UNIVERSITY OF EDUCATION, WINNEBA

SUPPLIER DEVELOPMENT PROGRAMME AND SUSTAINABLE PERFORMANCE: THE MODERATING ROLE OF THE FIRM COMMITMENT

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A thesis in the Department of Procurement and Suply Chain Management
Submitted to School of Graduate Studies in partial fulfilment
of the Requirements for the Award of degree of
Master of Business Administration
(Procurement and Suply Chain Management)
In University of Education, Winneba

OCTOBER, 2024

DECLARATION

Student's Declaration

I, **Depulla Jennifer,** hereby declare that this dissertation is the result of my original work towards the award of MBA in Procurement and Supply Chain Management and that, to the best of my knowledge, it neither contains material published by another person nor materials which have been accepted for the award of any other degree in this University or elsewhere except where due acknowledgments have been made in the text.

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DEDICATION

I dedicate this research to Mr. Patrick Peprah for his huge sacrifices.

ACKNOWLEDGEMENTS

I want to take a moment to express my deepest gratitude to God Almighty for His unwavering grace, guidance, and blessings throughout this academic journey. His strength and wisdom have been my constant source of inspiration; without Him, none of this would have been possible. I am incredibly thankful to Miss Mavis Agbodza for her expert guidance, patience, and invaluable support. Your insights have shaped my understanding and helped me grow academically and personally. You have been a true mentor, and I appreciate every piece of advice and feedback you have given me. To my colleagues, thank you for your encouragement, collaboration, and friendship. Sharing this journey with you has been a rewarding experience, and I am grateful for the moments of teamwork, discussions, and camaraderie we have shared. Your support has made this journey more meaningful. I deeply appreciate all the kindness and help I have received, and I look forward to continuing to grow and learn with you all.

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LIST OF ACRONYMS

SCM	Supply Chain Management
PLS-SEM	Partial Least Squares Structural Equation Modeling
SPSS	Statistical Package for the Social Sciences
SDP	Supplier Development Programme
RBV	Resource-Based View Theory

ABSTRACT

This study examined the effects of Supplier Development Programmes (SDPs) on sustainable performance within manufacturing the firms, highlighting the moderating role of the firm commitment. Underpinned by Resource-Based View (RBV) and Stakeholder Theories, the research investigated how strategic resource allocation and stakeholder engagement impact sustainable outcomes in the manufacturing sector. The study employed a quantitative research design, leveraging a structured questionnaire distributed across 152 registered food and beverage manufacturing the firms in the Greater Accra Region to assess relationships between SDPs, the firm commitment, and sustainable performance. The findings indicate that SDPs significantly enhance sustainable performance by improving supplier capabilities and fostering a collaborative network that aligns with environmental and social governance. The firm commitment plays a critical moderating role, amplifying the effects of SDPs on sustainable outcomes. The firms with high levels of commitment are better equipped to implement effective supplier development strategies that drive significant improvements in sustainability. The results emphasize the importance of strategic commitment to enhancing supplier relationships and achieving comprehensive sustainability goals. The research recommends that manufacturing the firms increase investment in supplier development and foster a culture of commitment to sustainability to leverage the full benefits of SDPs.

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Sustainable performance has become a pivotal goal for organisations worldwide, driven by the need to balance economic growth with environmental stewardship and social responsibility (Purvis et al., 2019). Sustainable performance encompasses practices that enhance financial outcomes, minimise negative environmental impacts, and contribute to social well-being (Henao et al., 2019; Morioka & Carvalho, 2016). Integrating sustainability into business strategies can lead to significant competitive advantages, such as increased efficiency, improved brand reputation, and compliance with regulatory requirements (Jermsittiparsert et al., 2019). Organisations that embed sustainability in their core operations tend to outperform their peers in the long run by fostering innovation and reducing risks associated with environmental and social issues (Espino-Rodríguez & Taha, 2022). The importance of sustainable performance is further highlighted by the increasing pressures from stakeholders, including customers, investors, and regulatory bodies, to adopt more sustainable business practices. These stakeholders are more likely to support companies that demonstrate a commitment to sustainability, which can lead to improved market positioning and increased investment opportunities. Research has shown that companies with strong sustainability performance are better equipped to manage risks, enhance their reputation, and achieve financial success (Awan et al., 2018).

Supplier development is a critical strategy for enhancing suppliers' capabilities to meet the evolving demands of sustainability (Awan et al., 2019). This process involves training, investment in supplier capabilities, and collaborative initiatives aimed at improving the overall performance and sustainability of the supply chain. Effective

supplier development can lead to higher-quality products, reduced costs, and improved responsiveness to market changes (Sancha et al., 2015). As organisations increasingly recognise the importance of their suppliers in achieving sustainability goals, the emphasis on developing long-term, mutually beneficial relationships with suppliers has grown (Amoako-Gyampah et al., 2019). The Resource-Based View (RBV) theory provides a robust framework for understanding the relationship between supplier development and sustainable performance. According to RBV, the firms achieve competitive advantage by developing and utilising valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). Supplier development can be viewed as a strategic investment in building these valuable resources within the supply chain. By enhancing suppliers' capabilities, the firms can create a more resilient and sustainable supply chain, which can be a significant competitive advantage (Gu et al., 2021).

The relationship between supplier development and performance is well-established (Benton et al., 2020; Rajput et al., 2019; Wachiuri et al., 2015). Supplier development initiatives can enhance suppliers' abilities to meet sustainability standards, thereby contributing to the overall sustainable performance of the buying the firm. For instance, environmental collaboration with suppliers can reduce waste, lower emissions, and more efficiently use resources (Gualandris & Kalchschmidt, 2016). Moreover, social aspects of supplier development, such as improving labour practices and community engagement, can enhance the social performance of the supply chain, leading to a more holistic approach to sustainability (Awan et al., 2018). Research has shown that supplier development practices can lead to improved product quality, reduced costs, and enhanced innovation, all of which contribute to better sustainable performance (Fan et al., 2021). However, the firms' commitment to relevant resources cannot be ignored.

Hence, the firm commitment is crucial in supplier development and sustainable performance. The level of commitment from the buying the firm to sustainability goals significantly influences the effectiveness of supplier development programmes. Commitment ensures sufficient resources are allocated to support supplier development activities and consistently emphasises sustainability throughout the organisation (Fan et al., 2021). The Stakeholder Theory supports this perspective by emphasising the importance of aligning the interests and commitments of all stakeholders, including suppliers, to achieve sustainable outcomes (Vu & Dang, 2021). A the firm commitment to sustainability can enhance the impact of supplier development initiatives by fostering a culture of continuous improvement and collaboration. When the firms are genuinely committed to sustainability, they are more likely to engage in long-term partnerships with their suppliers, invest in joint projects, and support innovation and capacity-building efforts. This commitment can also drive the adoption of best practices and standards across the supply chain, leading to more consistent and significant improvements in sustainable performance (Wang et al., 2018).

Supplier development and sustainable performance align closely with SDG 12 (Responsible Consumption and Production) and SDG 17 (Partnerships for the Goals). By investing in supplier development, the firms can ensure more sustainable production processes and foster partnerships that contribute to broader sustainability objectives (UN, 2021). Policies that encourage sustainable practices within supply chains, such as incentives for green procurement and regulations mandating transparency in supply chain operations, are critical to supporting these goals (Arora et al., 2020). Supplier development programmes with SDGs can help the firms enhance their reputation and stakeholder relationships (Jawaad & Zafar, 2020).

Globally, the firms increasingly adopt supplier development programmes as part of their sustainability strategies. In advanced economies, sophisticated technologies and robust regulatory frameworks often support these initiatives. For instance, the firms in the automotive and electronics industries have implemented extensive supplier development programmes to improve sustainability performance and comply with stringent environmental and social standards (Lo et al., 2018). These efforts have led to significant improvements in supply chain sustainability, including reduced emissions, improved labour conditions, and enhanced resource efficiency.

In Africa, particularly Ghana, the adoption of supplier development for sustainability is growing but faces significant challenges, such as limited access to resources and infrastructural constraints (Hamidu et al., 2023). Despite these challenges, there is a strong potential for improvement as the firms recognise the importance of sustainable supply chains for economic and social development. Targeted investments and supportive policies can significantly enhance the effectiveness of supplier development programmes in these regions, leading to substantial improvements in sustainable performance. For example, initiatives focusing on capacity-building, technology transfer, and collaborative projects can help overcome barriers and drive progress toward sustainability goals (Amoako-Gyampah et al., 2019).

1.1 Statement of the Problem

The manufacturing sector is increasingly confronted with significant challenges in achieving sustainable performance, driven by rising environmental concerns, stringent regulatory requirements, and growing consumer demand for sustainable products (Garetti et al., 2012; Usman et al., 2024). One of the primary challenges is the complex and fragmented nature of global supply chains, which often results in inconsistent sustainability practices among suppliers (Sarkis et al., 2011). Additionally, the lack of

transparency and traceability in supply chain operations hampers efforts to monitor and improve environmental and social performance (Busse et al., 2016). Manufacturers face pressure to reduce their environmental footprint, minimise waste, and ensure ethical labour practices, all while maintaining competitive costs and efficiency (Pagell & Wu, 2009). These multifaceted challenges necessitate a robust approach to supplier development programmes that can effectively enhance sustainability performance.

