profit earned in a specific segment. Walters (2013) also supports this comprehensive view, describing the supply chain as a series of activities, processes, and sub-processes, including procurement, operations, transportation, and warehousing. Walters explains that supply chains vary by products, services, and organizations, and the focus is on transporting materials from one point to another until reaching the final consumption point.

The terminology "supply network" or "supplied web" has also been used to reflect the intricate and multi-layered nature of the supply chain, acknowledging the fact that many parties are involved at each level (Chopra and Meindl, 2017). An organization can simultaneously be a supplier to many firms and a customer to others, illustrating the interconnectedness within the supply chain.

Lambert (2018) adds to this understanding by defining a supply chain as the "combination of processes, functions, activities, connections, and pathways" through which various transactions flow. This perspective acknowledges the supply chain's role in facilitating activities from the original producer to the ultimate consumer. Lambert also emphasizes that organizations in the modern business environment compete as supply networks rather than isolated entities, reinforcing the idea that the supply chain is a network of companies and interactions.

The development of the concept of the supply chain over time is evident in the views of Wheelen and Hunger (2011), who describe it as the creation of networks for procuring, manufacturing, storing, distributing, and delivering products. They highlight the use of the supply chain to reduce costs, enhance customer service, and innovate quickly. Similarly, Mentzer et al. (2015) link the supply chain with connections between a company and its customers, suppliers, and other system members, emphasizing planning and administration in managing flows.

In summary, the understanding of a supply chain has evolved to reflect the complex interplay of various parties and functions. Whether described as a chain, network, or web, the underlying theme is a cohesive system that links diverse elements to deliver value to the end user. The ultimate aim across these definitions is to provide products at the right time, quality, and price to satisfy customers and enhance organizational performance. While different scholars may highlight specific aspects, the core principle remains consistent: a supply chain represents a synchronized and interconnected framework designed to meet consumer demands.

**Table 2.1: Definitions of Supply Chain**

<b>Author (year)</b>	<b>Definition</b>
Krajewski et al. (2013)	The supply chain is the interconnected sequence of procedures within and between companies that generate items or services to the customer's satisfaction.
Javadian et al. (2012)	The supply chain encompasses every activity involved in the movement and transformation of raw materials, starting from the initial stage of preparation, and culminating in the delivery of the finished product to the end consumer
Christopher (2011)	The administration of relationships both preceding and following the manufacturing process with providers and consumers aims to generate superior value for the consumer at a reduced aggregate expense for the supply chain.

Hofmann and Belin (2011)	The supply chain can further be characterized as the enhancement of financial relationships between companies, integrating established financial connections with the organization's suppliers, clients, and service providers. This process aims to optimize the overall value of the enterprise for the benefit of all stakeholders.
Dewei-Lu (2011)	A network of interlinked companies functions to impart value to a series of altered materials, originating from their initial source and culminating in the final products or services demanded by the designated final consumers
Basu and Wright (2014)	This encompasses the tangible transportation of goods, the dissemination of information, and the circulation of financial resources..
Bowersox et al. (2017)	The term "supply chain" denotes a holistic viewpoint, focusing on the interconnections among participants within the chain, all working in unison to enhance customer satisfaction at the point of delivery..
Ballou (2014)	The supply chain encompasses every process involved in the alteration and transportation of goods and services, including the corresponding flow of information, extending from suppliers of raw materials to the ultimate consumers.
Handfield and Nichols (2012)	The supply chain encompasses activities connected with the transfer and alteration of products, beginning with the procurement of raw materials and continuing through to the ultimate delivery to the end user.

### 2.3.1 Cocoa Supply chain

Cocoa beans, originating from the seeds of the *Theobroma cacao* tree found in the South American Amazon region, enjoy extensive global consumption. This tree thrives approximately 20° on either side of the equator and prefers an altitude under 1,312 feet, with temperatures ranging from 65 to 90 degrees Fahrenheit, and yearly rainfalls between 60 and 400 inches (as per the World Cocoa Foundation Report, Market update, 2014).

These beans are the essential ingredients for chocolate and various other products, such as cocoa drinks, ice creams, and baked goods, providing a unique taste to these derivatives. The transformation process includes creating chocolate liquor, cocoa powder, and cocoa butter (Lipp & Anklam, 1998; Payne et al., 2010; Lonchamp & Hartel, 2004). Furthermore, cocoa finds applications in cosmetics and medicinal fields.

The path from cocoa bean to marketable product involves farm-level post-harvest processes like pod opening, extraction, fermentation, and drying of the beans. Fermentation plays a key role in imparting the desired quality flavor to commercial cocoa beans.

Major cocoa-producing regions are Africa, Asia, and Latin America. Ivory Coast leads global production, contributing 33 per cent, followed by Ghana (Awua, 2002; Anang et al., 2013; Amusan et al., 2005). Most of the cocoa production, about 80 to 90 per cent, occurs on small family-owned farms by approximately five to six million growers. Typical farms in Africa and Asia cover two to four hectares (five to ten acres), with each hectare producing varying quantities of cocoa beans depending on the region. Farms in the Americas tend to be larger, producing 500 to 600 kg per acre.

Cocoa yield varies across nations and types, with Ivory Coast, Ghana, and Indonesia providing the most favorable conditions. However, Ghana and Ivory Coast's production is less than Indonesia's. Through implementing composting and additional fertilization, crop loss and soil fertility in West Africa can be improved (Amusan et al., 2005).

According to the World Cocoa Foundation (WCF), between 5 and 6 million cocoa farmers across the globe support the livelihoods of 40 to 50 million people, resulting in an annual cocoa production value of \$11.8 billion. This number has seen a 3 per cent increase over the past ten years. More than 70 per cent of this cocoa is transported from West African countries like Cote d'Ivoire and Ghana to global markets to meet the demands of confectionery, food, and beverage industries. Projections indicate the global cocoa market growing by 3.1% between 2014 and 2019, and the worldwide chocolate market by 2.3% during the same period. As the cocoa demand is expected to surge by 30 per cent by 2020, the industry faces challenges in supplying this demand without proper investment in small farms and empowering small-scale farmers. An inability to meet this demand may stem from negligence towards the welfare of small-scale family farmers who constitute 90 per cent of global cocoa production. Cocoa prices remain

volatile due to factors like severe weather, pest infestations, speculation, and political instability in producing countries.

Within the sphere of supply chain obligations in the cocoa sector, it becomes imperative to synchronize the supply network with the fulfillment of customer needs while preserving the integrity of the entire supply chain (Faisal and Banwat, 2006; Chopra and Sodhi, 2004). Such synchronization necessitates careful orchestration among every participant in the supply chain. This includes the farmers, regulatory authorities like Cocobod in Ghana, Licensed Buying Companies (LBCs), and various other stakeholders, all aiming to assure the effective management of the cocoa supply chain

### **2.3.2 Ghana Cocoa Supply chain.**

The practice of cocoa farming within Ghana is primarily confined to three specific agroecological zones, encompassing the rainforest, the semi-deciduous forest, and the transitional forest regions. Of the country's sixteen regions, six are actively engaged in this cultivation, specifically located in Western North and South, Brong-Ahafo, Central, Eastern, and Volta regions. Among these, the Western region stands as the principal producer of cocoa in Ghana, accounting for nearly half of the national annual production.

Within the context of the Ghanaian cocoa sector, the cultivation season initiates in October. However, the period for harvesting is divided into two distinct phases: the main season that spans from October to May, and a secondary or less intense season, extending from June through September. The existing organization of the cocoa business encompasses various parties such as suppliers of inputs, cultivators, traders, transportation providers, and other service providers, not to mention domestic processors and retailers. They each have specific

roles within different economic sectors like public, formal, and informal (Deans, H 2018). Among them, cocoa growers, Licensed Buying Companies (LBCs), and COCOBOD are key stakeholders overseeing operations within the cocoa sector (Awuah, 2015).

COCOBOD is a government body that supervises the entire cocoa sector in Ghana. This organization manages both the production and distribution of cocoa in the nation, and the industry's marketing framework exhibits some elements of liberalization, privatization, and significant governmental influence (World Bank, 2013). Major shifts towards a more liberalized marketing system commenced in the 1991/1992 season, allowing private entities to buy cocoa straight from the farmers. However, COCOBOD still exerts substantial influence over the cocoa supply chain, managing everything from quality inspections to export processes. For instance, through the Producer Price Review Committee (PPRC), the government controls cocoa pricing. The Cocoa Marketing Company (CMC), an offshoot of COCOBOD, handles both domestic and global marketing of Ghanaian cocoa with the assistance of LBCs, mostly private firms that buy cocoa from growers and sell it to CMC. LBCs must first obtain a license from COCOBOD to engage in cocoa trading within the country.

LBCs obtain dried, bagged cocoa beans from farmers through internal supply chain members like purchasing clerks, district managers, port managers, and operations managers, and after drying, sell them to CMC (Baah, 2012). In Ghana, around 3000 locations historically known as societies or buying centers allow LBCs to purchase cocoa beans directly from the farmers (Antonio, 2009).

On the other hand, cocoa growers are vital in the Ghanaian cocoa supply chain, overseeing agricultural production and pre-harvest operations. Smallholder cocoa farmers, who generate income for millions in Ghana, form the foundation of this chain due to their consistent output. Stakeholders in the cocoa supply chain employ both electronic and paper-based methods to

facilitate the essential business activities detailed above. For instance, downstream players like COCOBOD and LBCs utilize information technology solutions, whereas cocoa farmers tend to support their operations with a paper-based system known as the farmer passbook (Ahoa, E, 2020). However, the use and distribution of these IT systems remain inconsistent and often inadequate across the supply chain. For example, contemporary ICT systems are frequently unused by cocoa farmers in Ghana.

In addition to IT systems, the movement of goods, finances, and information represents other key aspects of the cocoa supply chain. Within the current structure, data such as market information, demand, pricing, and research are commonly shared among key parties. The Ghanaian cocoa sector's information framework is centralized, with COCOBOD collecting and storing most of the information from various supply chain stakeholders. These flows of information are generally one-way, and farmers, as the source of this data, often do not receive critical insights that enable them to make informed decisions regarding production and marketing (Roldan, M.B. 2012). This lack of inclusiveness in information dissemination hinders effective decision-making across the supply chain.

The described supply chain management system within the Ghana cocoa industry demonstrates unequal collaboration and coordination in terms of information exchange. This imbalance makes it difficult for stakeholders to perform their roles in the supply chain and strategize effectively. The limited and inefficient use of IT systems in the cocoa supply chain negatively affects information exchange and stakeholder engagement at various levels, thus inhibiting the overall effectiveness and performance of the cocoa supply chain.

## **2.4 Theoretical Review**

A theory can be described as an integrated assembly of linked concepts, definitions, and statements that offer an organized insight into phenomena. It does this by defining the relationships between variables, thereby facilitating the explanation and prediction of events (Camp, 2017). Similarly, (Gooyert, V 2018) characterizes a theory as an interconnected set of thoughts, definitions, and conjectures that are put forth to elucidate and forecast happenings. In the context discussed, relevant Sustainability theories have been examined. This includes Stakeholder and Legitimacy theories, which shed light on how businesses meet the requirements of their stakeholders and attain acceptance and recognition within the communities in which they operate, all through the actions they undertake.

### **2.4.1 Stakeholder theory**

Stakeholder theory is identified as the optimal framework for understanding sustainability reporting practice (Reynolds and Yuhas, 2008). Stakeholder theory is a pertinent framework for analyzing and understanding the dynamics of organizations, particularly in the context of social sustainability practices within the cocoa supply chain. Several studies have explored the application of Stakeholder theory in diverse settings, shedding light on its relevance and effectiveness in enhancing organizational performance (Buchholz and Rosenthal, 2005; Laplume et al., 2008). study by Freeman (1984) emphasized the significance of Stakeholder theory in identifying and prioritizing stakeholders for organizations. The research outlined the primary stakeholders in a business context, including employees, customers, suppliers, and local communities. This conceptualization of stakeholders becomes particularly relevant in the context of cocoa supply chain firms, where multiple entities are involved in the production and distribution processes.

In another study conducted by Donaldson and Preston (1995), the authors extended the discussion on Stakeholder theory by introducing the concept of stakeholder salience. The research proposed that stakeholders with higher salience should receive increased attention from organizations. Applying this notion to cocoa supply chain firms, the identification of stakeholders with significant salience, such as farmers, environmental organizations, and consumers, becomes imperative for effective social sustainability practices and enhanced supply chain performance.

Furthermore, a study by Clarkson (1995) explored the interconnectedness of corporate social performance, stakeholder management, and organizational performance. The research argued that companies focusing on fulfilling the expectations of their stakeholders tend to achieve better overall performance. Relating this perspective to the cocoa supply chain, the effective integration of social sustainability practices, guided by Stakeholder theory, can contribute to improved performance outcomes for the involved firms.

Additionally, a study by Jones and Wicks (1999) delved into the ethical aspects of Stakeholder theory, emphasizing the importance of considering ethical principles in stakeholder management. This dimension is crucial when examining the effects of social sustainability practices in the cocoa supply chain, where ethical considerations related to fair trade, labor practices, and environmental impact play a pivotal role.

In a more recent study by Mitchell et al. (2016), the authors expanded the traditional Stakeholder theory by introducing the concept of stakeholder influence capacity. This dimension focuses on the ability of stakeholders to exert influence over an organization's decisions. Applying this perspective to cocoa supply chain firms, understanding, and managing the influence capacity of stakeholders, such as governmental bodies, NGOs, and industry associations, can significantly impact the success of social sustainability initiatives. These studies collectively highlight the applicability of Stakeholder theory in diverse organizational

settings, providing valuable insights into stakeholder identification, salience, ethical considerations, and influence capacity. Applying these perspectives to the context of cocoa supply chain firms, Stakeholder theory offers a robust framework for understanding and optimizing the effects of social sustainability practices on supply chain performance.