Bai et al. (2020) argued that Supplier development programmes (SDPs) are strategic tools the firms employ to enhance their suppliers' capabilities and ensure compliance with sustainability standards. They are designed to improve supplier performance across various metrics, including quality, efficiency, and sustainability (Sancha et al., 2015). These programmes often involve training, joint problem-solving, and investments in suppliers' technological and managerial capabilities. By fostering closer relationships with suppliers, manufacturing the firms can ensure better alignment of sustainability goals across the supply chain, improving environmental and social outcomes (Gimenez & Sierra, 2013). SDP has been examined on supplier performance (Benton et al., 2020; Rajput et al., 2019; Modi & Mabert, 2007; Humphreys et al., 2004), the firm performance (Agan et al., 2019; Arráiz et al.,2013; Sánchez-Rodríguez, 2009; Wachiuri et al., 2015), procurement performance (Oromo & Mwangangi, 2017). However, the relationship between SDP and sustainability performance remains unexplored in supply chain management literature.

On the other hand, Hartmann and Moeller (2014) argued that the success of these SDPs heavily depends on the firms' commitment. As an internal resource, the firm commitment is pivotal in driving and sustaining the momentum of supplier development initiatives. Additionally, the firm commitment enhances the monitoring

and evaluation of supplier development programmes, ensuring they deliver the desired sustainability outcomes and encouraging suppliers to align their practices with the firm's sustainability goals (Busse et al., 2016). Without the firm commitment, supplier development programmes risk becoming superficial and ineffective, underscoring the necessity of this moderating variable in achieving meaningful, sustainable performance. This commitment promotes long-term engagement with suppliers, facilitating trust and collaboration essential for sustained improvements in sustainability practices (Hartmann & Moeller, 2014). Also, Porter and Kramer (2006) posit that when sustainability is embedded in the firm's mission and objectives, it sends a clear message to suppliers about the importance of sustainable practices. This strategic alignment encourages suppliers to invest in sustainability initiatives, knowing that the firm values and supports these efforts.

Existing research has primarily treated the firm commitment as an independent variable rather than a moderating factor, thereby overlooking its potential to influence the strength and direction of the SDP-sustainable performance link (Kumar & Banerjee, 2014). The extent to which the firms' commitment enhances the relationship between SDP and sustainability performance remains unknown and unexplored. Against the identified gaps established, this study examines the effects of SDP on sustainability performance and the moderating role of the firm commitment.

1.2 Purpose of the Study

The study aims to examines the effects of supplier development on sustainable performance and the moderating role of the firm commitment.

1.3 Research Objectives

1. To examine the effects of supplier development on sustainable performance
2. To assess the effects of the firm commitment on sustainable performance.

3. To examine the moderating role of the firm commitment on the relationship between supplier development and sustainable performance

1.4 Research Questions

1. What is the effects of supplier development on sustainable performance?

2. What is the effects of the firm commitment on sustainable performance?

3. What is the moderating role of the firm commitment on the relationship between supplier development and sustainable performance?

1.5 Significance of the Study

The findings of this study will enrich academic literature, providing practical insights for manufacturing the firms and informing policymaking. Academically, this study contributes to the theoretical discourse by integrating the role of the firm commitment into the analysis of supplier development programmes and their impact on sustainable performance. It provides empirical evidence supporting the resource-based view (RBV) theory, which posits that the firm-specific resources and capabilities, such as commitment, play a crucial role in achieving competitive advantage. This study allows future researchers to explore similar dynamics in various contexts, fostering interdisciplinary collaboration between supply chain management, sustainability studies, and organisational behaviour.

For manufacturing the firms, the study highlights the importance of the firm commitment to enhancing supplier relationships and achieving sustainable performance. It provides actionable insights for managers to foster long-term partnerships with suppliers, embedding sustainability into their supply chain strategies. The study also offers practical metrics and benchmarks for assessing the effectiveness of supplier development initiatives, helping the firms identify areas for improvement and track their progress toward sustainability goals. By sharing best practices and

successful case studies, the research guides manufacturing companies in designing and implementing effective supplier development programmes that improve performance and build a sustainable competitive advantage through enhanced environmental and social outcomes.

Policymakers and stakeholders stand to benefit significantly from the findings of this study. By informing the formulation of policies that encourage sustainable practices within the supply chain, the research supports the development of regulatory frameworks that promote the firm commitment to sustainability. This, in turn, fosters a more sustainable industrial sector. Additionally, the study enhances stakeholder understanding of the importance of the firm commitment in achieving sustainable supply chain performance, encouraging greater collaboration and investment in supplier development initiatives. By illustrating the broader economic and environmental benefits of successful supplier development programmes, the research provides compelling evidence for government and non-government organisations to support and fund these initiatives, ultimately contributing to long-term sustainability in the supply chain.

1.6 Scope of the Study

This study encompasses an in-depth analysis of the influence of supplier development programmes on sustainable performance, with a particular focus on the role of the firm commitment. It will examine how manufacturing the firms integrate supplier development initiatives to enhance environmental, social, and economic performance outcomes. This study is delimited to manufacturing the firms in the Greater Accra Region of Ghana. Focusing exclusively on this specific geographical area allows a concentrated examination of the relationship between supplier development, the firm commitment, and sustainable performance.

1.7 Limitations of the Study

The study examines the effects of supplier development, the firm commitment, and sustainability performance. It will sample the manufacturing the firms in the Greater Accra Region of Ghana. The contextual limitations of this research make it difficult to generalise the findings to other Regions of Ghana. Similarly, a structured questionnaire will be used to obtain data from the respondents. This instrument restricts respondents' responses. Lastly, the researcher will restrict the investigation to a quantitative study.

1.8 Organisation of the Study

The study is divided into five distinct chapters. Subheadings such as introduction, the background of the study, problem statement, purpose of the study, research objectives, research questions, significance of the study, the scope of the study, limitations, definition of terms, and organisation of the study are explained in the introductory chapter. In the second chapter, a comprehensive literature review is conducted. The concept of critical variables for the study are discussed in reviewing the relevant literature, along with the theoretical review, the empirical review, the conceptual framework, and the research gap. The study's research methodology and approach are outlined in the third chapter. This chapter is broken down into research philosophy and design, population, study area, sample and sampling process, data gathering method, data collection instrument, data collection protocol, data analysis, and ethical considerations. The discussion and analysis of the data are presented in chapter four. The study's summary, conclusion and recommendations are addressed in Chapter 5.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

A literature review is a comprehensive survey of scholarly sources on a specific topic designed to summarise and synthesise the existing research. It critically analyses the literature, identifying gaps, inconsistencies, and emerging trends. This process is essential in situating a new study within the existing body of knowledge, ensuring that research is built upon a solid foundation of what is already known (Fink, 2019). By reviewing the literature, researchers can understand the context and background of their topic, which aids in refining research questions, methodologies, and theoretical frameworks (Booth et al., 2016). A literature review's importance helps prevent duplication of work by revealing what has already been studied and what remains unexplored. Moreover, it provides a framework for establishing the significance of new research by highlighting how it contributes to the existing knowledge base (Webster & Watson, 2002). The chapter covered an extensive and in-depth review of the relevant literature regarding the study objectives. It also discussed and presented the important concepts obtained from the objectives. The chapter was divided into four sections: a theoretical review, a conceptual review, an empirical review, and a conceptual framework.

2.1 Conceptual Review

A conceptual review involves examining and analyzing key concepts, theories, and frameworks relevant to a particular field of study. It aims to clarify these concepts' definitions, dimensions, and interrelationships, providing a deeper understanding of the theoretical underpinnings that guide research and practice. A conceptual review is important because of its ability to synthesize complex ideas, identify theoretical gaps,

and propose new avenues for exploration. By dissecting and integrating various theoretical perspectives, a conceptual review enhances the coherence and rigor of academic research, ensuring that studies are well-grounded in established knowledge while also pushing the boundaries of what is known (Torraco, 2005). The study will discuss relevant concepts such as supplier development, the firm commitment and sustainability performance.

2.1.1 Supplier Development Programme

Supplier development programmes (SDPs) play a crucial role in enhancing the performance of suppliers, which in turn impacts the overall performance of the buying company and its supply chain (Zimmer et al., 2016). These programmes have become essential for companies aiming to minimize supply risk and achieve competitive advantage, much like the continuous improvement of logistics, manufacturing operations, and environmental performance (Li et al., 2012; Awasthi & Kannan, 2016; Yawar & Seuring, 2020). Krause (1999) defines supplier development as "any effort by a buying the firm with a supplier to improve the supplier's performance and/or capabilities and to meet the buying the firm's short and/or long-term supply needs." This definition underscores the importance of building stable and long-term relationships to maintain a reliable supplier base while simultaneously improving supply chain performance (Yawar & Seuring, 2020). SDPs typically involve coordinated actions by the buying company, encompassing administrative, financial, operational, and technical resources (Glock et al., 2017).