#### **2.4.2 Legitimacy Theory**

Legitimacy Theory, a key concept in organizational and corporate social responsibility literature, provides a lens through which the relationship between organizations and their stakeholders can be examined. When applied to the topic of "The Effects of Social Sustainability Practices on Cocoa Supply Chain Performance," Legitimacy Theory helps expound how organizations seek to maintain alignment with societal expectations and norms to secure their legitimacy.

One seminal study by Suchman (1995) laid the groundwork for Legitimacy Theory by emphasizing the importance of organizations garnering social approval and maintaining legitimacy to operate effectively. This study is particularly relevant to the cocoa supply chain context, where social sustainability practices can enhance the legitimacy of firms involved by addressing concerns related to fair trade, ethical sourcing, and environmental impact. In a study by Deegan and Rankin (1996), the authors applied Legitimacy Theory to the examination of social and environmental reporting practices. The research highlighted the role of such reporting in managing organizational legitimacy. In the context of cocoa supply chain firms, adopting transparent social sustainability reporting practices can contribute to the legitimacy of these organizations by demonstrating a commitment to responsible business practices.

Moreover, Patten (2002) explored the relationship between corporate environmental performance and organizational legitimacy. The study argued that positive environmental performance can enhance a firm's legitimacy, influencing stakeholders' perceptions. This

perspective is relevant to cocoa supply chain firms, where the adoption of socially sustainable practices can similarly contribute to organizational legitimacy, particularly as consumers and stakeholders increasingly value sustainability in supply chain activities.

A study by Deephouse and Carter (2005) delved into the temporal aspects of organizational legitimacy. The research suggested that maintaining legitimacy is an ongoing process influenced by historical and current actions. Applying this temporal lens to cocoa supply chain firms, the sustained implementation of social sustainability practices over time becomes crucial for securing and retaining legitimacy in the eyes of stakeholders.

Furthermore, the work of Suchman (1998) extended the discussion on Legitimacy Theory by introducing the concept of institutionalization. The study argued that organizations seek to institutionalize their practices to gain societal acceptance and legitimacy. In the context of cocoa supply chain firms, institutionalizing social sustainability practices, such as through industry certifications and standards, can enhance their legitimacy by aligning with established norms and expectations.

These studies collectively demonstrate the multifaceted application of Legitimacy Theory in diverse organizational settings. When applied to the cocoa supply chain, Legitimacy Theory provides insights into how social sustainability practices contribute to organizational legitimacy, influencing stakeholders' perceptions and societal acceptance. This framework offers a valuable perspective for understanding and addressing the effects of social sustainability practices on cocoa supply chain performance.

## **2.5 Empirical Review**

Notable infractions impacting the social sustainability of supply chains have been widely reported (Busse, Schleper, Weilenmann, Wagner, 2017). As a result, the potential for negative

publicity, consumer boycotts, and heightened examination have become central drivers for the assessment and control of social sustainability performance (Bronn and Vidaver-Cohen, 2009). Various stakeholders such as consumers, investors, local communities, non-profit organizations, political figures, and regulatory bodies are increasingly focusing on the manufacturing and distribution of products (Govindan, Shaw, Majumdar, 2021; Koh et al., 2012). This focus has led to a closer examination of the methods employed to ensure the socially sustainable characteristics of regular goods supplied through global, multi-tiered supply chains.

The intensification of scrutiny has set higher standards for participants within the supply chain. The lack of insight into trading practices within these intricate supply chains presents a major sustainability challenge, often leading to heightened sustainability-related uncertainty for the supply chain actors (Busse et al., 2017; Forest et al., 2019). Opening the market to socially sustainable products can create new commercial opportunities for businesses and raw material producers based in the South. Implementing sufficient quality assurance methods throughout multi-tiered supply chains to minimize sustainability uncertainty is vital for numerous livelihoods, communities, and the financial prosperity of purchasing firms, typically based in the global North (Busse et al., 2017).

Recent research in supply chain management (SCM) has shifted its focus towards sustainability concerns, as noted by Govindan et al. (2013). Historically, economic gain was at the forefront of SCM discussions, leading to an emphasis on buyer-seller relationships. While most studies on socially sustainable supply chains have concentrated on dyadic interactions, this viewpoint overlooks the complexity of network operations and fails to embrace a multi-cultural global approach (Fahimnia B., Sarkis., & Davarzani., 2015). Authors often present their sustainability

research in the context of supply chains but limit their analysis to internal or dyadic perspectives (Miemczyk, Johnsen., & Spencer, 2012).

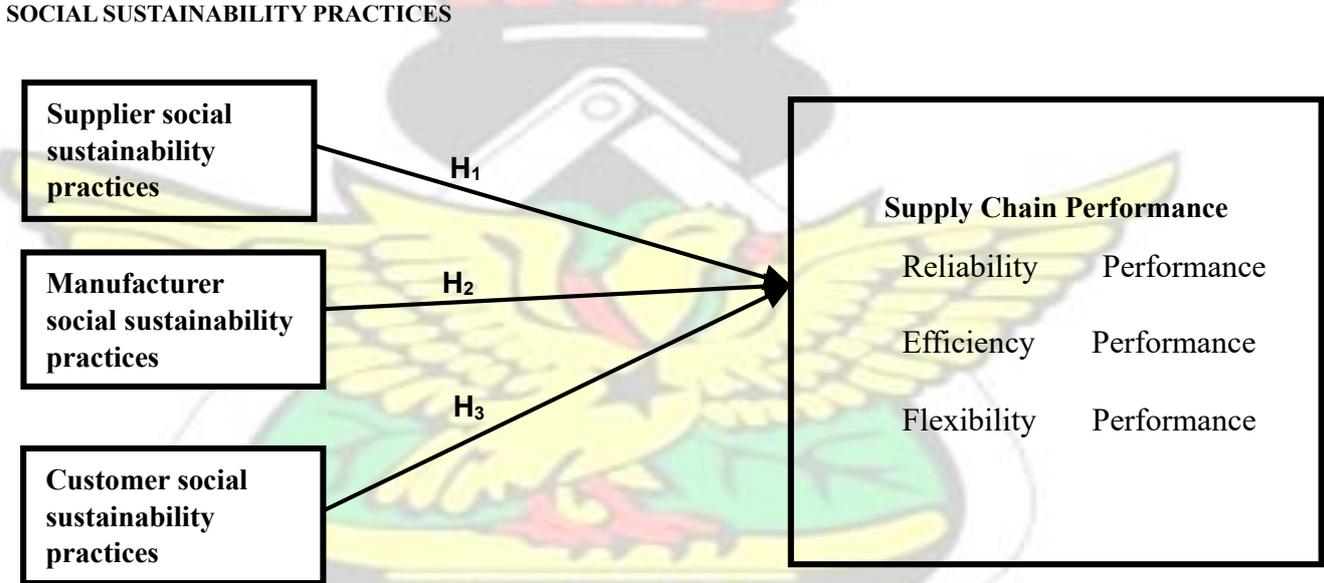
Accordingly, there is a scarcity of empirical studies that explore social sustainability in SCM across the entire multi-tiered supply chain (Huq et al., 2014), despite the growing significance of human rights, labor, and working conditions within seemingly socially responsible global supply chains. This research emphasizes supply chains where social issues are particularly relevant, including concerns related to suppliers, manufacturers, and consumers.

Several factors contribute to the sustainability uncertainty within the global supply chain, including unpredictability stemming from its complexity and limited transparency. This is often due to the engagement of many small producers situated in culturally distant locations from consumers (Premkumar Zailani, Jeyaraman, Vengadasan, 2005; Karjalainen and Moxham 2013; Tachizawa and Wong 2015), and frequently changing supplier relationships (Tachizawa and Wong, 2014). False compliance with social sustainability regulations and outsourcing labor to additional tiers of the supply chain (Huq et al., 2014) exacerbate visibility issues. The complexity of identifying socially sustainable items as "credence goods" further compounds sustainability uncertainty (Giovannucci and Ponte, 2005). Certain attributes have been deemed to be non-existent unless explicitly stated (Pullman and Dillard, 2010).

The aim of this study is to evaluate the effects of social issues associated with suppliers on the performance of the Cocoa supply chain, to explore the impact of social issues related to manufacturers or processors on the Cocoa supply chain industry in Ghana, and to assess the implications of consumer-related social matters on the performance of the Cocoa supply chain within Ghana.

**2.6 Conceptual Framework**

Comprehending the theoretical structure that integrates both independent and dependent variables is vital in elucidating the fundamental concepts of social sustainability and cocoa supply chain performance. As defined by Mugenda & Mugenda (2013), an independent variable is a feature of a phenomenon that has an influence or effect on other variables, while a dependent variable is the one that is influenced or impacted by the independent variables. The portrayal of the interrelationship between social sustainability and the supply chain is represented in the subsequent illustration



**Figure 2.1: Conceptual Framework**  
**Source:** Researcher's construct (2022)

**2.7 Development of Hypothesis**

From the paradigm of the research described earlier, the investigation leads to the formulation of the subsequent hypotheses.

### **2.7.1 Supplier social practices and Supply chain performance**

The rising prominence of sustainability within supply chain research reflects a growing awareness among stakeholders of the consequences that commercial activities have on the environment and the wider community. Many firms are broadening their supplier foundations in emerging markets to capitalize on cost advantages. However, it must be recognized that a supplier's performance is integral to the enduring success of the primary enterprise (Carter, 2005). With the enlargement of the supplier base in developing economies, there are activities on the part of suppliers that augment the risk to the principal firm's supply chain (Klassen and Vreecke, 2012). Activities of suppliers create social issues concerning both the product and process components, affecting individuals and societies in their proximity (Wood, 1991; Tate et al., 2010; Mani et al., 2016a). Given these societal difficulties, the supply chain is called upon to manage its functional risk (Klassen and Vreecke, 2012). Ageron and colleagues (2012) have underscored the importance of the design of the upstream supply chain, something that bears upon the central business and the entire supply chain, especially when commercial activities rely on strategic affiliations.

Furthermore, research has shown that enhancements in labor conditions at the locations of suppliers reduce accidents and cut down lead times, thereby augmenting the operational effectiveness of the purchasing entity (Freire and Alarcon, 2002; Yuan and Woodman, 2010). Some scholars have recently explored issues like flawed automotive designs, harmful substances in children's toys, and outbreaks of food poisoning within diverse supply chains (Roth et al., 2008). Enterprises embroiled in such disputes may encounter intense reactions from consumers.

Moreover, some argue that when suppliers adopt social sustainability practices, this not only better social outcomes but also contributes to the competitive edge of the entire supply chain. Such an approach can lower expenses and widen market share (Klassen and Vereecke, 2012; Rao and Holt, 2005). Kilian and Jones (2017) also discovered that when suppliers engaged in practices of social sustainability, such as equitable labor conditions and environmental guardianship, it positively affected the functioning of the cocoa supply chain. These authors maintained that such conduct can enhance efficiency, diminish costs, and better relationships with stakeholders.

Rexhepi and associates (2018) discerned a favorable connection between supplier social sustainability and overall supply chain performance. They propose that when suppliers engage in social sustainability practices, it can augment trust, fortify the relationships between suppliers and buyers, and diminish risk. Thus, from the above, the current study leads to the formulation of the subsequent hypotheses.

*H<sub>1</sub> There is a positive effect of supplier social sustainability practices on cocoa supply chain performance.*

### **2.7.2 Manufacturer social practices and Supply Chain performance**

The supply chain's long-term viability needs to address social problems at the production facilities of the firm of focus. The term "manufacturer social sustainability" refers to handling issues affecting workers, customers, and society due to the manufacturing process (Pullman et al., 2009). Junior et al. (2017) use a case study approach to highlight labour practices, human rights, society, and product responsibility concerns in Brazilian and Spanish businesses and the relevance of these issues in ensuring the long-term viability of the supply chain. Another point of agreement is that when sustainable policies are effectively communicated to stakeholders and consumers, the consequence is a positive attitude and increased interest in the company

(Wigley, 2008; Tang and Li, 2009). Elkington (1994) uses the ideas of social sustainability to argue that manufacturers have a responsibility to advance social justice issues, including the right to participate in and benefit from the workforce, the value of diversity, and the enhancement of community well-being. Others stress the need for well-being-promoting fair methods and policies concerning human resources (Wilkinson et al., 2001; Daily and Huang, 2001). Improved social concern management in manufacturing adds to higher-quality goods (Pullman et al., 2009). Fearless work cultures, on-the-job training, self-development efforts, and fair remuneration are only a few of Deming's (1986) 14 factors that contribute to improving product quality. Improvements in quality have been shown to correlate with employee happiness, increased knowledge, and involvement programs, according to other empirical research (Rothenberg et al., 2001; Pullman et al., 2009). Health and safety, community wellbeing, job opportunities, and charity are all positively connected with a corporation's strategic performance as measured by its reputation and image among stakeholders, as stated by Gopalakrishnan et al. (2012). Theoretically grounded in the stakeholder resource-based view, Mani et al. (2016) discuss how a business can manage diversity, worker safety and welfare, child and forced labour practices, philanthropy, and ethical issues in their facilities to improve their social performance and other strategic outcomes. After considering the evidence presented above, this article draws the following hypothesis:

**H<sup>2</sup>** *There is a positive relationship between Manufacturer social sustainability practices and Supply chain performance.*

### **2.7.3 Customer social practices and Supply chain performance**

To classify a product or service as socially sustainable, it must consider the needs of those utilizing it. This concept can be divided into two primary categories. The first area focuses on

social issues pertinent to retail businesses and the overall supply chain, shedding light on challenges that are common to these sectors (Brito et al., 2008; Delia and Takahashi, 2013).

The second segment emphasizes the significance of safeguarding the health and well-being of consumers. Advocates of the stakeholder perspective assert that businesses tend to embrace environmentally responsible practices when influenced by different actors within the value chain (Shodi, 2015). Those customers positioned further downstream wield substantial influence, shaping production and consumption activities at more upstream levels (Jones et al., 2005). The literature abounds with topics tied to consumer-related social sustainability problems, including but not limited to education, skills enhancement, diversity initiatives, safety and well-being, retention of skilled staff, adherence to human rights, and local hiring strategies (Brito et al., 2008; Kolk et al., 2010; Delai and Takahashi, 2013). These elements are gradually impacting the effectiveness of corporate operations (Mani et al., 2016). Delai and Takahashi's examination in 2013 of Brazilian retail operations encompassed a variety of aspects, such as safety, well-being, human rights observance, combating corruption and bribery, employment issues, safeguarding consumer privacy, and ethical labeling practices.