Traditionally, the success of supplier development programmes has been evaluated in terms of outcomes such as cost reductions or delivery time improvements. However, Hartley and Jones (1997) argue that supplier development may be more effective when it is process-oriented rather than results-oriented. Process-oriented practices focus on

building capabilities that ensure permanent improvements. Wagner and Krause (2009) further differentiate between supplier development goals to improve short-term abilities to become a qualified supplier and advance long-term capabilities such as product innovation, collaboration, and continuous process improvement. Supplier development involves a sequence of decisions that impact the performance of the purchasing company and its supply chain (Zimmer et al., 2016). These decisions range from basic skills necessary for ensuring performance to advanced abilities like continuous improvement and innovation. Dyer and Hatch (2004) emphasize that the transmission of these capabilities can be achieved through various activities and the implementation of organisational routines that facilitate interaction, information exchange, and the integration of best practices, thereby enhancing the quality of knowledge transfer.

Supplier development is recognised as a systematic approach to leveraging capacity and capability improvements across the supply chain. Poor supplier performance can cost up to four per cent of a manufacturing buying the firm's sales (Howgate Sable, 2017). Consequently, SDPs aim to improve supplier capabilities (Chen et al., 2015; Blome et al., 2014), facilitate collaborative product design (Lawson, 2015), enhance production quality and flexibility (Carr & Kaynak, 2007; Chang et al., 2006), boost supplier operational and financial performance (Arroyo-López, 2012; Krause et al., 2007; Narasimhan et al., 2008), extend supply chain social responsibility (Zhang et al., 2017), increase supplier satisfaction (Ghijsen et al., 2010), and contribute to the firm improvement initiatives such as Total Quality Management (TQM) and Just-In-Time (JIT) (Gupta & Heragu, 1991; McAdam, 2004). Empirical studies demonstrate the positive impact of supplier development on product and process innovation. For instance, a comparative study in the automotive sector by Hertenstein and Williamson

(2018) and multiple innovation initiatives case studies in the pulp and paper industry by Onufrey (2020) illustrate how supplier development drives innovation.

2.1.2 The firms Commitment

The firm commitment, often called organizational commitment, is a pivotal concept in organizational behavior and management. It signifies an employee's psychological attachment to their organization, significantly influencing their willingness to stay and their performance at work (Meyer & Allen, 1991). Scholars have focused on the firm commitment due to its substantial impact on a company's performance and production (Durand & Georgallis, 2018). Ahmad (2018) defines the firm commitment as "a psychological state that characterizes the employee's relationship with the organization and has implications for the decision to continue or discontinue membership in the organization." According to Mueller et al. (1992), workplace commitment can be defined in various ways, including dedication to one's work, career, job, union, and organisation.

The two primary dimensions of organisational commitment are affective and calculative commitment. Several scholars, including Ferris and Aranya (1983), McGee and Ford (1987), and Meyer et al. (1990), support this two-dimensional perspective. Affective commitment, as defined by Porter et al. (1974), is "a strong bond between an employee and the company they work for, based on three factors: a strong belief in and acceptance of the company's goals and values; a willingness to put forth significant effort on behalf of the company; and a strong desire to remain a member of the company" (p. 604). Higher levels of affective commitment are associated with better job performance, reduced absenteeism, lower turnover, higher job satisfaction, and increased work participation (Brooke et al., 1988).

In contrast, calculative commitment, referred to by Salancik (1977) as being concerned mainly with the process by which individuals develop a sense of allegiance not to an organisation but rather to their own actions within the organisational setting, is often associated with extrinsic incentives such as money, prestige, promotion, and perks (Romzek, 1989). Normative commitment, the sense of obligation an employee feels to remain with the organisation, is influenced by cultural or familial expectations, loyalty, or moral reasons (Wiener, 1982). This type of commitment can be fostered by the organisation's investment in employee development, ethical practices, and a supportive work culture (Meyer & Herscovitch, 2001).

Several factors influence the level of commitment employees have towards their organisation. Job satisfaction, perceived organisational support, and leadership styles are significant predictors of organisational commitment (Eisenberger et al., 1986; Mathieu & Zajac, 1990). Job satisfaction enhances affective commitment, while perceived organisational support can boost both affective and normative commitment by making employees feel valued and cared for (Rhoades & Eisenberger, 2002). Leadership styles, particularly transformational leadership, positively influence all three commitment forms by inspiring and motivating employees (Avolio et al., 2004). High levels of the firm commitment result in numerous positive outcomes for organisations. Affective commitment is linked to higher job performance, greater organisational citizenship behaviors, and lower turnover intentions (Meyer et al., 2002). Employees who are effectively committed are more likely to exceed their job requirements, contributing to a positive work environment and overall organisational effectiveness (Allen & Meyer, 1996). While useful for retention, continuity commitment may not necessarily result in high job performance, as employees stay primarily due to the perceived costs of leaving rather than genuine engagement (Becker,

1960). Normative commitment can lead to increased loyalty and reduced turnover, but its impact on performance depends on aligning personal and organisational values (Wiener, 1982).

Organisations can adopt several strategies to enhance the firm commitment among employees. Creating a supportive work environment that fosters job satisfaction and provides adequate resources and support is crucial (Rhoades & Eisenberger, 2002). Implementing fair and transparent policies, investing in employee development, and recognising and rewarding employee contributions can also strengthen commitment (Allen & Meyer, 1996). Leadership plays a critical role in shaping organisational commitment, and transformational leadership practices that inspire, motivate, and support employees are particularly effective (Avolio et al., 2004). Commitment is also crucial in the context of supply chain management. A successful supply chain is predicated on mutual trust and commitment among its partners (Supian & Abdullah, 2019). Kwon and Suh (2005) assert that "any enduring business transactions among supply chain partners require a commitment by two parties to achieve their common supply chain goals" (p. 27). Therefore, top management must strive to gain strong employee commitment to achieve the organisation's goals. For instance, in the Halal supply chain, commitment, practice, and compliance are measured to maintain the highest level of integrity (Silalahi et al., 2021).

2.1.3 Sustainability Performance

Sustainability performance (SP) is a multifaceted concept that encompasses the evaluation of a company's economic, environmental, and social impacts. According to Argandona et al. (2009), SP refers to the level of success a corporation achieves in addressing societal, economic, and environmental factors. This holistic approach requires companies to integrate sustainability into their strategic planning and

operational practices, balancing financial objectives with broader social and environmental responsibilities. Companies are increasingly pressured to evaluate, track, and report their sustainability performance (SP) and that of their supply chains (Rao et al., 2014; Taticchi et al., 2013; Mani & Gunasekaran, 2018). As a result, many progressive businesses now prioritize sustainability, recognizing its importance in improving industrial operations and overall SP (Cherrafi et al., 2016).

The emphasis on sustainability in supply chain management has grown, particularly focusing on the triple-bottom-line concept, which includes economic, environmental, and social dimensions (Nunes et al., 2020; Kusi-Sarpong et al., 2019). Businesses must incorporate sustainability into their strategic planning due to the increasing focus on resource conservation and environmental preservation (Cui et al., 2020). Supply chain sustainability aims to integrate environmental and social goals into traditional cost-focused supply chain management techniques (Jabbarzadeh et al., 2018). This involves the collaborative efforts of supply chain actors to achieve positive social and environmental outcomes for the entire supply chain or specific enterprises within it (Taylor & Vachon, 2017). Despite varying methodologies, research on supply chain sustainability generally agrees that implementing sustainable supply networks reduces long-term risks and ensures business continuity. Historically, economic performance was evaluated based on company assets, liabilities, and market position (Iqbal et al., 2020).

However, the current priority is to blend significant economic profitability with superior environmental and social performance (Chin et al., 2015). Improved SP can lead to a sustained competitive advantage, particularly when the costs of implementing lean and green practices are offset by higher net profits, market share, growth rate, eco-labels, and a strong sustainability reputation (Bocken et al., 2014). Sustainability

performance encompasses more than financial evaluations; it includes the economic impacts of the organization, interactions with society and the community, employment attributes, occupational health and safety, emission levels, conservation of natural resources, and other environmental efforts (Burawat, 2019). During sustainable development, SP pertains to the level of success a corporation achieves in societal, economic, and environmental areas (Argandona et al., 2009). Non-economic sustainability objectives include environmental and social goals (Fahimnia & Jabbarzadeh, 2016). Achieving sustainability involves implementing socially and ecologically responsible actions, ultimately enhancing social, environmental, and economic outcomes (Koberg & Longoni, 2019).

2.2 Theoretical Review

A theoretical review involves the examination and synthesis of existing theories, concepts, and frameworks relevant to a particular field of study. Its primary purpose is to provide a comprehensive understanding of the theoretical foundations that underpin the research topic. By evaluating and integrating various theoretical perspectives, a theoretical review helps to clarify definitions, identify relationships among concepts, and uncover theoretical gaps. This process is crucial as it establishes a solid conceptual foundation for the research, guiding the formulation of research questions, hypotheses, and methodologies. The study applied the resource-based view and stakeholder theories to explain the relationship between supplier development, the firm commitment and sustainability performance.

2.2.1 Resource-based View Theory

The Resource-Based View (RBV) theory posits that organisations develop resources that enhance performance and enable effective operation within their environment (Kozlenkova et al., 2013). These resources encompass assets, information and

knowledge, processes, and more (Aminu & Mahmood, 2015). The core argument of the RBV is that the firms can achieve a competitive advantage based on how effectively they can utilise their resources (Warnerfelt, 1984; Wu, 2010). This theory emphasises that it is not merely the organisational structure that brings about competitive advantage but rather the firm's ability to leverage its internal resources, human capabilities, and core competencies, making it distinct and capable of outperforming its competitors (Prah, 2018). The RBV hinges on several assumptions: resources must be heterogeneously distributed across the firms, and resource immobility implies that resources are not easily transferable or replicable by competitors. These assumptions ensure that the firms can maintain distinct resource bundles that lead to competitive differentiation. The theory has been extensively applied in various research domains, demonstrating its versatility and broad applicability. For example, research by Peteraf (1993) and Grant (1991) highlighted that the firms leveraging unique capabilities and assets outperform those lacking such resources.

The RBV proposes that an organization can enhance its competitive advantage by utilizing resources that are rare, restricted, unreplaceable, and imperfectly imitable (Hart & Dowel, 2010). Helfat and Peteraf (2003) describe a the firm's resources as encompassing all assets, abilities, organizational processes, corporate features, information, and knowledge under its control that enable the company to plan and implement strategies to increase its effectiveness and efficiency (competitiveness). This perspective has been extended to include natural resource integration and diverse skills (Helfat & Peteraf, 2003; Hart & Dowel, 2010). When undertaking changes within a company's supply chain, the RBV theory encourages leveraging the unique positions of the organisation. Internal operating procedures are seen as key components of organisational resources, such as integrating online networks into tasks like tenders.

Supplier development programmes are strategic initiatives aimed at improving the capabilities and performance of the firm's suppliers.

The RBV theory suggest that supplier development programmes can be considered valuable resources because they enhance the overall supply chain's efficiency, resilience, and adaptability. By investing in their suppliers' skills, technologies, and processes, the firms can create a more reliable and high-quality supply chain, leading to better sustainability performance (Barney, 1991). For instance, improving a supplier's ability to use environmentally friendly materials or processes reduces the environmental impact and aligns with the firm's sustainability goals. These supplier development programmes are also rare and inimitable. Not every the firm can establish effective supplier development initiatives, as they require substantial investment, expertise, and long-term commitment. The uniqueness of a well-implemented supplier development programme creates a competitive edge for the firms that adopt them. It is difficult for competitors to replicate these programmes quickly, giving the initiating the firm a sustainability advantage (Peteraf, 1993). For example, a the firm that invests in technologies for its suppliers can create a distinct supply chain capability that is hard for competitors to duplicate.

Moreover, supplier development programmes contribute to sustainability performance by fostering close relationships and collaboration between the firm and its suppliers. This relational resource is non-substitutable because simple transactional relationships cannot easily replace the trust and cooperation built over time. Effective collaboration can lead to joint problem-solving and innovation, which are crucial for achieving long-term sustainability goals (Dyer & Singh, 1998). For instance, a supplier development programme might involve joint efforts in waste reduction or energy efficiency projects, leading to mutual benefits and enhanced sustainability performance.

2.2.2 Stakeholder Theory

Every corporate entity exists within an ecosystem of related groups that it must satisfy to achieve success (Friedman & Miles, 2006). These groups, known as stakeholders, include any person, group, or body affected by an entity's short- and long-term actions (Freeman, 1984). According to this perspective, a company's success is determined not only by meeting shareholders' expectations but also by addressing the needs of the people and organisations impacted by its operations (Freeman, 1984; Gray, 1995). Stakeholder theory asserts that a company's operations should benefit all its stakeholders (Hahn & Kuhnen, 2013; Freudenreich et al., 2020). The theory acknowledges the dynamic and complex nature of an organization's relationships with its stakeholders, necessitating the organization engaging in activities aligned with stakeholder objectives (Gray et al., 1996). Freeman (1984) emphasized that as the business environment evolves or new practices emerge, entities must consider the dynamic nature of stakeholders.

Several key assumptions underpin stakeholder theory. Firstly, it assumes that organisations operate within an ecosystem of interconnected and interdependent relationships, where the interests of various stakeholders—such as employees, customers, suppliers, communities, and shareholders—are essential to the organisation's success (Freeman, 1984). It presupposes that these stakeholders have legitimate claims and that their needs and concerns should be considered in the organisation's decision-making processes (Donaldson & Preston, 1995). Additionally, the theory assumes that long-term value creation is enhanced when organisations engage with their stakeholders ethically and transparently, fostering trust and cooperation (Freeman, 1984; Jones, 1995). Furthermore, it posits that organisations have a moral responsibility to consider their actions' broader social, environmental, and

economic impacts, aligning business practices with the goals and well-being of their stakeholders and society at large (Clarkson, 1995). These assumptions collectively challenge the traditional shareholder-centric view, promoting a more holistic and inclusive approach to business management (Freeman, 1984; Donaldson & Preston, 1995).

Stakeholder theory posits that organisations should address the needs and interests of all stakeholders, including suppliers, to achieve long-term success and sustainability (Freeman, 1984). When the firm demonstrates a strong commitment to supplier development, it signals to suppliers that their partnership is valued and integral to the company's strategic goals. This commitment fosters deeper collaboration, trust, and resource sharing, which are essential for effective supplier development (Donaldson & Preston, 1995). Consequently, suppliers are more likely to adopt sustainable practices and innovations, knowing they have the firm's support and long-term partnership. Furthermore, a committed the firm is likely to invest in training, technology, and process improvements for suppliers, which enhances their capabilities and aligns them with the firm's sustainability objectives (Clarkson, 1995). Thus, the firm commitment amplifies the positive impact of supplier development programmes on sustainability performance by ensuring that suppliers are well-equipped and motivated to meet sustainability goals, thereby creating a mutually beneficial and sustainable supply chain.

2.3 Empirical Review

2.3.1 Supplier Development and Sustainability Performance

Benton, Prahinski and Fan (2020) investigated the effectiveness of supplier development programmes (SDPs) as governance mechanisms in stabilising power and risk within inter-organizational relationships and has been empirically investigated in a

large-scale study involving 141 first-tier North American automotive suppliers. This study uniquely explores SDPs, encompassing bilateral communications, incentives, competitive pressures, and direct involvement, as tools used by purchasing professionals to monitor and enhance supplier performance. Structural equation modelling revealed that the relationship between SDPs and supplier performance is mediated by factors such as bilateral communication, cooperation, and commitment. These findings underscore that SDPs, through structured two-way communication and mutual engagement, significantly impact the dynamics between buying and selling organisations, ultimately improving supplier performance. This research offers critical insights into the governance role of SDPs, highlighting their direct influence on fostering stronger, more effective buyer-supplier relationships.

Rajput, Gulzar and Shafi (2019) explore the impact of supplier development practices on supplier performance within the textile industry, focusing on the role of trust between buying the firms and their suppliers. Data were collected via a questionnaire survey from 345 textile the firms, and the research framework was tested using regression analysis and structural equation modeling. The findings indicate that both direct and indirect supplier development practices significantly enhance supplier performance. Additionally, the study underscores the critical role of trust, revealing that buying the firms' trust in their suppliers not only improves performance but also partially mediates the relationship between supplier development practices and performance outcomes. This highlights that fostering trust is essential for effective supplier development, particularly in the large-scale manufacturing sector of Pakistan's textile industry. The results emphasize the need for buying the firms to cultivate trust with their suppliers to maximize the benefits of development practices and achieve superior performance improvements.

Kumar, Dalvi and Kant (2016) investigated the impact of supplier development activities (SDAs) on three key performance outcomes: supplier performance improvement (SPI), buyer's competitive advantage improvement (BCAI), and buyer-supplier relationship improvement (BSRI). Utilising a survey of 214 manufacturing organisations, the data underwent rigorous analysis through factor analysis, correlation analysis, and multiple hierarchical regression analysis. The research categorised 28 SDAs and 33 POs into five and three major categories, respectively. The findings highlight significant correlations between each category of SDAs and the performance outcomes, with the exception of investment-related activities.

Lee, Chan and Pu (2018) examined the impact of supplier development (SD) on supplier performance, focusing on the role of implicit knowledge sharing through mentorship under the influence of the supplier's organizational culture (OC). Data were collected via a survey questionnaire from 226 employees of participating suppliers who underwent mentorship training. Using partial least squares structural equation modeling (PLS-SEM) with SmartPLS Ver. 3.0, the analysis revealed nuanced insights into the dynamics between organisational culture and performance outcomes. Specifically, the findings indicate that SD through mentorship partially mediates the effects of OC dimensions, such as power distance and uncertainty avoidance, on supplier performance, suggesting that these cultural aspects influence performance indirectly through mentorship. Moreover, SD through mentorship completely mediates the effects of a collaborative culture on performance, underscoring the critical role of a supportive and cooperative organisational environment in maximising the benefits of mentorship initiatives.

Saliman, Rashidirad and Soltani (2017) expand the contingency theory framework by investigating how organisational size and culture moderate the relationship between supplier development and internal quality performance. Utilising survey data from 518 UK manufacturing organisations, the research reveals that larger the firms with abundant resources and a robust supply chain orientation culture prioritise supplier development programmes more intensely. This emphasis on supplier development leads to significant improvements in internal quality performance, specifically in design and conformance quality dimensions. The findings suggest that the benefits of supplier development are maximised in larger organisations with a strong cultural emphasis on supply chain integration, highlighting the critical role of organisational context in enhancing the effectiveness of supplier development initiatives.