Furthermore, Maignan and Ferrell (2004) put forward the idea that backing for socially sustainable practices on the part of consumers has the potential to foster positive alterations in supply chain performance. These scholars' postulate that when enterprises invest in socially sustainable activities, they can enhance their public image and reputation, leading to reinforced customer allegiance and an uptick in sales. This comprehensive assessment leads to the formulation of the third hypothesis.

*H<sup>3</sup> There is a significant positive relationship between customer social sustainability practices and supply chain performance.*

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

According to Baily (2018), "methodology" describes the deliberate procedure by which a research study is conducted. Simply put, the research project's methodology section has to prove that the methods and procedures the author ultimately settled on were the most appropriate for accomplishing the study's stated goals and will yield trustworthy outcomes (Bryman, 2017). Segments including the design of the research, the approach taken in the research, and the methodology applied in the research, in addition to the population under study, the sample selected, the method used for sampling, the techniques employed for gathering data, the methods used for analyzing the data, considerations for ensuring reliability and validity, adherence to ethical principles, and a detailed description of the organization being studied.

#### 3.1 Research Design

Research designs describe how data will be gathered and analyzed (Bryman 2017). Berman (2019) defines the research design as the theoretical and practical framework within which a researcher chooses which procedures and approaches to employ in their study. Research designs include descriptive and exploratory varieties and can be chosen depending on the goals of the investigation.

Exploration research aims to help researchers see past their current impasse. Data collected using an exploratory approach helps shape a research project in exploratory research. Therefore, descriptive research aims to characterize something, often including its attributes and capabilities. Using a descriptive design, the researcher may better gauge the breadth and depth of the research constructs (Supplier social issues, Manufacturer Social issues, Customer

social issues and cocoa supply chain performance). A descriptive research strategy, however, will be used in the present investigation.

### **3.2 Population of the Study**

In the words of Polit and Hungler (2013), the population refers to the total number of entities, individuals, or subjects that are the focus of a research study. The population for the present investigation comprises top executives such as Managing Directors, professionals like Procurement and Logistics Managers, Supply Chain Managers and Officers, Store Officers, and Employees working with Cocoa traders, specifically Licensed Buying Companies (LBCs), as well as logistics organizations within the Cocoa Supply Chain sector in the Greater Accra Region. The Greater Accra Region is known for its diversified range of Cocoa traders, including LBCs, who are instrumental in buying cocoa beans from cultivators and forwarding them to the Ghana Cocoa Board (COCOBOD) for further exportation or processing. Concurrently, the logistics companies serving the Cocoa supply chain sector furnish essential services like transportation, warehousing, and dissemination of cocoa beans and related products. The role played by these firms is pivotal in ascertaining the efficacy and productivity of the cocoa supply chain, marking a significant contribution to the overall performance of the industry within the area.

The subject population of this study involves employees working within Cocoa trading firms, including LBCs, and logistics corporations operating in the Greater Accra Region. These employees range from professionals specializing in procurement to those managing warehouses, coordinating logistics, and other pertinent roles. By concentrating on these employees, the study intends to extract insights into the opportunities, obstacles, and exemplary socially sustainable practices within the cocoa supply chain industry in this region.

For this research, the target population encompasses four hundred and twenty-five (425) companies. The selection of this population is vindicated by the fact that employees of Cocoa trading firms and logistics companies in the Cocoa Supply Chain sector, particularly in the Greater Accra Region, furnish invaluable insights into the intricacies and dynamics of the industry. These individuals, engaged actively in daily cocoa supply chain operations, have distinct insights, backgrounds, and viewpoints that can enrich understanding of the industry's challenges and possibilities. Their contributions can also lead to the recognition of optimal socially sustainable practices, possibly improving the cocoa supply chain's overall effectiveness and efficiency within the region.

### 3.3 Sampling Procedure and Sample Size

In the current research, a non-probability sampling strategy was used. With a non-probability sampling strategy, the researcher can make the call as to which potential participants to include in the study based on his or her preferences. The term "sample size" describes a certain proportion of the population selected for analysis (Treece and Treece, 2016). Yamane's formula is used to get the necessary sample size for the investigation.

**Note:** Confidence level = 95%, Margin of error = 0.5

Formula;  $n = N / \{1 + N(e)^2\}$  Where; n = sample

size N= population size e = error margin n = 425 /

$\{1 + 425 (0.05)^2\}$  n = 206.0

Therefore, the sample size = is 206

### 3.4 Data Collection

Data sources are the many channels via which information is gathered and analyzed (Bailey, 2018).

### **3.4.1 Types and Sources of Data**

The research conducted in this study relies on primary data gathered straight from the individuals participating in the survey, using a systematically organized set of questions in the form of a questionnaire. Primary data allows for the collection of specific information tailored to the research objectives and provides up-to-date and accurate information on the respondents' perspectives and experiences. The sources of data for this study include employees working in Cocoa traders (LBCs) and logistics companies in the Cocoa Supply Chain industry in the Greater Accra Region, as they possess unique insights into the social sustainability practices and supply chain performance in their respective organizations.

### **3.4.2 Methods of Data Collection.**

In the context of this research, the predominant means of assembling information is through the utilization of a self-administered questionnaire. Tailored to accumulate quantitative information on social sustainability behaviors and the performance of the supply chain in companies engaged in the cocoa supply chain sector, this approach was selected. The choice of this method is influenced by its effectiveness in gathering insights from an extensive pool of participants, the simplicity of its implementation, and the capability to generate uniform and analogous data across diverse corporate entities.

### **3.4.3 Instruments for data Collection**

For the purposes of this study, the means of gathering information is a carefully organized questionnaire, segmented into five distinct parts: A, B, C, D, and E. This instrument is crafted to collect pertinent details concerning the background of the participants, practices concerning social sustainability at the supplier, manufacturer, and customer levels, along with the overall performance within the cocoa supply chain.

Part A of the questionnaire is focused on obtaining demographic particulars of the participants, including aspects such as age, sex, educational qualifications, occupational designation, and duration of experience in the cocoa supply chain sector. Such details provide insights into the demographic profile of the respondents, allowing the investigator to discern potential connections between these demographic characteristics and the variables under study. Section B of the questionnaire focuses on the social sustainability practices implemented by suppliers in the cocoa supply chain. Respondents are asked to rate the extent to which their organization engages in various practices related to fair labor, employee well-being, and community engagement.

In Section C, respondents are asked to rate their organization's social sustainability practices at the manufacturing stage. Questions in this section cover aspects such as fair labor practices, employee welfare, and community development initiatives.

Section D of the questionnaire examines the social sustainability practices of customers in the cocoa supply chain. Respondents are asked to rate the extent to which their organization considers social sustainability aspects when selecting suppliers, as well as their involvement in community development programs and initiatives.

The final section, Section E, assesses the overall cocoa supply chain performance by examining key performance indicators such as efficiency, effectiveness, and responsiveness. Respondents are asked to rate their organization's performance in relation to these indicators. The questionnaire will be distributed to a sample of respondents from the target population, and the collected data will be analyzed using appropriate statistical techniques to draw conclusions and recommendations for the study.

### 3.5 Data Analysis

Data analysis refers to the methodical approach of arranging, scrutinizing, and interpreting accumulated data to unearth significant insights and tendencies that are instrumental in addressing research inquiries and attaining research aims. This process entails employing various statistical methodologies and instruments to simplify the comprehension of the relationships existing between variables, thereby aiding in reaching conclusions.

In the context of this study, the analysis of the data will be executed with the assistance of IBM SPSS version 26, a statistical software extensively utilized that offers an exhaustive toolkit for the management and examination of data. With its accessible interface and sophisticated analytical features, SPSS is conducive to performing an array of statistical examinations, from elementary descriptive statistics to intricate inferential statistics.

The analytical procedure in this study will be performed in a bifurcated manner, incorporating descriptive statistics followed by inferential statistics. The first segment, descriptive statistics, furnishes an overview of the primary attributes of the collected data, aiding in portraying the distribution, central tendency, and scattering of the variables. In this investigation, such statistics will encompass the mean, standard deviation, kurtosis, and skewness, all of which provide insights into the overall pattern of the data.

The second segment, inferential statistics, permits the drawing of conclusions and assumptions about the entire population, relying on the data derived from the sample. For this investigation, the inferential statistics will encompass exploratory factor analysis, Kaiser-Meyer-Olkin (KMO) evaluation of sampling suitability, and examinations of reliability and validity, in addition to Cronbach's Alpha coefficient.

Among these, Exploratory Factor Analysis (EFA) aids in detecting the fundamental configuration of a series of variables and diminishes the data's dimensionality. The Kaiser-Meyer-Olkin (KMO) Measure assists in discerning the appropriateness of implementing

factor analysis, while reliability and validity tests help in ascertaining that the questionnaire is consistent and precise. Cronbach's Alpha Coefficient is utilized to gauge the internal uniformity of a questionnaire, with a value of 0.7 or above generally deemed acceptable. Following the analytical process, the outcomes will be elucidated and debated in connection with the research queries and objectives, thereby shedding light on the influence of social sustainability practices on the performance of the cocoa supply chain.

### **3.6 Validity and Reliability**

The maintenance of validity and reliability in an investigation holds significance for confirming the authenticity of the conclusions and outcomes of the study. In this context, validity is concerned with the degree to which a tool assesses what it is designed to evaluate, and reliability is connected to the uniformity and steadiness of the apparatus used for measurement. High validity and reliability are essential for drawing accurate and generalizable conclusions from the data and maintaining the trustworthiness of the research.

Reliability and validity are essential characteristics of any research instrument, such as a questionnaire, used to collect data. The following are definitions of reliability and validity:

**Reliability:** The consistency and stability of a measurement instrument across different occasions, settings, or administrations.

**Validity:** The extent to which an instrument measures the intended construct or concept accurately.

There are several types of reliability, including:

**Test-retest reliability:** The consistency of a measurement instrument when administered at different times to the same group of respondents.

Parallel-forms reliability: The consistency of a measurement instrument when two equivalent versions of the instrument are administered to the same group of respondents.

Inter-rater reliability: The consistency of a measurement instrument when used by different raters or observers.

Internal consistency reliability: The consistency of a measurement instrument when measuring the same construct across multiple items.

On the other hand, here are various types of validity, including convergent and discriminant validity:

Convergent validity: The extent to which a measurement instrument is correlated with other instruments that measure the same construct.

Discriminant validity: Pertains to the degree to which a tool used for measurement exhibits no correlation with other apparatuses that are employed to evaluate dissimilar construct.

In the context of the research, the evaluation of validity is conducted through the utilization of Average Variance Extracted (AVE) and exploratory factor analysis. AVE functions as an index of convergent validity, signifying the mean quantum of variance in the discernible variables elucidated by the foundational construct. When the AVE value is 0.5 or surpasses this threshold, it is indicative of satisfactory convergent validity. Additionally, exploratory factor analysis serves to appraise both convergent and discriminant validity by unveiling the latent factors or constructs that account for the correlations detected within the discernible variables.

Furthermore, the assessment of reliability, also referred to as internal consistency, is executed by employing Cronbach's Alpha and Composite Reliability. The former is a gauge of internal consistency reliability that projects the degree to which the components within a scale coherently evaluate the same latent construct. A value of 0.7 or above in relation to Cronbach's

Alpha is commonly regarded as acceptable for scholarly research. Composite Reliability, on the other hand, represents an alternate gauge of internal consistency. Unlike Cronbach's Alpha, it takes into account the factor loadings of the components on the latent construct, thereby furnishing a more precise approximation of reliability, particularly in instances where the factor loadings are not uniformly distributed across the components. In this investigation, the evaluation of both validity and reliability of the measurement tool is undertaken with the objective of confirming the precision, uniformity, and credibility of the outcomes and deductions of the research.

### **3.7. Ethical Issues**

Ethics play a vital role in ensuring the integrity, credibility, and quality of research. By adhering to ethical principles, researchers ensure that the rights, well-being, and dignity of participants are protected, and that the research process is conducted responsibly and transparently (Resnik, 2015). Moreover, ethical considerations help build trust between researchers and participants, enhancing the credibility and generalizability of the study's findings.

Ethics embodies the ethical standards and directions that control the behavior of research involving human participants (Gray, 2017). These principles ensure that researchers act responsibly and with integrity, respecting the rights and dignity of participants and minimizing any potential harm or discomfort. Key ethical principles include confidentiality, anonymity, informed consent, voluntary participation, and avoiding harm or deception.

In this study, the researcher is committed to upholding the following ethical principles:

**Confidentiality:** Ensuring that the information provided by participants is kept private and secure, and that the data collected is only used for the purposes of the study.

**Anonymity:** Protecting the identity of participants by not collecting any personally identifiable information and by reporting the findings in a way that does not reveal individual identities.

Voluntary Participation: Guaranteeing that involvement in the research is completely at the discretion of the participants, who retain the right to exit the study whenever they choose without facing any consequences or bias.

To ensure compliance with ethical principles, the researcher will take the following steps:

1. Use a secure data storage system to protect the confidentiality of the collected data, and only share the data with authorized personnel involved in the research.
2. Develop the questionnaire in a way that does not collect personally identifiable information and maintain the anonymity of participants in the presentation of findings and conclusions.
3. Communicate the voluntary nature of participation to potential respondents, emphasizing their right to decline participation or withdraw from the study without any negative consequences

Through compliance with these ethical principles, the investigator's intention is to guarantee that the research is executed with responsibility, openness, and respect, safeguarding the rights and honor of those involved, while preserving the trustworthiness and uprightness of the scholarly inquiry.

### **3.8 Profile of Study Organisation(s)**

This thesis examines cocoa merchants, known as Licensed Buying Companies (LBCs), and firms involved in logistics that function within the cocoa supply chain industry in Ghana's Greater Accra Region. These entities are instrumental in buying, transporting, and distributing cocoa, a critical export for the Ghanaian economy (World Bank, 2020). LBCs engage in acquiring cocoa beans from domestic farmers, subsequently supplying them to the Ghana Cocoa Board (COCOBOD) or other entities engaged in cocoa processing (Anim-Kwapong & Frimpong, 2004). Their collaboration with small-scale farmers includes providing indispensable

support like furnishing access to necessary farming resources, outreach programs, and financial assistance (Kolavalli & Vigneri, 2011). These LBCs in Greater Accra are part of an extensive system of cocoa traders throughout Ghana, solidifying the nation's standing as one of the globe's foremost cocoa producers.

Companies responsible for logistics in the cocoa supply chain are tasked with the transport, warehousing, and allocation of cocoa beans and associated goods. These firms are essential in guaranteeing the proficient and prompt conveyance of cocoa from acquisition locations to processing plants, and eventually to the international marketplace (Amoako-Gyampah et al., 2017). Those located in the Greater Accra Region are integrated into a cohesive network of service providers upholding the cocoa industry in Ghana.

The investigation of these study organizations' commitment to socially sustainable practices forms the crux of this thesis, as it aims to explore the consequences of such practices on the performance of the cocoa supply chain. Social sustainability practices encompass principles like just employment conditions, initiatives promoting employee welfare, and programs geared towards community enhancement (Bitzer et al., 2012).

The delineation of these study organizations underscores the necessity to comprehend the social sustainability actions of LBCs and logistics firms in the cocoa supply chain. Their impact extends not only to the welfare of local farmers and communities but also to the comprehensive efficacy and success of the cocoa supply chain within the nation of Ghana.

## CHAPTER FOUR

### RESULTS AND DISCUSSIONS

#### 4.1 Introduction

The findings and discussion of the research are presented in chapter four. The study aims to determine the effects of social sustainability practices on cocoa supply chain performance in Ghana. The key elements of this chapter are the response rate, demographics, reliability and validity tests, descriptive statistics, inferential statistics and discussion of results.

#### 4.2 Response Rate

A total of 206 online surveys were distributed, and all 206 were returned for a one hundred per cent response rate (100).

#### 4.3 Demographic Characteristics of Respondents

This section displays the respondents' demographic information, including Gender, Age, Education, Work Experience, and Managerial Level. Table 4.1 provides the respondents' demographic information.

**Table 4.1 Demographic information of Respondents**

Variables		Frequency	Valid Percentage
Gender of Respondents	Male	129	62.6%
	Female	77	37.4%
Age distribution of Respondents	25 and below	30	14.6%
	26 to 35	97	47.1%
	36 to 45	9	4.4%
	46 to 54years	69	33.5%

	55years and above	1	4.4 %
The educational level of Respondents	Secondary	17	8.3%
	Diploma/HND	59	11.3%
	1 <sup>st</sup> degree	84	45.9%
	2 <sup>nd</sup> degree or more	46	15.1
Work experience of Respondents	1-4 years	60	29.1%
	5-9 years	125	60.7%
	10-14 years	19	9.2%
	Above 15 years	2	1.0%
Managerial level	Management Staff	65	31.6%
	Senior Staff	110	53.4%
	Junior staff	31	15%

**Source: Field study (2022)**

Table 4.1 indicates that most respondents are male (62.6%), while 37.4% are female. This indicates that the sample has a higher representation of male participants than female participants. In addition, the largest age group in the sample is the 26 to 35-year-olds (47.1%), followed by the 46 to 54-year-olds (33.5%). Young adults aged 25 years and below account for 14.6% of respondents, while the 36 to 45 and 55 years and above age groups are the least represented, with 4.4% and 0.5%, respectively. This suggests that the sample primarily consists of respondents in their mid-20s to mid-50s, with a smaller representation of younger and older participants. The age distribution may impact the perspectives and experiences shared by respondents in the study. Most respondents hold a 1st-degree qualification (45.9%), followed by those with a Diploma or HND (28.6%). A smaller proportion of respondents hold a

2nd degree or higher qualification (17.2%), while the smallest group comprises those with secondary education (8.3%). This indicates that the sample is generally well-educated, with most respondents having completed at least a diploma or undergraduate degree. 1-4 years of work experience (29.1%), Most respondents have 5-9 years of experience constitute (60.7%). Of the sample, followed by respondents with 10-14 years of experience (9.2%). The least represented group comprises respondents with more than 15 years of experience (1.0%). This suggests that the sample predominantly comprises respondents with extensive work experience. The largest group of respondents are senior staff members (53.4%), followed by management staff (31.6%) and junior staff (15.0%). This indicates that the sample is mostly comprised of respondents with significant responsibility within their organizations, which may provide valuable insights into the effects of social sustainability practices on cocoa supply chain performance

#### 4.4 Reliability and Validity Test

This section evaluates the validity and reliability of the Two hundred and six (206) respondents' data. Exploratory Factor Analysis (EFA) was employed to determine validity, whereas Alpha Cronbach was utilized to assess reliability. Tables 4.2, 4.3, and 4.4 contain further information regarding Alpha Cronbach and Exploratory Factor Analysis.

**Table 4.2 Alpha Cronbach Test**

Construct		Number of items	Alpha Cronbach
Supplier	Social sustainability practices	6	0.758
Manufacturer	Social sustainability practices	6	0.884
Customer	Social sustainability issues	5	0.787

**Source: Field study (2022)**

Table 4.2's reliability findings indicate that the Alpha value for Supplier Social sustainability practices is 0.758, for Manufacturer Social sustainability practices is 0.884, Customer Social sustainability issues are 0.787, and for Cocoa, Supply chain performance is 0.750. A value of Alpha larger than 0.70 is deemed acceptable; hence, all four variables display internal consistency, given that their Alpha values are greater than 0.70. Therefore, the collected data is credible.

**Table 4.3 Exploratory Factor Analysis (EFA)**

Items	Variables			
	SSSP	MSSP	CSSP	SCP
1. Child labour practices are prevalent in our suppliers' firm	0.844			
2 Human rights issues are in the supplier's firm	0.843			
3. Forced labour practices	0.650			
4. Unethical practices among suppliers	0.699			
5. Safety-related social issues on supplier's premises	0.599			
6. Corporate Social responsibility (Philanthropy)	0.654			
7. Our firm has good Diversity practice		0.606		
8. Product responsibility is our firm's priority		0.768		
9. Employment creation is high		0.511		
10. Education and training of staff		0.685		
11. Employees' wellness and safety		0.674		

12. Low Social standard (lack of employee Motivation)		0.588		
13 Our firm educates customers on product usage			0.754	
14. Our firm takes into consideration customer health and safety			0.797	
15. Customers are concerned about child labour and forced labour			0.777	
16. Customers are interested in the health and safety issues of the workers			0.941	
17. Customers are concerned about the environment and ethical issues of the firm			0.689	
18. Our company, together with supply chain partners, produces very dependable products				0.631
19. Together with our supply chain partners, our company can provide our clients with superior goods.				0.690
20. Our company and its supply chain partner have worked together to improve the quality of our goods				0.593
21 With the help of supply chain partners, our company can fill customer orders faster.				0.862
22 With the help of supply chain partners, our company can move more inventory				0.633
23. With the help of supply chain partners, our company lowers the costs of warehousing and holding inventory				0.695
23. With the help of partners in the supply chain, our company meets all delivery requirements for all products on time.				0.651
24. Our company and its partners in the supply chain agree on costs per unit				0.849
25. With the help of supply chain partners, our company offers a wide range of products and services				0.569

26. Our company and its partners in the supply chain offer customized products and services with different features.				0.778
27. With the help of supply chain partners, our company can effectively meet the different volume needs of our customers.				0.732
28 Our company and its partners in the supply chain have a short customer response time compared to the rest of the industry.				0.768
29. Our company and its partners in the supply chain respond to and meet changes in demand.				0.763

**Source: Field study (2022)** Notes: Supplier Social Sustainability practices (SSSP); Manufacturer Social Sustainability practices (MSSP); Customer Social Sustainability practices (CSSP) Supply Chain performance (SCP)

Table 4.3 outlines the validity tests findings. The table reveals that the six (6) metrics used to measure Supplier social issues have a weighting of more than 0.50 and are thus legitimate. In addition, each of the six (6) indicators used to gauge Manufacturer social issues items loaded over 0.50, making them dependable. Five (5) questions were also constructed to evaluate the Customer's social issues, all weighted over 0.50 and hence valid. Finally, supply chain performance was measured with (13) Thirteen metrics, all weighted above 0.50.

**Table 4.4 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.871
Bartlett's Test of Sphericity	Approx. Chi-Square	3907.927
	Df	435
	Sig.	.000

**Source: Field study (2022)**

The KMO test results are displayed in Table 4.4. The KMO tries to evaluate the appropriateness of the study's sample size. The KMO value for the sample size of Two hundred and Six was .871. This is greater than 0.70. Hence the sample size for the investigation was sufficient.

In addition, Bartlett's test outcomes were around Chi-Square 3907.927; Df 435; Sig..000. This shows a significant correlation between the collected data.

#### 4.5 Descriptive Statistics

This section covers in-depth descriptive analytics on Supplier Social sustainability practices, Manufacturer Social sustainability practices, Customer Social sustainability practices and Cocoa Supply chain performance. The data were analysed using descriptive statistics such as mean, standard deviation, high and low values, and kurtosis.

##### 4.5.1 Supplier Social sustainability practices

Six components were used to operationalise Supplier Social sustainability issues. Table 4.5 provides details into the descriptive results for Supplier Social sustainability issues.

**Table 4.5 Descriptive statistics – Supplier Social sustainability practices**

Variables	Min	Max	Mean	SD	Kurtosis
1. Child labour practices are not in our suppliers' firm	1	7	5.583	1.613	0.448
2 Human rights issues are less in supplier's firm	1	7	5.659	1.554	0.730
3. Forced labour practices are not prevalent in our firm	1	7	3.597	1.300	-0.368
4. Unethical practices among suppliers are low	1	7	3.545	1.343	-0.698
5. Safety-related social issues on supplier's premises	1	7	3.782	1.152	0.134
6. Corporate Social responsibility (Philanthropy)	1	6	3.374	1.159	-0.657
<b>OVERALL SCORE</b>	<b>2</b>	<b>6.333</b>	<b>4.257</b>	<b>0.835</b>	<b>-0.129</b>

**Source: Field study (2022)** SCALE: 1= "strongly disagree" via 4= "neutral" to 7= "strongly agree"

The descriptive results of Supplier social sustainability practices are provided in Table 4.5

According to the results, Child labour practices scored a mean of 5.583, indicating that, on average, suppliers do not engage in child labour practices. The standard deviation of 1.613 suggests some variation among suppliers in this regard. The second item on human rights issues also recorded a mean of 5.659, suggesting that, on average, suppliers have relatively few human rights issues. The standard deviation of 1.554 indicates that there is some variability among suppliers. The next item was Forced labour practices, which also recorded a mean of 3.597, suggesting that, on average, forced labour practices are not prevalent among suppliers. The negative kurtosis value of -0.368 indicates that the distribution of responses is relatively flat. Again, Unethical practices were the next item, which also recorded a mean of 3.545 and a standard deviation of 1.300, suggesting that, on average, suppliers engage in relatively few unethical practices. The negative kurtosis value of -0.698 indicates that the distribution of responses is relatively flat. Safety-related social issues were the next Item, which recorded a mean of 3.782, suggesting that, on average, there are some safety-related social issues on supplier's premises. The standard deviation of 1.152 indicates that there is some variability among suppliers. Lastly, Corporate Social responsibility (Philanthropy) was the last item. This recorded mean of 3.374 indicates that, on average, suppliers engage in some level of corporate social responsibility, particularly in philanthropy. The negative kurtosis value of -0.657 suggests that the distribution of responses is relatively flat.

Overall, the mean score of 4.257 indicates that, on average, suppliers are moderately socially sustainable. The positive kurtosis value of 0.835 suggests that the distribution of responses is relatively peaked. However, the negative skewness value of -0.129 indicates that the responses are relatively evenly distributed.

#### 4.5.2 Manufacturer Social sustainability practices

Six components were used to operationalise Manufacturer Social sustainability issues Table

4.6 provides details into the descriptive results for Manufacturer Social sustainability issues

**Table 4.6 Descriptive statistics – Manufacturer Social sustainability practices**

Variables	Min	Max	Mean	SD	Kurtosis
1. Our firm has good Diversity practice	2	7	4.000	1.030	-0.218
2. Product responsibility is our firm's priority	1	7	3.972	1.204	-0.472
3. Employment creation is high	1	7	3.626	1.287	-0.138
4. Education and training of staff	1	7	3.972	1.302	-0.427
5. Employees' wellness and safety	1	7	4.360	1.371	-0.592
6. Low Social standard (lack of employee Motivation)	2	7	3.981	1.262	-0.971
<b>OVERALL SCORE</b>	<b>1.67</b>	<b>6.33</b>	<b>3.9757</b>	<b>0.99454</b>	<b>-0.059</b>

**Source: Field study (2022) SCALE: 1= "strongly disagree" via 4= "neutral" to 7= "strongly agree"**

Table 4.6 summarises the extent to which responding firms inculcate Manufacturer Social sustainability issues in their operations. The first item is Diversity practice. This had a mean of 4.000, indicating that, on average, the manufacturer has a good diversity practice. The standard deviation of 1.030 suggests some variation in the manufacturer's approach to diversity. Product responsibility was the second item. The mean and standard deviation of the responses were 3.972 and 1.204, suggesting that, on average, the manufacturer prioritizes product responsibility. The third item is Employment creation. This also had a mean and a standard deviation of 3.626 and 1.287, indicating that, on average, the manufacturer has a high level of employment creation. Education and training rate was the next item. This resulted in a mean of 3.972, indicating that, on average, the manufacturer emphasises employee education and training. Respondents were also asked about Employee wellness and safety; a mean of 4.360 and a standard deviation of 1.372 were recorded. This demonstrates on average; the

manufacturer prioritizes employee wellness and safety. Again, the respondent was asked about Low social standards. This resulted in a mean of 3.981 and a standard deviation of 1.262, suggesting that, on average, the manufacturer has a low social standing, particularly regarding employee motivation. Using a seven-point scale, two hundred and six respondents yielded an average mean of 3.9757 (standard deviation= 0.99454). Overall, the manufacturer is moderately socially sustainable.