Li, Kang and Haney (2017) investigate the impact of supplier development on outsourcing performance, using structural equation modelling to analyse data from 213 manufacturing the firms in China. The findings reveal that supplier development significantly enhances outsourcing performance. This improvement is twofold: directly through a strong positive impact and indirectly by reducing outsourcing opportunism risk and increasing outsourcing flexibility. These results highlight the critical role of effective supplier development in maximising the strategic benefits of outsourcing, emphasising its importance in mitigating risks and enhancing adaptability in supply chain relationships.

Humphreys, Li and Chan (2004) examine the effects of supplier development on buyer-supplier performance. A survey of 142 electronic manufacturing companies in Hong Kong examined this role from the buying the firm's perspective, revealing through factor analysis eight key factors: transaction-specific supplier development and seven infrastructure factors—strategic goals, effective communications, long-term

commitment, top management support, supplier evaluation, supplier strategic objectives, and buyer trust in the supplier. Correlation analysis demonstrated that both transaction-specific supplier development and its supporting infrastructure factors were significantly correlated with improved buyer-supplier performance outcomes. Hierarchical multiple regression analyses further indicated that transaction-specific supplier development, trust, supplier strategic objectives, and effective communications were significant predictors of enhanced buyer-supplier performance, highlighting the critical interplay of strategic and relational elements in driving performance improvements.

2.3.2 The firm Commitment and Sustainability Performance

Chie, Won and Bae (2019) propose a conceptual model and examine the relationships among internal marketing, organizational commitment, and job performance in the context of sport and fitness services. Data were collected via a questionnaire survey from 254 employees across 12 municipal sports centers in Taipei City, with structural equation modeling techniques employed for analysis. The results demonstrate that internal marketing positively influences both organizational commitment and job performance. Additionally, organizational commitment is shown to affect job performance positively and serves as a partial mediator in the relationship between internal marketing and job performance. These findings underscore the importance of internal marketing strategies in enhancing employee commitment and performance, thereby offering valuable insights for managers in the sport and fitness sector aiming to improve organizational outcomes through targeted internal marketing initiatives.

Jain and Sullivan (2019) explore the relationship between careerism and organizational attitudes among workers in India, using psychological contract theory as its theoretical foundation. A survey was conducted with 250 middle-level executives from six

motorbike manufacturing plants in Northern India. The findings align with the hypothesis that careerism negatively correlates with affective commitment, organizational satisfaction, and perceived organizational performance, indicating that career-focused individuals tend to exhibit lower emotional attachment and satisfaction toward their organization. Surprisingly, the study also reveals that careerism is positively associated with continuance and normative commitment, suggesting that despite a careerist orientation, individuals may still feel a sense of obligation and a need to remain with their organization due to perceived costs or moral duty. These results highlight the complex and multifaceted impact of careerism on organizational attitudes, providing valuable insights for managing employee commitment and satisfaction in the manufacturing sector.

Imamoglu et al. (2018) explore the intricate relationships among organizational justice, organizational commitment, knowledge sharing, and the firm performance, emphasizing the critical role of the human factor in organizational sustainability. The analysis of survey data from 211 respondents reveals that organizational justice significantly influences organizational commitment, knowledge sharing, and the firm performance. Employees who perceive high levels of justice within their organizations are more likely to exhibit stronger organizational commitment, which in turn enhances their willingness to share knowledge and contribute positively to the firm performance. The findings also indicate that organizational commitment directly impacts knowledge sharing and the firm performance, while knowledge sharing itself is a significant predictor of enhanced the firm performance. This study underscores the importance of fostering a just organizational environment to cultivate committed employees who are motivated to share knowledge, thereby driving superior performance outcomes.

Cesário, and Chambel (2017) investigated the relationship between organizational commitment, work engagement, and employee performance, utilizing a sample of 274 workers and measuring performance through recent performance appraisal ratings reported by managers. Employing a Work Engagement Scale and commitment scales, the analysis the firms a positive relationship between employee performance and both affective and normative commitment, as well as work engagement. Notably, work engagement exhibited a stronger association with performance compared to the types of commitment. These findings suggest that while both commitment and engagement are important predictors of employee performance, work engagement plays a more significant role in driving higher performance levels. This underscores the critical importance of organizations fostering an engaging work environment to maximize employee productivity and success.

Patiar and Wang (2015) investigate the impact of transformational leadership (TLS) of hotel general managers and the organizational commitment (OC) of department managers on the performance of departments in upscale Australian hotels. Data were collected through surveys from four- and five-star hotel department managers, employing measures of comprehensive sustainable performance, TLS, and OC from established literature. Factor analysis and regression analysis with bootstrapping resampling methods were used to analyze the data. The findings reveal that TLS and OC significantly influence non-financial, social, and environmental performance dimensions of hotel departments directly and indirectly through OC. However, the mediation effect of OC was not observed for financial performance, suggesting that while transformational leadership and organizational commitment are crucial for broader performance metrics, they do not directly translate into financial outcomes.

These results highlight the multifaceted nature of leadership and commitment to driving sustainable performance in the hospitality industry.

Pradhan and Pradhan (2015) investigate the relationship between transformational leadership, followers' affective organizational commitment, and their contextual performance within the IT sector in India. Utilizing a sample of 480 software professionals, data analysis was conducted using SPSS 18 and AMOS 16. The findings reveal that transformational leadership, characterized by a compelling vision and moral guidance, significantly enhances followers' affective commitment and motivates them to engage in extra-role behaviors beyond their job descriptions. This emotional bond with the leader and organization, rather than logical reasoning, drives their commitment and decision to remain in the organization. Additionally, affective organizational commitment is positively linked to contextual performance, indicating that committed individuals are more likely to exhibit discretionary prosocial behaviors that enhance overall organizational performance. These results align with prior research, afthe firming the positive and significant relationships among transformational leadership, affective organizational commitment, and contextual performance, thereby highlighting the crucial role of transformational leadership in fostering a committed and high-performing workforce.

2.3.3 The Moderating Role of the firm Commitment

The moderating role of the firm commitment has been explored in various relationships such as El-Kassar and Singh (2019) presented a comprehensive model examining the interrelationships among green innovation, its drivers, and factors that mitigate technological challenges to enhance the firm performance and competitive advantage. This pioneering research integrates multiple constructs, evaluating their combined effects on competitive advantage and organizational performance. A meticulously

designed questionnaire assessed the impact of green innovation adoption and its drivers, factoring in management commitment, HR practices, and the utilization of big data. Data from 215 respondents across the MENA and GCC regions were analyzed to validate the proposed relationships. The model demonstrated a good fit, with findings indicating a positive relationship between green innovation and performance outcomes. The study reveals that management commitment significantly moderates these relationships, highlighting its pivotal role in driving green innovation and securing competitive advantage. This empirical evidence underscores the importance of strategic management and robust HR practices in fostering a sustainable and competitive organizational environment.

Mao et al. (2016) addressed the contentious role of information technology (IT) in knowledge management by examining how different types of IT resources influence knowledge management capability (KMC) and, subsequently, competitive advantage. Integrating two research streams, the study explores the moderating role of resource commitment within this relationship. Empirical data from 168 organizations in China reveal that IT infrastructure, IT human resources, and IT relationship resources significantly enhance KMC, positively impacting competitive advantage. Additionally, the study identifies two quasi-moderating effects of resource commitment: it directly enhances KMC and strengthens the influence of IT human and IT relationship resources on KMC. These findings extend the literature on the IT-knowledge management linkage by highlighting the critical role of resource commitment in optimizing IT resource utilization for improved knowledge management and competitive positioning. Imamoglu et al. (2019) explored the critical role of organizational justice in fostering organizational commitment, knowledge sharing, and overall, the firm performance, emphasizing the significance of the human factor in organizational sustainability.

Utilizing survey data from 211 respondents, the research demonstrates that employees' perceptions of organizational justice significantly influence their organizational commitment. This commitment, in turn, enhances knowledge sharing among employees, positively impacting the firm performance. The findings indicate that organizational justice leads to positive attitudes and behaviors, resulting in employees willingly sharing knowledge and contributing to activities that add value to the firm. Additionally, organizational commitment directly affects knowledge sharing and the firm performance, establishing a clear linkage between fair organizational practices and improved organizational outcomes. This study underscores the necessity for the firms to maintain justice in their operations to cultivate a committed workforce, thereby driving higher performance and achieving organizational goals.

Wang, Li and Zhao (2017) investigated the impact of institutional pressures on the implementation of environmental management practices in the firms, addressing the increasing environmental degradation and resource scarcity. Drawing from institutional theory and environmental management literature, the research explores how regulatory and normative pressures drive the firms to adopt environmental practices and how these effects are influenced by the firms' environmental commitment and resource availability. A survey of 188 Chinese the firms reveals that regulatory and normative pressures significantly increase the likelihood of implementing environmental management practices. Additionally, the study finds that environmental commitment strengthens the relationship between institutional pressures and environmental practices. Resource availability, however, plays a complex role, varying with the type of pressure: it enhances the impact of normative pressures but has a nuanced effect on regulatory pressures. These findings highlight the importance of external pressures and internal commitments in promoting sustainable practices, offering valuable insights for

policymakers and business leaders aiming to foster environmental responsibility in the corporate sector.