#### 4.5.3 Customer Social sustainability issues

Seven components were used to operationalise Customer Social sustainability issues. Table 4.7 details the descriptive results for Customer Social sustainability issues.

**Table 4.7 Descriptive statistics – Customer Social sustainability practices**

Variables	Min	Max	Mean	SD	Kurtosis
1. Our firm educates customers on product usage	2	7	3.744	1.161	-0.938
2. Our firm takes into consideration customer health and safety	2	7	3.858	1.246	-0.722
3. Customers are concerned about child labour and forced labour	2	7	3.896	1.212	-0.857
4. Customers are interested in the health and safety issues of the workers	1	7	5.085	1.667	-0.643
5. Customers are concerned about the environmental and ethical issues of the firm	2	7	5.744	1.296	0.625
<b>OVERALL SCORE</b>	<b>1.67</b>	<b>7</b>	<b>6.333</b>	<b>0.5274</b>	<b>0.646</b>

**Source: Field study (2022) SCALE: 1= "strongly disagree" via 4= "neutral" to 7= "strongly agree"**

Table 4.7 provides details on Customer Social sustainability practices. When asked about the firm educating customers on product usage, most respondents agreed, given a mean of 3.744

and a standard deviation of 1.161, indicating that the firm may not be doing enough to educate customers on product usage. Our firm considers customer health and safety the next item, with a mean of 3.858 and a standard deviation of 1.246. This suggests that the firm is somewhat attentive to customer health and safety. Again, Customers are concerned about child labour, and forced labour was the next item, with a mean of 3.896 and a standard deviation of 1.212. This suggests that customers are somewhat concerned about child labour and forced labour. Customers are interested in the health and safety issues of the workers was the next variable with a mean of 5.085 and a standard deviation of 1.667. This indicates that Customers are interested in the health and safety issues of the workers. Lastly, Customers are concerned about the firm's environmental and ethical issues, which recorded a mean of 5.744 and a standard deviation of 1.296, which indicates that customers are quite concerned about the environmental and ethical issues of the firm. Overall, the average score of 6.333 and standard deviation of 0.5274 suggests that the firm is doing well in addressing social sustainability issues from the customer perspective. However, there is still room for improvement, especially in educating customers on product usage and considering their health and safety.

#### 4.5.4 Cocoa Supply chain performance

Seven components were used to operationalise the Cocoa Supply chain performance. Table 4.8 details the descriptive results for Cocoa Supply chain performance.

**Table 4.8 Descriptive statistics – Customer Social sustainability issues**

Variables	Min	Max	Mean	SD	Kurtosis
1. Our company, together with supply chain partners, produces very dependable products	1	7	5.161	1.715	-0.737
2. Together with our supply chain partners, our company can provide our clients with superior goods.	1	7	5.223	1.667	-0.488

3. Our company and its supply chain partner have worked together to improve the quality of our goods	1	7	5.365	1.547	-0.327
4 Through collaboration with partners in the supply chain, the company is enabled to expedite the process of fulfilling customer orders	1	7	4.924	1.668	-0.753
5 By collaborating with partners within the supply chain, the company possesses the capability to increase the movement of inventory	1	7	5.156	1.564	0.029
6. Through collaboration with supply chain partners, the company can reduce the expenses associated with storing and maintaining inventory.	1	7	5.156	1.64	-0.221
7. Through the collaboration with associates within the supply chain, the company is able to fulfill all delivery obligations for every product in a timely manner.	1	7	5.142	1.694	-0.387
8. Our company and its partners in the supply chain agree on costs per unit	1	7	4.863	1.691	-0.861
9. With the help of supply chain partners, our company offers a wide range of products and services	1	7	4.142	1.092	-0.211
10. Our company and its partners in the supply chain offer customized products and services with different features.	1	7	4.043	1.194	-0.503
11. With the help of supply chain partners, our company can effectively meet the different volume needs of our customers.	1	7	3.839	1.217	-0.467
12 Our company and its partners in the supply chain have a short customer response time compared to the rest of the industry.	1	6	3.815	1.160	-0.766
13. Our company and its partners in the supply chain respond to and meet changes in demand.	1	7	4.185	1.320	-0.632
<b>OVERALL SCORE</b>	<b>2.46</b>	<b>7</b>	<b>6.462</b>	<b>0.756</b>	<b>-0.281</b>

Source: Field study (2022) SCALE: 1= "strongly disagree" via 4= "neutral" to 7= "strongly agree"

Table 4.8 provides details on the Cocoa Supply chain performance. Our company and supply chain partners produce very dependable products, which was the first item. This scored mean score of 5.161 indicates that, on average, respondents feel that the company is moderately dependable in terms of its product quality. The next was, Together with our supply chain partners, our company can provide our clients with superior goods". This resulted in a mean score of 5.223, indicating that, on average, respondents feel that the company is moderately able to provide superior goods. "Our company and its supply chain partner have worked together to improve the quality of our goods was the following item which recorded a mean score of 5.365, indicating that, on average, respondents feel that the company is moderately effective in improving product quality through collaboration. The next was, "With the help of supply chain partners, our company can fill customer orders faster". This recorded mean score of 4.924 indicates that, on average, respondents feel that the company is moderately effective in filling customer orders quickly.

Furthermore, "With the help of supply chain partners, our company can move more inventory" was the next construct. The mean score of 5.156 indicates that, on average, respondents feel that the company is moderately effective in moving inventory efficiently. In addition, With the help of supply chain partners, our company lowers the costs of warehousing and holding inventory" this was the next item, which a mean score of 5.156, indicating that, on average, respondents feel that the company is moderately effective in reducing these costs. Again, with partners' help in the supply chain, our company meets all delivery requirements for all products on time" was the following item. This resulted in a mean score of 5.142, indicating that, on average, respondents feel that the company is moderately effective in meeting delivery requirements. "Our company and its partners in the supply chain agree on costs per unit" was the next item, of which it recorded a mean score of 4.863, indicating that, on average, respondents feel that the company is moderately effective in agreeing on costs per unit. The

next item was” "With the help of supply chain partners, and our company offers a wide range of products and services". The mean score of 4.142 indicates that, on average, respondents feel that the company is moderately effective in offering a wide range of products and services."Our company and its partners in the supply chain offer customized products and services with different features" was the next construct, recorded a mean of 4.043, which indicates that, on average, respondents feel that their company is moderately effective in offering customized products and services. The next item was “With the help of supply chain partners, our company can meet the different volume needs of our customers effectively” the mean score of 3.839 suggests that average companies may have some difficulty meeting customer demand, but it is not a major issue. “Our company and its partners in the supply chain have a short customer response time compared to the rest of the industry.” was the next question with a mean score of 3.815 which suggests that the companies may have some room for improvement in this area, but is not significantly behind the industry standard. Lastly, “Our company and its partners in the supply chain respond to and meet changes in demand." The final item recorded 4.185 and a standard deviation of 1.320. This suggests that the company is fairly effective at responding to changes in demand.

Overall, the supply chain performance of the firms seems to be relatively strong, with an overall mean score of 6.462 and a standard deviation of 0.756.

#### **4.6 Inferential Analysis**

This section examines the links between Supplier Social sustainability issues, Manufacturer Social sustainability issues, Customer Social sustainability issues, and the Cocoa Supply chain performance. These tests are conducted using correlation and regression analysis.

#### 4.6.1 Correlation Analysis

This section evaluates the link between Supplier Social sustainability issues, Manufacturer Social sustainability issues, Customer Social sustainability issues, and the Cocoa Supply chain performance. Correlation analysis exposes the influence of one variable's changes on another.

**Table 4.8 Correlation Analysis and Descriptive Statistics**

Construct	(SSSI)	CSSI	MSSI	CSCP	Mean	SD	Kurtosis
1 Supplier sustainability practices	1	.714**	.611**	.629**	4.257	0.835	-0.129
2. Customer sustainability practices	.714**	1	.731**	.669**	3.9757	0.99454	-0.059
3. Manufacturer sustainability practices	.611**	.731**	1	.598	6.333	0.5274	0.646
4 Cocoa Supply chain performance	.629**	.669**	.598	1	6.462	0.756	-0.281

**Source: Field study (2022)** Notes \* $p < .05$ , \*\* $p < .01$ ; Supplier Social sustainability practices (SSSI) Manufacturer Social sustainability practices (MSSI); Customer Social sustainability practices (CSSI), Cocoa Supply chain performance (CSCP)

The correlational analysis for the study is shown in Table 4.8. Supplier Social sustainability practices and Customer Social sustainability practices have a substantial positive correlation (.714,  $p < 0.01$ ). There is also a considerable positive correlation between Supplier Social sustainability practices and Manufacturer Social sustainability practices (.611,  $p < 0.01$ ). The association between Manufacturer Social sustainability practices and Cocoa Supply chain performance is similarly very favourable (.598,  $p < 0.01$ ). Again, there is a positive correlation

between Customer Social sustainability practices and Manufacturer Social sustainability practices (.731,  $p < 0.01$ ).

All the correlation coefficients are positive, indicating a positive relationship between the constructs. The stronger the positive correlation coefficient, the stronger the relationship between the two constructs. The connections among the variables demonstrated a positive and statistically meaningful relationship, signifying that an increase in one variable corresponded with a growth in the others. Furthermore, the substantial linkage between these variables indicates that the degree of alteration in one variable due to a change in another is correspondingly elevated.

#### 4.6.2 Regression Analysis

This section focuses on testing the study’s hypotheses by assessing the relationships between the study variables

##### 4.6.2.1 Supplier social sustainability practices and Supply chain performance

Supplier social sustainability has a positive effect on cocoa supply chain performance. The regression results for H1 are provided below

**Table 4.9 Model Summary**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648 <sup>a</sup>	.422	.369	.74174
a. Predictors: (Constant), Supplier social sustainability				

**Source: Field study (2022)**

Table 4.9, the model summary, reveals an  $R^2$  of 0.422 and an adjusted  $R^2$  of 0.369. This implies that Supplier social sustainability practices account for 42.2% of the variation in Supply chain performance. Also, Supplier social sustainability accounts for an additional 36.9% variation in Supply chain performance.

**Table 4.10 ANOVA**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.469	1	16.080	100.856	.000
	Residual	112.237	204	0.257		
	Total	114.161	205			
a. Dependent Variable: Supply chain performance						
b. Predictors: (Constant), Supplier social sustainability practices						

**Source: Field study (2022)**

The ANOVA results in Table 4.10 shows that Supplier social sustainability practices could explain the variation in Supply chain performance, given  $p < 0.01$ . Hence, it can be stated that the changes in Supply chain performance result from supplier social sustainability practices.

**Table 4.11 Coefficient of Variation**

Coefficients <sup>a</sup>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.162	0.485		7.344	.000
	Supplier social sustainability practices	0.539	0.062	0.618	11.254	.000
a. Dependent Variable: Supply chain performance						

**Source: Field study (2022)**

The path coefficient results:  $\beta = .539$ ,  $t = 11.254$ ,  $p < .01$  shows that for every unit of Supplier social sustainability practices, there is a corresponding increase of 0.539 in Supply chain performance. This provides strong support for hypothesis one, which states there is a positive effect of supplier social sustainability on cocoa supply chain performance

**4.6.2.2 Manufacturer supplier sustainability and Supply chain performance**

H2 stated that there is a positive relationship between Manufacturer supplier sustainability practices and Supply chain performance. The regression results for H2 are provided below

**Table 4.12 Model Summary**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.580 <sup>a</sup>	.445	.325	.69787
a. Predictors: (Constant), Manufacturer supplier sustainability				

**Source: Field study (2022)**

Table 4.12, the model summary reveals an  $R^2$  of 0.445 and an adjusted  $R^2$  of 0.325. This implies that 44.5% of the variation in Supply chain performance is accounted for by Manufacturer supplier sustainability. Also, Manufacturer supplier sustainability accounts for an additional 32.5% variation in Supply chain performance.

**Table 4.13 ANOVA**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.809	1	14.809	30.408	.000
	Residual	99.352	204	0.487		
	Total	114.161	205			

a. Dependent Variable: Supply chain performance
b. Predictors: (Constant), Manufacturer supplier sustainability

**Source: Field study (2022)**

The ANOVA results in Table 4.13 shows that Manufacturer supplier sustainability could explain the variation in Supply chain performance, given  $p < 0.01$ . Hence, it can be stated that the changes in Supply chain performance are a result of Manufacturer supplier sustainability.

**Table 4.14 Coefficient of Variation**

Coefficients <sup>a</sup>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.593	0.201		17.891	.000
	Manufacturer supplier sustainability	0.470	0.049	0.360	11.514	.000

a. Dependent Variable: Supply chain performance

**Source: Field study (2022)**

According to Table 4.14, for every unit of Manufacturer supplier sustainability, there is a 0.470 increase in Supply chain performance given the path coefficient result:  $\beta = .470$ ,  $t = 11.514$ ,  $p < .01$ . There is significant support, therefore, for H2, there is a positive relationship between Manufacturer supplier sustainability practices and Supply chain performance.

**4.6.2.3 Customer social sustainability practices and Supply chain performance**

H3 stated that there is a significant positive relationship between customer social sustainability practices and supply chain performance. The regression results for H3 are provided below

**Table 4.15 Model Summary**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.456 <sup>a</sup>	.408	.304	.66575
a. Predictors: (Constant), Customer social sustainability practices				

Source: Field study (2022)

Table 4.15, the model summary reveals an  $R^2$  of 0.408 and an adjusted  $R^2$  of 0.304. This implies that Customer social sustainability practices account for 40.8% of the variation in Supply chain performance. Also, Customer social sustainability practices account for an additional 30.4% variation in Supply chain performance.

**Table 4.16 ANOVA**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.742	1	23.742	53.566	.000
	Residual	90.419	204	0.443		
	Total	114.161	205			
a. Dependent Variable: Supply chain performance						
b. Predictors: (Constant), Customer social sustainability practices						

Source: Field study (2022)

The ANOVA results in Table 4.16 shows that Customer social sustainability practices could explain the variation in Supply chain performance, given  $p < 0.01$ . Hence, it can be stated that the changes in Supply chain performance result from customer social sustainability practices.

**Table 4.17 Coefficient of Variation**

Coefficients <sup>a</sup>
---------------------------

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.814	0.257		17.891	.000
	Customer social sustainability practices	0.417	0.057	0.456	10.319	.000

a. Dependent Variable: Supply chain performance

**Source: Field study (2022)**

According to Table 4.17, for every unit of Customer social sustainability practices, there is a 0.417 increase in Supply chain performance given the path coefficient result:  $\beta = .417$ ,  $t = 10.319$ ,  $p < .01$ . There is significant support, therefore, for H3, there is a significant positive relationship between customer social sustainability practices and supply chain performance

**4.7 Hypotheses Confirmation**

Hypothesis	Path	Expected effect	Results	Decision
H <sub>1</sub>	SSSP → SCP	3.86	.539; $p < 0.01$	Supported
H <sub>2</sub>	MSSP → SCP	4.32	.470; $p < 0.01$	Supported
H <sub>3</sub>	CSSP → SCP	0.21	.417; $p < 0.01$	Supported

**Source: Field Study (2022) Notes:** Supplier Social sustainability practices (SSSI Manufacturer Social sustainability practices (MSSI); Customer Social sustainability practices (CSSI), Cocoa Supply chain performance (CSCP)

**4.8 Discussion of findings**

Based on the study’s hypotheses, the results of the regression analyses are discussed further

#### 4.8.1 Supplier social sustainability practices and Supply chain performance

Several studies have demonstrated that adopting social sustainability practices can improve supply chain performance (Gimenez & Tachizawa, 2012; Pagell & Wu, 2009). For example, improved labour conditions, fair wages, and the eradication of child labour can enhance supplier reputation, reduce risks, and contribute to a more stable supply chain. In addition, Previous research has suggested that socially sustainable practices among suppliers can lead to improved supply chain performance (Awaysheh & Klassen, 2010). In the context of the cocoa industry, social sustainability practices can include ensuring fair labour conditions, providing a living wage, and eliminating child labour (Davies, Ryals, & Holt, 2010). Carter and Jennings (2002) found that by addressing social issues and adopting ethical practices, suppliers can strengthen their relationships with other stakeholders and enhance their overall supply chain performance. By engaging in social sustainability practices, cocoa suppliers can enhance their relationships with other stakeholders and create a more resilient supply chain. Socially responsible practices can lead to higher worker satisfaction and retention, improving productivity and reducing supply disruptions. Furthermore, as socially responsible suppliers are perceived as more legitimate and reliable, they may attract more business from manufacturers and retailers, improving overall supply chain performance. . The outcomes of previous research align with the results obtained in this study, as evidenced by the values of the path coefficients  $\beta = .539$ ,  $t = 11.254$ ,  $p < .01$ , shows that for every unit of Supplier social sustainability practice, there is a corresponding increase of 0.539 in Supply chain performance. Hence hypothesis one, which stated there is a positive effect of supplier social sustainability on cocoa supply chain performance, is supported.

#### **4.8.2 Manufacturer supplier sustainability and Supply chain performance**

Manufacturers are critical in promoting social sustainability practices within the supply chain. By adopting such practices, manufacturers can enhance their performance and contribute to the overall performance of the supply chain (Awaysheh & Klassen, 2010). For instance, Seuring and Müller (2008) found that when manufacturers engage in ethical sourcing and fair labour practices, they can reduce risks associated with suppliers and improve the resilience of their supply chain. Additionally, manufacturers can foster goodwill by investing in local communities and creating a more reliable and efficient supply network (Beske et al., 2014). Again, Research has shown that when manufacturers invest in socially sustainable practices, they can experience improvements in their supply chain performance (Beske, Land, & Seuring, 2014; Busse, Schleper, Weilenmann, & Wagner, 2017). These practices can include fair labour conditions, ethical sourcing, and investment in local communities. The findings of this study are consistent with previous studies on Manufacturer supplier sustainability on supply chain performance, given path coefficient values:  $\beta = .470$ ,  $t = 11.514$ ,  $p < .01$ , indicating that for every unit of Manufacturer supplier sustainability, a proportional improvement in supply chain performance of 0.470 is realised. Therefore, hypothesis two, which suggested a positive relationship between Manufacturer supplier sustainability practices and Supply chain performance, is supported.

#### **4.8.3 Customer social sustainability practices and Supply chain performance**

Customers are vital stakeholders in the cocoa supply chain, and their preferences can significantly impact the practices of suppliers and manufacturers. By supporting socially responsible products, customers can drive companies to adopt more sustainable practices, leading to better supply chain performance. Several studies have found that customers are increasingly concerned about their products' social and environmental impacts (Devin &

Richards, 2018; Luchs, Naylor, Irwin, & Raghunathan, 2010). This growing consumer awareness can lead to higher demand for socially sustainable products, incentivizing companies to adopt more responsible practices in their supply chains. Customers are crucial in driving social sustainability practices within the cocoa industry. Several studies have shown that consumers are increasingly concerned about their consumption choices' social and environmental impacts (Devin & Richards, 2018; Luchs et al., 2010). By supporting companies that engage in socially responsible practices, customers can create market demand for sustainable products, ultimately encouraging suppliers and manufacturers to improve their social and environmental performance (Hartmann & Moeller, 2014). In turn, companies that invest in social sustainability can experience improved reputations, customer loyalty, and supply chain performance (Bhattacharya & Sen, 2004; Busse et al., 2017). When customers prioritize social sustainability, they create market demand for products that adhere to these principles. This demand can encourage companies to invest in more sustainable practices, leading to a more efficient and responsible supply chain. In turn, companies that address social sustainability concerns are likely to experience improved reputations, customer.

This is consistent with prior studies, given that the path coefficient results for Model three.:  $\beta = .417$ ,  $t = 10.319$ ,  $p < .01.$ , offered significant support for hypothesis three, which is that there is a significant positive relationship between customer social sustainability practices and supply chain performance

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter provides an overview of the findings and some conclusions, recommendations, and ideas for further research.

#### 5.1 Summary of Findings

In this part, the study's important findings are summarized.

##### 5.1.1 Supplier social sustainability practice

The study discovers that higher Supplier social sustainability practice impacts supply chain performance in the Greater Accra Region, with a mean and standard deviation of 4.257 and 0.835, respectively.

##### 5.1.2 Manufacturer social sustainability practice

The study also discovered that Manufacturer social sustainability practices considerably impacted supply chain performance, with a mean and standard deviation of 3.9757 and 0.9945, respectively.

##### 5.1.3 Customer social sustainability practices

The study also revealed strong Customer social sustainability practices in these firms, considering a mean of 6.333 (standard deviation= 0.5274) was recorded.

##### 5.1.4 Supplier social sustainability practices and Supply chain performance

The study finds that there is a positive effect of Supplier social sustainability practices on Supply chain performance.

**5.1.5 Manufacturer social sustainability practices and Supply chain performance** The study also finds that there is a positive relationship between Manufacturer social sustainability practices and Supply chain performance.

#### **5.1.6 Customer social sustainability practices and Supply chain performance**

The study also revealed a positive effect of Customer social sustainability practices and Supply chain performance.

### **5.2 Conclusion**

This study investigated the effects of social sustainability practices on cocoa supply chain performance in Ghana by examining the relationship between supplier, manufacturer, and customer social sustainability practices and supply chain performance. The findings support the initial hypotheses and suggest a positive relationship between social sustainability practices and supply chain performance in the cocoa industry. The study makes the following conclusions based on data obtained from Two hundred and six respondents within Ghana's Cocoa supply chain industry. The results indicate that suppliers who adopt socially responsible practices, such as fair labour conditions and ethical sourcing, can enhance their legitimacy and relationships with other stakeholders, leading to improved supply chain performance. Manufacturers that engage in socially sustainable practices, such as ethical sourcing and investment in local communities, can reduce risks and create more efficient supply chains. Furthermore, they can gain a competitive advantage by appealing to increasingly socially conscious customers.

Customers exert a substantial influence on encouraging companies to embrace practices that are more sustainable. By prioritizing socially responsible products, they create market demand for products that adhere to social sustainability principles. This demand can encourage

companies to invest in more sustainable practices, leading to a more efficient and responsible supply chain.

### **5.3 Recommendations**

Based on the research findings, this section provides conclusions and recommendations.

#### **5.3.1 Recommendations for managers**

Based on the study's findings, the following recommendations can be provided to managers of the cocoa industry to enhance supply chain performance through social sustainability practices.

**Invest in Supplier Development Programs:** Managers should invest in supplier development programs to improve social sustainability practices. These programs can include training and capacity-building initiatives that help suppliers understand the importance of fair labour conditions, ethical sourcing, and community engagement. Managers can create a more resilient and efficient supply chain by assisting suppliers in implementing such practices. Moreover, these programs can strengthen relationships between suppliers and other stakeholders, contributing to better collaboration and overall supply chain performance.

**Secondly, Establish Transparent and Ethical Sourcing Policies:** Managers should develop and implement transparent and ethical sourcing policies within their organizations. These policies should clearly outline the company's expectations regarding social sustainability, such as labour rights, workplace safety, and environmental standards. By setting clear guidelines, managers can ensure that their suppliers adhere to socially responsible practices and reduce the risk of supply chain disruptions due to non-compliance. Additionally, transparent sourcing policies can improve the company's reputation among customers, investors, and other stakeholders, leading to a competitive advantage in the market.

Lastly, engage with Customers and Promote Socially Sustainable Products. Managers should actively engage with customers to understand their preferences and concerns related to social sustainability. This can be achieved through marketing campaigns, product labelling, and consumer education initiatives promoting socially sustainable products' benefits. By communicating the company's commitment to social sustainability and showcasing the positive impact of these practices on the cocoa supply chain, managers can attract more socially conscious customers and drive demand for their products. This increased demand can encourage the supply chain to adopt more sustainable practices, leading to better overall performance. Köksal, D et al (2017)

In summary, managers in the cocoa supply chain industry should invest in supplier development programs, establish transparent and ethical sourcing policies, and engage with customers to promote socially sustainable products. By implementing these recommendations, managers can enhance their supply chain performance and contribute to the long-term success and resilience of the cocoa industry.

### **5.3.2 Suggestions for Future Research**

This study, like any other, has limitations that future researchers in similar topics should be aware.

First, Sample Demographics limitation. The sample demographics in this study may not fully represent the entire cocoa supply chain as these samples focus only on greater Accra firms. This potential bias could affect the generalizability of the findings. Future research should aim to obtain a more diverse and representative sample that includes a more balanced gender distribution, a broader age range, and varied work experience levels. This would allow for a more comprehensive understanding of the effects of social sustainability practices on cocoa supply chain performance across different demographic groups.

Secondly, Cross-sectional Study Design. The study's cross-sectional design only provides a snapshot of the relationship between social sustainability practices and supply chain performance at a specific time. This design does not account for the potential changes in social sustainability practices or supply chain performance over time, which could limit the study's ability to establish causal relationships. Longitudinal studies should be conducted to analyse the effects of social sustainability practices on cocoa supply chain performance over time. This would allow researchers to examine the long-term impacts of implementing social sustainability practices and better understand the causal relationships between these practices and supply chain performance.

Lastly, Cultural, Political, and Economic Contexts. The study primarily focused on the cocoa supply chain in Ghana, which may limit the applicability of the findings to other cultural, political, and economic contexts. Different regions may face unique challenges and opportunities in implementing social sustainability practices, which could affect the relationship between these practices and supply chain performance. Future research should explore the effects of social sustainability practices on cocoa supply chain performance in various countries and regions with different cultural, political, and economic contexts. By examining these relationships in different settings, researchers can better understand the generalizability of the findings and develop more tailored recommendations for the successful implementation of social sustainability practices in diverse contexts.