Albalawi et al. (2019) examined the intricate relationships between perceived organizational support, perceived alternative job opportunities, organizational commitment, and turnover intention, focusing on the mediating role of organizational commitment and the moderating role of job satisfaction. Using convenience sampling, data were collected through a self-administered survey from 270 employees in Jordanian small and medium-sized enterprises (SMEs). The analysis, conducted using variance-based structural equation modeling (PLS-SEM) with SmartPLS v3, reveals that organizational commitment significantly mediates the relationship between perceived organizational support and turnover intention, as well as between perceived alternative job opportunities and turnover intention. However, the study found that job satisfaction does not moderate the relationships between organizational support, perceived alternative job opportunities, and organizational commitment. These findings underscore the pivotal role of organizational commitment in reducing turnover intentions, highlighting the need for SMEs to enhance perceived organizational support and manage perceptions of job alternatives to retain employees effectively.

2.4 Conceptual Framework and Hypothesis Development

In today's globalized and environmentally conscious business landscape, integrating supplier development programmes (SDPs) with sustainability performance has become a strategic imperative for the firms striving to achieve long-term success and competitive advantage. This conceptual framework explores the intricate relationship between SDPs and sustainability performance, emphasizing the moderating role of the firm commitment. Supplier development programmes, encompassing a range of initiatives aimed at enhancing supplier capabilities and fostering collaborative

relationships, are posited to impact the sustainability outcomes of the firms significantly. However, the extent to which these programmes drive sustainability performance may be contingent upon the level of commitment demonstrated by the firm towards these initiatives. The firm commitment, characterized by a dedicated and proactive approach to implementing and sustaining SDPs, is hypothesized to strengthen the link between supplier development efforts and improved sustainability performance. The resource-based view and the stakeholder theories guided the developed hypothesis. The relationships between the constructs are highlighted in Figure 1.

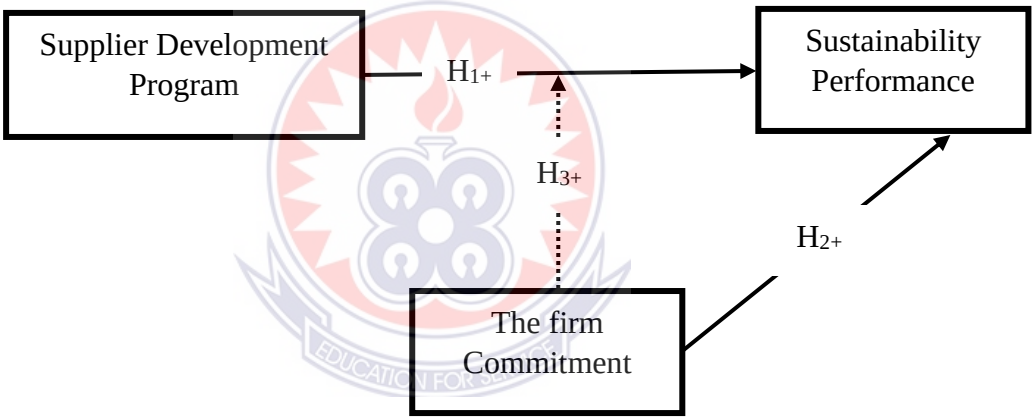

Figure 1: Conceptual Framework

2.4.1 Supplier Development and Sustainability Performance

Supplier development programmes (SDPs) are strategic initiatives that enhance supplier capabilities, thereby improving the overall performance of the buying the firm and its supply chain (Zimmer et al., 2016). According to the Resource-Based View (RBV) theory, the firms that effectively utilize their resources, such as SDPs, can achieve a competitive advantage (Warnerfelt, 1984; Wu, 2010). By investing in supplier capabilities through SDPs, the firms can create a more efficient and resilient supply chain that supports sustainable practices. These programmes often involve

providing suppliers with administrative, financial, operational, and technical resources to improve performance (Glock et al., 2017). For instance, improving a supplier's ability to use environmentally friendly materials or processes directly aligns with the firm's sustainability goals, reducing the environmental impact and contributing to better sustainability performance (Barney, 1991).

Empirical evidence supports the positive impact of SDPs on various performance metrics, including supplier performance. Research by Benton, Prahinski, and Fan (2020). Rajput, Gulzar, and Shafi (2019) demonstrate that SDPs improve supplier performance through structured two-way communication and mutual engagement, ultimately enhancing buyer-supplier relationships. These improved relationships and performance metrics contribute to better sustainability outcomes by fostering a collaborative environment that promotes sustainable practices. For example, collaborative efforts in waste reduction or energy efficiency projects between buyers and suppliers can lead to mutual benefits and enhanced sustainability performance (Dyer & Singh, 1998). Therefore, SDPs not only enhance the operational capabilities of suppliers but can also drive innovation and sustainable practices, ultimately leading to improved sustainability performance for the entire supply chain. Hence, this study hypothesizes that:

H1: There is a positive association between supplier development and sustainability performance.

2.4.2 The firm Commitment and Sustainability Performance

The stakeholder theory suggests that organizations operate within an ecosystem of interconnected relationships where the interests of various stakeholders, including employees, are essential for success (Freeman, 1984). When employees perceive high organizational justice and support, they exhibit more substantial organizational commitment, enhancing their willingness to engage in behaviors that support

sustainability objectives (Imamoglu et al., 2018). Empirical evidence supports that organizational commitment directly impacts knowledge sharing and the firm performance, indicating that committed employees are more likely to contribute positively to sustainability initiatives by sharing knowledge and participating in activities that enhance social, environmental, and economic outcomes (Imamoglu et al., 2018). Furthermore, stakeholder, which fosters affective organizational commitment, has been shown to significantly influence non-financial, social, and environmental performance dimensions (Patiar & Wang, 2015). This suggests that a committed workforce, inspired by relevant stakeholders, is crucial for achieving comprehensive sustainable performance.

Additionally, a strong the firm commitment aligns with the principles of stakeholder theory, which posits that addressing the needs and interests of all stakeholders, including employees, is critical for long-term success and sustainability (Freeman, 1984; Donaldson & Preston, 1995). When organizations create a supportive and engaging work environment, employees are more likely to exhibit organizational citizenship behaviors, including sustainability efforts (Cesário & Chambel, 2017). These behaviors are crucial for integrating sustainability into the organization's strategic planning and operational practices, as employees feel a sense of ownership and responsibility toward the organization's sustainability goals (Meyer & Herscovitch, 2001). Furthermore, the firms that demonstrate a strong commitment to their employees through ethical practices, fair policies, and employee development foster a loyal and motivated workforce, essential for successfully implementing sustainability initiatives (Avolio et al., 2004). Therefore, the firm commitment enhances employee performance and plays a pivotal role in driving the organization's sustainability performance by

ensuring that employees are aligned with and actively contributing to the organization's sustainability objectives. Hence, this study hypothesizes that:

H2: The firm commitment positively enhances Sustainability performance.

2.4.3 The Moderating Role of the firm Commitment

The firm commitment, characterized by employees' psychological attachment to their organization, plays a crucial role in enhancing the effectiveness of supplier development programmes (SDPs) on sustainability performance. From the stakeholder theory perspective, organizations must address the needs and interests of all stakeholders, including suppliers, to achieve long-term success and sustainability (Freeman, 1984). When the firm demonstrates a strong commitment to its employees, it creates an organizational culture that values collaboration, ethical practices, and continuous improvement (Meyer & Allen, 1991). This cultural foundation enables the firm to implement SDPs more effectively, as employees are motivated to engage with suppliers and share best practices that align with the firm's sustainability goals (Imamoglu et al., 2018). Empirical evidence supports the notion that the firm commitment moderates other relationships, such as employee performance and engagement, which are critical for successfully implementing sustainability initiatives (Cesário & Chambel, 2017). By fostering a committed workforce, the firms can ensure that SDPs are focused on immediate performance improvements and long-term sustainability outcomes.

Moreover, the alignment between the firm commitment and supplier development is essential for driving sustainability performance. As stakeholder theory suggests, the firms that invest in their employees' development and well-being are better positioned to extend these values to their suppliers (Donaldson & Preston, 1995). This investment leads to stronger relationships and trust between the firm and its suppliers, facilitating

the adoption of sustainable practices (Rajput et al., 2019). For instance, when employees are committed to the firm's sustainability objectives, they are more likely to collaborate with suppliers on waste reduction and energy efficiency projects, contributing to overall sustainability performance (Dyer & Singh, 1998). Empirical studies have shown that supplier development programmes significantly enhance supplier performance, mainly when there is a high level of trust and collaboration (Benton et al., 2020). Therefore, this study argues that:

H3: The firm commitment positively moderates the nexus between supplier development programmes and sustainability performance.

2.5 Chapter Summary

This chapter provided a comprehensive conceptual and theoretical review of the relationship between supplier development programmes (SDPs), the firm commitment, and sustainability performance. It integrates key concepts, theories, and empirical evidence to construct a robust framework for understanding how SDPs enhance sustainability outcomes and how the firm commitment moderates this relationship. Drawing on the Resource-Based View (RBV) and Stakeholder Theory, the chapter explains how SDPs, supported by the firm commitment, can improve supplier capabilities, stronger buyer-supplier relationships, and ultimately better sustainability performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This Chapter delves into the research methodology employed in this study. It covers the research philosophy and design, population, sample size, sampling methods, data collection techniques, various data collection instruments, and the procedures for measuring and analysing the data. This section provides a comprehensive explanation of how the entire study was conducted. Additionally, it addresses issues of reliability and ethics. The chapter concludes with a summary of the key points discussed.