## REFERENCES

Ahi, P., & Searcy, C. (2013). A comparative literature analysis of green and sustainable supply chain management definitions. *Journal of Cleaner Production*, 52, 329-341

- Ahoa, E.; Kassahun, A.; Tekinerdogan, B.(2020) Business processes and information systems in the Ghana cocoa supply chain: A survey study. *NJAS-Wageningen. J. Life Sci.*, 92, 100323. [CrossRef]
- Amusan, O. A., Amusan, F. O., Braimoh, A., & Oguntunde, P. (2005). Quality management 590 practices in cocoa production in South-Western Nigeria. Conference on International Research 591 on food security, natural resource management and rural development.
- Anang, B. T., Mensah, F., & Asamoah, A. (2013). Farmers' assessment of the government 595 spraying program in Ghana. *Journal of Economics and Sustainable Development*.
- Antonio, D.C.; Aikins, E.D.( 2009) Reforming Ghana's Cocoa Sector—An Evaluation of Private Participation in Marketing. Available online
- Antwi Opoku, C., Aboagye, M.O., Justice, O.A., Margaret, O.B. ( 2015). Information efficiency and the cocoa supply chain in Ghana. *American International Journal of Social Science*
- Argyres, N. and McGahan, A.M. (2002), "Introduction: Michal Porter's competitive strategy", *The Academy of Management Executive*, Vol. 16 No. 2, pp. 41-42
- Awaysheh, A., & Klassen, R. D. (2010). The impact of supply chain structure on supplier socially responsible practices. *International Journal of Operations & Production Management*, 30(12), 1246-1268.
- Awua, P. K. (2002). *Cocoa processing and chocolate manufacture in Ghana*. UK: David 605 Jamieson and Associates Press
- Awuah-Gyawu, M.; Brako, S.; Adzimah, E . ( 2015) Assessing the challenges facing cocoa production in Ghana. A case of selected licensed buying companies in Ashanti RegionGhana. *J. Supply Chain Manag.*
- Baah, B.F.; Anchirinah, V.; Badger, E.; Badu-Yeboah, A ( 2012),. Examining the Cocoa Farmer- Purchasing Clerk Relationship in Ghana. *Glob. J. Sci. Front. Res.*

- Bai, C., & Sarkis, J. (2011). Evaluating supplier development programs with a grey-based rough set methodology. *Expert Systems with Application*, 38, 13505–13517
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of sustainable corporate development. *Strategic Management Journal*, 26(3), 197-218
- Beg, M.S., Ahmed, S., Jan, K., (2017). Status, supply chain and processing of cocoa—a review. *Trends Food Sci. Technol.* 66, 108–118
- Belal, A. R., & Roberts, R. W., 2010. Stakeholders' perceptions of corporate social reporting in Bangladesh. *Journal of Business Ethics.* 97(2), 311-324.
- Bhattacharya, C. B., & Sen, S. (2004). Doing better at doing good: When, why, and how consumers respond to corporate social initiatives. *California Management Review*, 47(1), 9-24.
- Brønn, P. S., & Vidaver-Cohen, D. (2009). Corporate motives for the social initiative: Legitimacy, sustainability, or the bottom line? *Journal of Business Ethics*, 87(1), 91-109.
- Brundtland, G. H. (1987). What is sustainable development? Our common future.
- Brundtland, G. H. (1987). World commission on environment and development: Our common future. Oxford University Press, New York
- Buchholz, R. A., & Rosenthal, S. B., (2005). Toward a contemporary conceptual framework for stakeholder theory. *Journal of Business Ethics.*
- Busse, C., Schleper, M. C., Weilenmann, J., & Wagner, S. M. (2017). Extending the supply chain visibility boundary: Utilizing stakeholders for identifying supply chain sustainability risks. *International Journal of Physical Distribution & Logistics Management.*
- Busse, C., Schleper, M. C., Weilenmann, J., & Wagner, S. M. (2017). Extending the supply chain visibility boundary: Utilizing stakeholders for identifying supply chain sustainability risks. *International Journal of Physical Distribution & Logistics Management*, 47(1), 18-40.

- Campbell, D., Craven, B., & Shrives, P., (2003). Voluntary social reporting in three FTSE sectors: a comment on perception and legitimacy. *Accounting, Auditing & Accountability Journal*.
- Carter, C. R., & Jennings, M. M. (2002). Social responsibility and supply chain relationships. *Transportation Research Part E: Logistics and Transportation Review*, 38(1), 37-52.
- Carter, C. R., & Rogers, D. S. (2008). A framework of sustainable supply chain management: moving toward new theory. *International Journal of Physical Distribution & Logistics Management*, 38(5), 360-387.
- Carter, C.R., Jennings, M.M., (2004). The role of purchasing in corporate social responsibility: a structural equation analysis. *Journal of Business Logistics*. 25(1), 145-186.
- Carter, C.R.; Rogers, D.S., 2008. A framework of sustainable supply chain management: moving toward new theory. *Int. J. Phys. Distrib. Logist. Manag.* 38, 360–387.
- Chin, T.A., Tat, H.H., (2015). Does gender diversity moderate the relationship between supply chain management practice and performance in the electronic manufacturing services industry? *International*
- Chopra, S., & Meindl, P. (2017). Supply chain management. Strategy, planning & operation. In *Das summa summarum des management*.
- Chowdhury, M. M. H. (2014). Supply chain sustainability and resilience: The case of the apparel industry in Bangladesh (Doctoral dissertation, Curtin University).
- Clarkson, M. B. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *The Academy of Management Review*, 20(1), 92–117
- Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review*, 20(1), 92-117
- Cocoa is Ghana; Ghana is Cocoa!. *Mini Diary*, P.14
- CRS Report RL32990. (2005). Child Labor in West African Cocoa Production: Issues and US

Policy.

- Daily, B. F., & Huang, S. C., (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management*. 21(12),
- Davies, I. A., Ryals, L. J., & Holt, S. (2010). Relationship management: A sales role or a state of mind? An investigation of functions
- De Brito, M. P., Carbone, V., & Blanquart, C. M., 2008. Towards a sustainable fashion retail supply chain in Europe: Organisation and performance. *International Journal of Production Economics*
- Deans, H.; Ros-Tonen, M.A.F.; Derkyi, M. ( 2018 )Advanced Value Chain Collaboration in Ghana's Cocoa Sector: An Entry Point for Integrated Landscape Approaches? *Environ.*
- Deegan, C., 2002. Introduction: The legitimizing effect of social and environmental disclosures—a theoretical foundation. *Accounting, Auditing & Accountability Journal*.
- Delai, I., & Takahashi, S., 2013. Corporate sustainability in emerging markets: insights from the practices reported by the Brazilian retailers. *Journal of Cleaner Production*. 47, 211221.
- Deming, W. E., (1986). *Out of the Crisis*. Massachusetts Institute of Technology, Center for Advanced Engineering Study, Cambridge, MA 02139, USA
- Ehrgott, M., Reimann, F., Kaufmann, L., & Carter, C. R. (2011). Social sustainability in selecting emerging economy suppliers. *Journal of business ethics*, 98(1), 99-119.
- Elkington, J., 1997. Cannibals with forks. In *The triple bottom line of the 21st century*. Capstone Publishing, Oxford
- Elkington, J., 2000. Towards the sustainable corporation: Win-win-win business strategies for sustainable development. *California Management Review*. 36(2), 90- 100.

- Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. *International Journal of Production Economics*,
- Faisal, M. N., Banwet, D. K. et al. (2006). Supply chain risk mitigation: modelling the enablers. *Business Process Management Journal*, 12(4), 535-552.
- Financial Times, (2015), CME and ICE to go Head to Head with New Cocoa Contract, published on March 23, 2015
- Friedman, A. L., & Miles, S. (2006). *Stakeholders: Theory and practice*. OUP Oxford.
- Ghana COCOBOD, 2011. Executive Diary. Ghana Cocoa Board (2009).
- Giovannucci, D., & Ponte, S. (2005). Standards as a new form of social contract? Sustainability initiatives in the coffee industry. *Food policy*, 30(3).
- Golicic, S.L. and Smith, C.D. (2013), "A meta-analysis of environmentally sustainable supply chain management practices and firm performance", *Journal of Supply Chain Management*, Vol. 49 No. 2, pp. 78-95.
- Gooyert, V. D., & Größler, A. (2018). On the differences between theoretical and applied system dynamics modelling.
- Gopalakrishnan, K., Yusuf, Y. Y., Musa, A., Abubakar, T., & Ambursa, H. M., (2012). Sustainable supply chain management: A British Aerospace (BAe) Systems case study. *International Journal of Production Economics*. 140(1), 193-203
- Govindan, K., Khodaverdi, R., & Jafarian, A. (2013). A fuzzy multi-criteria approach for measuring the sustainability performance of a supplier based on a triple bottom line approach. *Journal of Cleaner Production*, 47, 345-354
- Govindan, K., Shankar, K. M., & Kannan, D. (2020a). Achieving sustainable development goals through identifying and analyzing barriers to the industrial sharing economy: A framework development. *International Journal of Production Economics*, 227, 107575.

- Govindan, K., Shaw, M., & Majumdar, A. (2021). Social sustainability tensions in the multitier supply chain: A systematic literature review towards conceptual framework development. *Journal of Cleaner Production*, 279, 123075.
- Green Jr, K. W., Zelbst, P. J., Meacham, J., & Bhadauria, V. S. (2012). Green supply chain management practices: impact on performance. *Supply Chain Management: An International Journal*, 17(3), 290-305
- Hacking, T., & Guthrie, P. (2007), "A Framework for Clarifying the Meaning of Triple BottomLine, Integrated, and Sustainability Assessment", *Environmental Impact Assessment Review*, Vol. 28, pp. 73-89.
- Hartmann, J., Moeller, S., 2014. Chain liability in multi-tier supply chains? Responsibility attributions for unsustainable supplier behaviour. *J. Oper. Manag.* 32, 281–294
- Hojmosse, S., Brammer, S., & Millington, A. (2013). An empirical examination of the relationship between business strategy and socially responsible supply chain management. *International Journal of Operations and Production Management*, 33(5), 589–621
- hu, Q., Sarkis, J., & Lai, K. H. (2008). Confirmation of a measurement model for green supply chain management practices implementation. *International Journal of Production Economics*, 111(2), 261-273.
- Huq, F. A., Chowdhury, I. N., Klassen, R. D., (2016). Social management capabilities of multinational buying firms and their emerging market suppliers: An exploratory study of the clothing industry. *Journal of Operations Management Research and Applications*. 18(1), 35-45
- Huq, F. A., Stevenson, M., & Zorzini, M. (2014). Social sustainability in developing country suppliers: An exploratory study in Bangladesh's ready-made garments industry. *International Journal of Operations & Production Management*.

- Huq, F.A., Stevenson, M., Marta Zorzini, (2014). Social sustainability in developing country suppliers an exploratory study in Bangladesh's ready-made garments industry. *Int. J. Oper. Prod. Manag.* 34, 610–638. <https://doi.org/10.1108/IJOPM-10-2012-0467>
- Javadian, N., KHANI, M., & Mahdavi, I. (2012). identifying the factors effective on supply chain performance and improving them using system dynamics techniques (case study: darugar company).
- Jha, A., Acharya, D., & Tiwari, M. K. (2017). Humanitarian relief supply chain: a multiobjective model and solution. *Sādhanā*, 42(7), 1167-1174.
- Jones, P., Comfort, D., Hillier, D., & Eastwood, I., (2005). Retailers and sustainable development in the UK. *International Journal of Retail & Distribution Management*
- Junior, F. H., Galleli, B., Gallardo-Vázquez, D., & Sánchez-Hernández, M. I., (2017). Strategic aspects in sustainability reporting in oil & gas industry: The comparative case-study of Brazilian Petrobras and Spanish Repsol. *Ecological Indicators*. 72, 203- 214.
- klassen, R. D., & Vereecke, A. (2012). Social issues in supply chains: Capabilities link responsibility, risk (opportunity), and performance. *International Journal of Production Economics*, 140(1), 103–115.
- Köksal, D., Strähle, J., Müller, M., Freise, M., 2017. Social Sustainable Supply Chain Management in the Textile and Apparel Industry—A Literature Review. *Sustainability* 9, 100. <https://doi.org/10.3390/su9010100>
- Kolk, A., Hong, P., & Van Dolen, W., 2010. Corporate social responsibility in China: an analysis of domestic and foreign retailers' sustainability dimensions. *Business Strategy and the Environment*.
- Koo, C., Chung, N., & Ryoo, S. Y. (2014). How does ecological responsibility affect manufacturing firms' environmental and economic performance? *Total Quality Management & Business Excellence*, 25(9-10), 1171-1189

- Krajewski, L. J., Ritzman, L. P., & Malhotra, M. K. (2013). *Operations management: Processes and supply chains*. New Jersey: Pearson.
- Krause, D. R., Handfield, R. B., & Tyler, B. B. (2007). The relationships between supplier development, commitment, social capital accumulation and performance improvement. *Journal of Operations Management*, 25(2), 528–545
- Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management. *Industrial marketing management*, 29(1), 65-83.
- Laplume, A. O., Sonpar, K., & Litz, R. A., (2008). Stakeholder theory: Reviewing a theory that moves us. *Journal of Management*.
- Lipp, M., Anklam, E. (1998). Review of cocoa butter and alternate fats used in 703 chocolate- Part A. Compositional data. *Food Chemistry*. 62 (1): 73-97.
- Mani, V., Agarwal, R., Gunasekaran, A., Papadopoulos, T., Dubey, R., & Childe, S. J. (2016). Social sustainability in the supply chain: Construct development and measurement validation. *Ecological indicators*, 71, 270-279.
- Marshall, D., McCarthy, L., McGrath, P., & Claudy, M. (2015). Going above and beyond: how sustainability culture and entrepreneurial orientation drive social sustainability supply chain practice adoption. *Supply Chain Management: An International Journal*.
- Marshall, D., McCarthy, L., McGrath, P., Marius Claudy, 2015. Going above and beyond: how sustainability culture and entrepreneurial orientation drive social sustainability supply chain practice adoption. *Supply Chain Manag. An Int. J.* 20, 434–454.
- Marta Zorzini; Linda C. Hendry; Fahian Anisul Huq; Mark Stevenson, 2015. Socially responsible sourcing: reviewing the literature and its use of theory. *Int. J. Oper. Prod. Manag.* 35, 60–109.

- Meinlschmidt, J., Schleper, M.C., Foerstl, K., 2018. Tackling the sustainability iceberg: A transaction cost economics approach to lower tier sustainability management. *Int. J. Oper. Prod. Manag.* 38, 1888–1914
- Mena, C., Humphries, A., Choi, T.Y., 2013. Toward a Theory of Multi-tier Supply Chain Management. *J. Supply Chain Manag.* 49, 58–77.
- Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G. (2015). Définir le supply chain management. *Logistique & Management*, 23(4), 7-24.
- Miller, K. B., Hurst, W. J., Payne, M. J., Stuart, D. A., Apgar, J., Sweigart, D. S., et al., 709 (2008). Impact of alkalization on the antioxidant and flavanol content of commercial cocoa 710 powders. *Journal of Agricultural and Food Chemistry*
- Monastyrnaya, E., Joerin, J., Dawoe, E., Six, J ( 2016). Assessing the Resilience of the Cocoa Value Chain in Ghana
- Mont, O., & Leire, C. (2009). Socially responsible purchasing in supply chains: Drivers and barriers in Sweden. *Social Responsibility Journal*, 5(3), 388–4
- Moxham, C., & Kauppi, K. (2014). Using organizational theories to further our understanding of socially sustainable supply chains: the case of fair trade. *Supply Chain Management: An International Journal*.
- Mugenda, O. M., & Mugenda, G. A.(2013). *Research methods*.
- Nazarian, D., Camp, J. S., Chung, Y. G., Snurr, R. Q., & Sholl, D. S. (2017). Large-scale refinement of metal-organic framework structures using density functional theory. *Chemistry of Materials*, 29(6), 2521-2528.
- Pagell, M., Wu, Z., (2009). Building a more complete sustainable supply chain management theory using case studies of 10 exemplars. *Journal of supply chain management*.

- Parkin, S., Sommer, F., & Uren, S. (2003), "Sustainable Development: Understanding the Concept and Practical Challenge", *Engineering Sustainability*, Vol. 156 No.1, pp. 19-26.
- Porter, M.E. and Kramer, M.R. (2006), "Strategy and society: the link between competitive advantage and corporate social responsibility", *Harvard Business Review*, Vol. 84 No. 12, pp. 78-92.
- Porter, M.E. and van der Linde, C. (1995), "Green and Competitive", *Harvard Business Review*, Vol. 73 No. 5, pp. 120-34.
- Preuss, L. (2009). Ethical sourcing codes of large UK-based corporations: Prevalence, content, limitations. *Journal of Business Ethics*, 88(4), 735–747
- Pullman, M. and Dillard, J. (2010), "Values-based supply chain management and emergent organizational structures", *International Journal of Operations and Production Management*, Vol. 30 No. 7, pp. 744-771
- Pullman, M. E., Maloni, M. J., & Carter, C. R., (2009). Food for thought: social versus environmental sustainability practices and performance outcomes. *Journal of Supply Chain Management*. 45(4), 38
- Pullman, M. E., Maloni, M. J., & Dillard, J. (2010). Sustainability practices in food supply chains: how is wine different? *Journal of Wine Research*, 21(1),
- Qorri A, Mujkić Z, Kraslawski A, (2018). A conceptual framework for measuring sustainability performance of supply 30 chains, *Journal of Cleaner Production*, 189, 510-584.
- Rao, P. (2002). Greening the supply chain: a new initiative in Southeast Asia. *International Journal of Operations & Production Management*, 22(6), 632-655
- Reynolds, M., & Yuthas, K,( 2008). Moral discourse and corporate social responsibility reporting. *Journal of Business Ethics*.
- Roberts, R. W., & Mahoney, L. (2004). Stakeholder conceptions of the corporation: Their meaning and influence in accounting research. *Business Ethics Quarterly*,

- Roberts, S. (2003), "Supply Chain Specific? Understanding the Patchy Success of Ethical Sourcing Initiatives", *Journal of Business Ethics*, Vol. 44 No. 2, pp. 159-170.
- Roldan, M.B.; Fromm, I.; Aidoo, R.; Roldan, M.B.; Fromm, I.; Aidoo, R. (2013) From Producers to Export Markets: The Case of the Cocoa Value Chain in Ghana.
- Rosen, C. M., 2001. Environmental strategy and competitive advantage: an introduction. *California Management Review*. 43(3), 8.
- Rothenberg, S., Pil, F. K., & Maxwell, J., (2001). Lean, green, and the quest for superior environmental performance. *Production and Operations Management*. 10(3), 228-243
- Roy, V., Schoenherr, T. and Charan, P. (2018), "The thematic landscape of literature in sustainable supply chain management (SSCM)", *International Journal of Operations and Production Management*, Vol. 38 No. 4, pp. 1091-1124
- Sancha, C., Gimenez, C., Sierra, V., Kazeminia, A., 2015. Does implementing social supplier development practices pay off? *Supply Chain Management: An International Journal*. 20(4), 389-403.
- Sayed, M., Hendry, L.C. and Bell, MZ (2017), "Institutional complexity and sustainable supply chain management practices", *Supply Chain Management-an International Journal*, Vol. 22 No. 6, pp. 542-563.
- Seth, D., Shrivastava, R. L., & Shrivastava, S. (2016). An empirical investigation of critical success factors and performance measures for green manufacturing in the cement industry. *Journal of Manufacturing Technology Management*, 27(8), 1076-1101.
- Sodhi, M. S. 2015. "Conceptualizing Social Responsibility in Operations via Stakeholder Resource-Based View." *Production and Operations Management* 24 (9):
- Sodhi, M. S., & Tang, C. S. (2018). Corporate social sustainability in supply chains: a thematic analysis of the literature. *International Journal of Production Research*, 56(1-2), 882901.

- Suchman, M. C., 1995. Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*. 20(3), 571-610.
- Tachizawa, E. M., & Wong, C. Y. (2015). The performance of green supply chain management governance mechanisms: A supply network and complexity perspective. *Journal of Supply Chain Management*,
- Takizawa, E.M., Wong, C.Y., 2014. Towards a theory of multi-tier sustainable supply chains: A systematic literature review. *Supply Chain Manag.* 19, 643–653.  
<https://doi.org/10.1108/SCM02-2014-0070>
- Tang, L., & Li, H., 2009. Corporate social responsibility communication of Chinese and global corporations in China. *Public Relations Review*. 35(3), 199-212.
- Timothy J., Coelli, D., Christopher J. O'Donnell, G. and George, E. B. (2015). An introduction to efficiency and productivity analysis
- Tsoi, J. (2010). Stakeholders' perceptions and future scenarios to improve corporate social responsibility in Hong Kong and Mainland China. *Journal of Business Ethics*, 91(3), 391-404
- United Nations Framework Convention on Climate Change. (2015). Paris Climate Change Conference - November 2015. [http://unfccc.int/meetings/paris\\_nov\\_2015/meeting/8926.php](http://unfccc.int/meetings/paris_nov_2015/meeting/8926.php) (accessed 07.06.16).
- Walker, H., Miemczyk, J., Johnsen, T., & Spencer, R. (2012). Sustainable procurement: Past, present and future. *Journal of Purchasing and Supply Management*, 18(4)
- Walters, David. "Demand chain effectiveness—supply chain efficiencies: A role for enterprise information management." *Journal of Enterprise Information Management* (2006).
- Welford, R., & Frost, S. (2006). Corporate social responsibility in Asian supply chains. *Corporate Social Responsibility and Environmental Management*, 13(3), 166–176.

- Wheelen, T. L., & Hunger, J. D. (2011). Concepts in strategic management and business policy: Toward global sustainability.
- Wigley, S., (2008). Gauging consumers' responses to CSR activities: Does increased awareness make cents? *Public Relations Review*.
- Wilkinson, A., Hill, M., & Gollan, P., 2001. The sustainability debate. *International Journal of Operations & Production Management*. 21(12), 1492-1502.
- Wintour, P. (2001). Slave Warning for Chocolate Firms. *The Guardian Tropical Commodity Coalition*. (2009). Cocoa Barometer 2009. <http://www.teacoffeecocoa.org/tcc/Publication>.
- Wolf, J., 2014. The relationship between sustainable supply chain management, stakeholder pressure and corporate sustainability performance. *J. Bus. Ethics* 119, 317–328.
- Wood, D. J. (2010). Measuring corporate social performance: A review. *International journal of management reviews*, 12(1), 50-84.
- World Bank. Ghana-Cocoa Supply Chain Risk Assessment. 2013; pp. 1–65. Available online: <http://documents.worldbank.org/curated/en/2013/01/17694705/ghana-cocoa-supplychain-risk-assessment>
- World Commission on Environment and Development, 1987, Report of the World Commission on Environment and Development: Our Common Future. United Nations, Geneva
- Yawar, S.A., Seuring, S., (2015). Management of social issues in supply chains: a literature review explores social issues, actions and performance outcomes. *Journal of Business Ethics*. 1-23
- Yawar, S.A., Seuring, S., 2017. Management of Social Issues in Supply Chains: A Literature Review Exploring Social Issues, Actions and Performance Outcomes. *J. Bus. Ethics* 643. <https://doi.org/10.1007/s10551-015-2719-9>
- Zadek, S., 2004. The path to corporate responsibility. *Harvard Business Review*. 82(12).

- Zailani, S., Jeyaraman, K., Vengadasan, G., & Premkumar, R. (2012). Sustainable supply chain management (SSCM) in Malaysia: A survey. *International journal of production economics*, 140(1), 330-340.
- Ziegler, G., Hogg, R., (1999). In: Beckett, S.T. (Ed.), Particle Size Reduction. Industrial 777 Chocolate Manufacture and Use. Chapman & Hall, New York, 182-199
- Zutshi, A., Creed, A., & Sohal, A. (2009). Child labour and supply chain: Profitability or management. *European Business Review*, 21(1), 42–63.
- Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Boston: Pitman.
- Donaldson, T., & Preston, L. E. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *Academy of Management Review*, 20(1), 65–91.
- Clarkson, M. B. E. (1995). A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance. *Academy of Management Review*, 20(1), 92–117.
- Jones, T. M., & Wicks, A. C. (1999). Convergent Stakeholder Theory. *Academy of Management Review*, 24(2), 206–221.
- Mitchell, R. K., Agle, B. R., & Wood, D. J. (2016). Toward a Theory of Stakeholder Salience in Family Firms. *Business & Society*, 55(4), 507–537.

## APPENDIX A

### RESEARCH QUESTIONNAIRE

I am a postgraduate student at the Kwame Nkrumah University of Science and Technology, offering Master of science in logistics and Supply chain management and as part of requirements for the award of the degree for this program. This survey instrument has been designed to enable me carry out a research on the topic: **“The effects of social sustainability practices on cocoa supply chain performance (A survey on cocoa supply chain firms).”**

Please be assured that any information you submit will be used solely for academic purposes and will be held in the strictest confidence.

Please write in ink in the spaces provided, or check (✓) the box next to the associated response(s) that, in your opinion, is/are the most appropriate response(s) to the linked question.

#### SECTION A: DEMOGRAPHICS OF RESPONDENTS

1. Gender:  Male  Female
  
2. Age:  25years and below  26-35years  36-45years  46-54years  55 years and above
  
3. Educational Level:  
 SHS/WASSCE/“A” Level  Diploma/HND  Degree  Masters  PhD  
 Others (specify) .....
  
4. Job Position:  
 Managing Director  Procurement Manager  Production Officer  Stores Manager  
 logistics Officer  Supplier  Other (specify) .....
  
5. How many years have you been working with the organisation?  
 1 – 4 years  5 – 9 years  10 – 14 years  15 years and above

## SECTION B: SUPPLIER SOCIAL SUSTAINABILITY

Using a scale of **1 = strongly disagree**, to **7 = strongly agree**, kindly indicate how you would rate supplier social sustainability practices on Cocoa supply chain performance based on the questions provided below.

	1	2	3	4	5	6	7
	Strongly Disagree	Disagree	Somehow Disagree	Indifferent/ Not Sure	Somehow Agree	Agree	Strongly Agree
	1	2	3	4	5	6	7
6. Child labour practices are not in our suppliers' firm							
7. Human rights issues are less in supplier's firm							
8. Forced labour practices are not prevalent in our firm							
9. Unethical practices among suppliers are low							
10. Safety-related social issues on supplier's premises							
11. Corporate Social responsibility (Philanthropy)							

Source: (Winter and Lasch (2016),Huq et al.(2014 )

## SECTION C: MANUFACTURER SOCIAL SUSTAINABILITY

On a scale of 1 to 7, where **1 = strongly disagree**, **7 = strongly agree**; rate manufacturer/processor social sustainability practices of your firm.

	1	2	3	4	5	6	7
	Strongly Disagree	Disagree	Somehow Disagree	Indifferent/ Not sure	Somehow Agree	Agree	Strongly Agree
	1	2	3	4	5	6	7
12. Our firm have good Diversity practice							
13.Product responsibility is our firm's priority							
14.Employment creation is high							
15. Education and training of staffs							
16. Employees wellness and safety							

17. Low Social standard (lack of employee Motivation)								
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Source: (Carter and Jennings (2004), Hutchins and Sutherland (2008))

#### SECTION D: CUSTOMER SOCIAL SUSTAINABILITY PRACTICES

On a scale of 1 to 7, where 1 = **strongly disagree**, 7 = **strongly agree**; rate customer social sustainability on your Firm.

	1	2	3	4	5	6	7
	Strongly Disagree	Disagree	Somehow Disagree	Indifferent/ Not sure	Somehow Agree	Agree	Strongly Agree
18. Our firm educate customers on product usage							
19. Our firm takes into consideration customer health and safety							
20. Customers are concerned about child labour and forced labour							
21. Customers are interested with the health and safety issues of the workers							
22. Customers are concerned about the environment ethical issues of the firm							

Source; (Brito et al. (2008), Kolk et al. (2010))

#### SECTION E: COCOA SUPPLY CHAIN PERFORMANCE

The following assertions are relevant to your company's supply chain performance. Indicate your agreement or disagreement with the following statement using a seven-Likert scale of 1=strongly disagree and 7=strongly agree.

	1	2	3	4	5	6	7
	Strongly Disagree	Disagree	Somehow Disagree	Indifferent/ Not sure	Somehow Agree	Agree	Strongly Agree
<b>Reliability Performance</b>							
23 Our company, together with supply chain partners, produces very dependable products.							
24. Together with our supply chain partners, our company is able to provide our clients with superior goods.							

25. Our company and its supply chain partners have worked together to improve the quality of our goods.							
26. With the help of supply chain partners, our company is able to fill customer orders faster.							
27. With the help of supply chain partners, our company can move more inventory.							

**Efficiency Performance**

1 2 3 4 5 6 7

28. With the help of supply chain partners, our company lowers the costs of warehousing and holding inventory.
29. With the help of partners in the supply chain, our company meets all delivery requirements for all products on time.
30. Our company and its partners in the supply chain agree on costs per unit.

**Flexibility Performance**

1 2 3 4 5 6 7

31. With the help of supply chain partners, our company offers a wide range of products and services.
32. Our company and its partners in the supply chain offer customized products and services with different features.
33. With the help of supply chain partners, our company is able to meet the different volume needs of our customers effectively.
34. Our company and its partners in the supply chain have a short customer response time compared to the rest of the industry.
35. Our company and its partners in the supply chain respond to and meet changes in demand.

**Source:** (Asamoah *et al.*, 2021)

Thank you for your cooperation