3.1 Research Paradigm

The concept of a paradigm was introduced by Thomas Kuhn in 1962. Kuhn defined a research paradigm as a set of scientifically agreed-upon principles for analysing and addressing problems (Kuhn, 1970). A research paradigm guides researchers in making decisions, helping them to clearly define research problems, formulate objectives and research questions, and determine the study's reality, methodological approach, and knowledge base (Kivunja & Kuyini, 2017; Khatri, 2020). Paradigms consist of four components: ontology (beliefs about the nature of reality), axiology (ethical considerations in research), methodology (the approach to data collection and analysis), and epistemology (the nature and scope of knowledge and how it is acquired and tested) (Kivunja & Kivunja, 2017; Aliyu et al., 2015; Mertens, 2010).

This study aligns with the positivist paradigm, which is suitable for developing and testing hypotheses objectively. The specific objective of this study involves gathering data to generalise the results to the entire population. The positivist paradigm allows social scientists to present their research in a detailed, systematic, and structured

manner (Hasan, 2016; Benton & Craib, 2010). Positivists conduct research independently of societal influences and evaluate phenomena using objective standards. This approach stems from the epistemological belief that reality is an external construct made up of facts organised in a law-like manner (Evered & Louis, 1991). Positivist inquiry aims to uncover causal or explanatory relationships that can predict the phenomenon being studied (Sciarra, 1999). According to the positivist paradigm, research is valid if it possesses both internal and external validity, is objective, and is reliable (Rehman & Alharthi, 2016). Positivists typically employ quantitative research techniques to gather information. Under this paradigm, the results of a study can be generalised to the broader population (Alharahsheh & Pius, 2020). In this study, the positivist research paradigm aided the researcher in collecting, analysing, and presenting data impartially to establish relationships between variables. Consequently, the findings of this study can be generalised to the entire population, consistent with the principles of the positivist paradigm (Alharahsheh & Pius, 2020).

3.2 Research Design

A research design provides essential direction for researchers by serving as the overall strategy or blueprint that outlines the plan for conducting a research study. It specifies the methods and procedures for collecting, analyzing, and interpreting data (Creswell & Creswell, 2018). Similarly, Akhar (2016) describes research design as the blueprint or strategy for the entire research process, aimed at achieving the study's objectives. Research designs can be classified into several types, including explanatory, descriptive, longitudinal, causal, cohort, case study, and action design (Yazdani et al., 2021). The primary goal of a research design is to establish relationships between variables to determine cause and effect (Maxwell, 2012). The choice of research design

depends on the type of research, the study's purpose, and the unit of analysis (Bengtsson, 2016).

This study employed an explanatory research design. An explanatory research design is instrumental in predicting relationships between variables and explaining the causes and effects of these relationships. It also elucidates how certain variables influence others (Siemsen et al., 2010). Babbie (2016) notes that explanatory research design allows researchers to build theoretical frameworks, predict future occurrences, and inform evidence-based decision-making. This design is particularly valuable in complex fields where understanding the interplay between multiple factors is crucial for advancing knowledge and practice. Similarly, explanatory research enhances the depth and scope of scientific inquiry, contributing to the development of robust, generalisable findings that can be applied across various contexts. Researchers can formulate hypotheses based on data trends to predict future outcomes (Potwarka et al., 2019). This study utilised the explanatory research design to explore and explain the relationships between supplier development programmes, the firm commitment and sustainability performance. This approach thoroughly examined how these variables interact and influence each other, providing valuable insights to inform strategic decision-making.

3.3 Research Approach

The term "research approach" encompasses the processes and procedures involved in data collection, analysis, and interpretation. Research approaches are typically categorised into quantitative, qualitative, and mixed methods (Levitt et al., 2018). This study employed a quantitative research design, chosen due to its alignment with the positivist paradigm. The quantitative approach is instrumental in testing hypotheses by examining relationships among variables (Creswell & Creswell, 2017). It relies on

numerical data to explain phenomena, which are then analyzed statistically (Shiau et al., 2019; Chapman & Feit, 2019). The quantitative research process begins with data collection and concludes with data analysis using inferential or descriptive statistics (Tashakkori & Teddlie, 2003).

The quantitative approach is inherently deductive, aiming to test theories and hypotheses objectively. This involves defining a research problem, collecting and analyzing data, and making decisions about accepting or rejecting theories or hypotheses (Zyphur & Pierides, 2020). When studying large populations, the quantitative method is particularly suitable. It is also considered simple and time-efficient (Singer & Couper, 2017). However, the quantitative method has certain drawbacks. Handling numerical data can be complex, requiring researchers to ensure the validity and reliability of their research. Additionally, this approach may limit respondents from providing detailed information on the subject under study (Stockemer et al., 2019). This study employed the quantitative research method to explain the relationships between supplier development programmes, the firm commitment and sustainable performance. Inferential statistics were used to establish these relationships. The quantitative approach was selected to test hypotheses and theories, control for bias, and make informed decisions about the acceptance or rejection of hypotheses. This method enabled a rigorous examination of the variables, contributing to the robustness and generalizability of the study's findings.

3.4 Study Area

This study focuses on the manufacturing sector, specifically the food and beverage industry in the Greater Accra Region. The food and beverage sector includes all businesses and organisations involved in processing, packaging, and distributing raw food ingredients. This industry encompasses both alcoholic and non-alcoholic

beverages, as well as prepared, fresh, and packaged foods. The Ghanaian food and beverage industry has significantly contributed to the country's economic growth and the overall nutrition of its citizens. It plays a crucial role in Ghana's economy, contributing approximately 29% to the national Gross Domestic Product (GDP) (GSS, 2021) and providing numerous employment opportunities. Thousands of individuals are employed across various stages of production, from raw material sourcing to packaging and distribution, thus reducing unemployment rates and improving living standards in the Greater Accra Region and beyond (World Bank, 2020).

Studying the manufacturing sector, particularly the food and beverage industry, is essential due to its substantial economic impact and potential for growth. Researching this sector can yield valuable insights into operational efficiencies, market dynamics, and consumer preferences, all of which are crucial for enhancing competitiveness and sustainability. Additionally, findings from this study can inform policy decisions, support the development of value chains, and promote food security. Given the concentration of the firms in Accra, emphasis was placed on companies within this region. The Greater Accra Region's prominence in the food and beverage industry makes it an ideal focal point for research, offering a comprehensive understanding of both local and broader economic influences within Ghana's manufacturing landscape. According to the Association of Food and Beverages Manufacturing The firms, the Greater Accra Region houses 152 registered food and beverage manufacturing the firms, representing 82.5% of the total registered members nationwide. This concentration underscores the region's pivotal role in the industry and its significance as a primary study area.

3.5 Population

The term "population" refers to the entire group of individuals, objects, or elements that share common characteristics and are of interest to the researcher. It encompasses the total set from which a sample can be drawn for a study (Creswell, 2014). Defining the population is crucial as it ensures that the study's findings are applicable and relevant to the broader group, thereby enhancing the validity and generalizability of the research results. This study's total population comprises 152 registered food and beverage manufacturing the firms in the Greater Accra Region, representing 82.5% of Ghana's the firms. The Greater Accra Region was selected due to its significant concentration of these businesses, which enhances the research's efficiency and relevance. This high concentration underscores the region's pivotal role in the industry, making it an ideal focus area for the study. By concentrating on Greater Accra, the research can comprehensively analyse industry practices, challenges, and opportunities within a major industrial hub. This regional focus allows for more accurate and detailed insights, which are crucial for formulating effective policies and strategies tailored to the sector's needs. Therefore, the findings from this study will be highly relevant for stakeholders looking to enhance competitiveness and sustainability in Ghana's food and beverage manufacturing sector.

3.6 Sample and Sampling Procedure

Sampling involves selecting a representative subset of the entire population (Ritchie et al., 2013). Zikmund et al. (2013) define a sample as a population subset with common characteristics. Bambale (2014) emphasises that a population sample comprises a proportion of units selected for investigation. Sampling procedures are categorised into probability and non-probability sampling techniques. Probability sampling relies on random selection, ensuring that every member of the population has a known and equal

chance of being included in the sample. This method enhances the representativeness of the sample and allows for the generalisation of results to the entire population, making it commonly used in quantitative research (Creswell, 2014; Bryman & Bell, 2022). Conversely, non-probability sampling does not involve random selection, making it more susceptible to bias. It is often used in exploratory research to gain deeper insights rather than to generalise findings. Although less representative, non-probability sampling can be practical and cost-effective, especially when dealing with hard-to-reach populations (Etikan et al., 2016; Saunders et al., 2019).

This study employed a probability sampling technique, specifically the census sampling method. The census sampling technique systematically enumerates all members of the population (Pandey & Pandey, 2021). It involves considering the totality of all entities in the population. When the population size is manageable, a census is appropriate as it ensures that all participants are equally likely to be selected (Tyrer & Heyman, 2016). While the census sampling technique can be costly and time-consuming to implement, it yields reliable and accurate results by reducing sampling error since the entire population is considered. The choice of the census sampling technique for this study is justified by the manageable number of manufacturing the firms in the Greater Accra Region. All 152 registered food and beverage manufacturing the firms in the region were included in the study. This comprehensive approach ensures that the findings are highly representative of the population, thereby enhancing the validity and reliability of the research outcomes.

3.7 Time Horizon

The study utilised a cross-sectional approach to data collection. A cross-sectional time horizon involves gathering data at a single point in time or over a short period, offering a snapshot of the phenomenon under investigation. This research design is commonly

employed to identify patterns, relationships, and correlations among variables without accounting for changes over time (Saunders et al., 2019). One of the primary advantages of a cross-sectional time horizon is its efficiency, enabling researchers to collect comprehensive data from a large sample swiftly. This approach is particularly valuable in social sciences and business research, where time and resource constraints often preclude the feasibility of longitudinal studies (Zikmund, 2013). Moreover, cross-sectional studies are essential for generating hypotheses for future research, thereby serving as a critical tool for explanatory studies (Bhattacherjee, 2012).

3.8 Data Collection Instrument

A primary data collection instrument, specifically a structured questionnaire, was employed in this study. This approach was deemed appropriate given the research methodology and design. Explanatory study designs necessitate structured data collection procedures to ensure organised and systematic primary data gathering (Maxwell, 2012). A closed-ended and open-ended questionnaire serves as a tool for obtaining respondents' objective opinions on a particular subject (Singer & Couper, 2017). Malhotra and Birks (2007) similarly define a questionnaire as a compilation of questions approved for use in data collection from respondents. Questionnaires are the most prevalent data-gathering tools in research and are effective for measuring issues pertinent to business and growth (Malhotra & Birks, 2007). They are particularly suitable for gathering information from many participants, aiding in collecting objective data to ensure reliable and valid responses. The individual items on the questionnaire were carefully selected from validated literature, encompassing six items each for supplier development programmes, the firm commitment, and sustainable performance.

The questionnaire is divided into four sections. Section A addresses the demographics of the respondents. Section B focuses on supplier development programmes, while Sections C and D cover the firm commitment and sustainable performance, respectively. Respondents' opinions were assessed using a 5-point Likert scale (1 = Slightly Agree to 5 = Strongly Agree). A structured questionnaire was chosen as the preferred instrument due to its numerous advantages, including ease of construction, cost-effectiveness, uniformity of results, and the ability to maintain high confidentiality. However, strategies to ensure validity and reliability are essential when using questionnaires for data collection.

3.9 Variable and Measurement

The items used to measure the constructs were meticulously identified from existing research, and each item was adopted and modified to suit the study's specific context. The research concentrated on three main areas: supplier development programmes, the firm commitment, and sustainability performance. Items for supplier development programmes were sourced from Krause et al. (1998), Modi and Mabert (2007), and Wagner (2006). Similarly, items for the firm commitment were adapted from Davenport & Prusak (1998), Eisenberger et al. (1986), and Kraimer et al. (1999). Lastly, items for sustainability performance were adapted from Zhu and Sarkis (2004), Carter and Rogers (2008), and Freeman (1984). All the scales and items used have been validated through reliability measures, including Cronbach's alpha and composite reliability. The values for all items exceeded the recommended threshold of 0.70, as Hair et al. (2017) recommended, ensuring their reliability and validity in the context of this study.

3.10 Reliability and Validity

The study ensured the validity and reliability of the research instrument to guarantee its consistency and content validity. According to Cook and Reichardt (1979), validity refers to the best available estimation of the truthfulness of a given inference. Reliability, as defined by Yilmaz (2013), is the ability of an instrument to produce accurate and consistent results over time in the same context and with the same participants. Consistency is a crucial aspect of evaluating reliability, with Cronbach's alpha being the most widely used metric for assessing internal consistency. A Cronbach's alpha value greater than 0.7 is necessary to ensure the reliability of the questionnaire (Bujang et al., 2018). The composite reliability criterion is also employed to assess the construct's reliability, requiring a minimum value of 0.7 (Hair et al., 2017). Additionally, the outer loadings of an indicator must exceed 0.7 to the firm reliability (Hair et al., 2012). Retaining items with outer loadings between 0.4 and 0.7 depends on composite reliability and convergent validity (Hair et al., 2017). Convergent validity is ensured when the average variance extracted (AVE) exceeds 0.5 (Hair et al., 2017).

To examine discriminant validity, the study used the Fornell-Lacker criterion and the heterotrait-monotrait ratio of correlations (HTMT). The square root of the AVE should be higher than the correlation between the reflective construct and all other constructs, according to the Fornell-Lacker criterion (Henseler et al., 2015; Voorhees et al., 2016). Similarly, HTMT values should not exceed 0.90 to confirm discriminant validity (Henseler et al., 2015). Almanasreh (2019) argued that content validity is achieved when the questionnaire's measurements fully represent the instrument's content. To ensure this, the researcher pretested the instrument to eliminate spelling errors, poor phrasing, and confusing questions. Questionnaires are typically developed, shaped, and modified to ensure validity rather than appearing independently. Before administration,

procurement experts, peers, and lecturers reviewed and approved the questionnaire for corrections and improvements.

3.11 Data Collection Procedures

The data collection exercise spanned two months, from August to September 2024. An introductory letter was sent to the manufacturing the firms to facilitate a smooth data collection process. The study's objectives and purpose were clearly communicated to the firms, which helped respondents provide accurate information. The researcher assisted respondents throughout the questionnaire process. The estimated time for completing the questionnaire was 20 to 45 minutes, allowing respondents ample time to read, understand, and respond to the questions thoughtfully. The researcher utilised a drop-and-collect method, distributing the questionnaires to the firms and retrieving them at an agreed-upon time. Contact details were exchanged after administering the questionnaires, and the researcher contacted the respondents at least once to remind them about completing the questionnaires. This follow-up ensured that the questionnaires were returned on time, despite the respondents' busy schedules.

3.12 Data Processing Tools

SPSS (Statistical Package for Social Sciences) version 26 and SmartPLS-SEM 4 were used for data processing and analysis. The retrieved questionnaires were coded in SPSS. The SPSS data file was saved as a comma-separated values file (CSV—Comma delimited) and imported to Smart PLS-SEM 4 for further analysis. Smart PLS-SEM 4 is suitable for testing hypotheses and theories. Hair et al. (2017) revealed that SmartPLS SEM is well-suited for analyzing complex models with multiple latent variables and paths, which is common in social sciences, business, and management research. This capability allows researchers to simultaneously assess multiple relationships and interactions among variables, providing a holistic data view. Additionally, Hair et al.

(201(9) argued that Smart PLS-Sem, unlike the traditional covariance-based SEM, SmartPLS SEM is a variance-based technique that does not require data to be normally distributed. This flexibility makes it ideal for real-world data, which often deviate from normality. Also, Hair et al. (2017) revealed that the bootstrapping technique in SmartPLS provides robust significance testing for paths and loadings, enhancing the reliability of the results. Additionally, SmartPLS is known for its strong predictive accuracy, making it useful for forecasting and hypothesis testing (Hair et al., 2017).

3.13 Data Processing and Data Analysis

The data obtained from the respondents was meticulously prepared to ensure error-free data before entry. Numbers were assigned to all retrieved questionnaires to facilitate the sorting of non-response questionnaires. The collected data was edited, coded using SPSS, and analysed using Smart PLS SEM 4. Demographic data were analysed using frequency, mean, and standard deviation in SPSS version 26. The SPSS data file was then saved as a comma-separated values file (CSV – Comma delimited) and imported into SmartPLS SEM 4 for further analysis. A reflective and formative model was developed to test the measurement model and hypotheses. To confirm the construct's validity and reliability, factor loadings were calculated to ensure all indicators exceeded the threshold of 0.7. Composite reliability and discriminant validity were assessed, with composite reliability required to be greater than 0.7 (Hair et al., 2017). The average variance extracted (AVE) needed to be greater than 0.5 (Hair et al., 2017), and the square root of AVE had to be higher than the correlation between the reflective construct and all other constructs according to the Fornell-Larcker criterion (Henseler et al., 2015; Voorhees et al., 2016). Additionally, the HTMT values were required to be less than 0.90 to confirm discriminant validity (Henseler et al., 2015).

Furthermore, a consistent bootstrap analysis was performed with 10000 samples to determine the relationships between the exogenous variable (supplier development programme), moderating variable (the firm commitment), and endogenous variable (sustainable performance). T-statistics and p-values were used to determine the significance of these relationships. The study's objectives were analyzed using inferential analysis tools, specifically structural equation modeling (SEM), which was chosen to establish the relationships between the variables as outlined in the first chapter of the research. Descriptive statistics were used to assess the demographic data, including percentages, frequencies, means, and standard deviations.

3.14 Ethical Consideration

Ethics play a fundamental role in scientific research, providing the rules or standards that guide our conduct and interactions (Saunders et al., 2007). To ensure ethical compliance, an introductory letter was sent to the authorities of the entities involved, requesting approval for the data collection exercise. This letter detailed the study's objectives and the significance of the research. Before distributing the questionnaires, the authorities were fully informed of the study's goals. The questionnaire included a clause ensuring respondent confidentiality. Participants were briefed on the study's objectives and methodology and assured that their responses would be respected and kept confidential. It was emphasised that their participation was solely for academic purposes, and they were instructed not to include their names on the questionnaire to protect their anonymity. The potential benefits of the study to the participants were also explained. Participants were informed that there would be no compensation for their involvement and that they could withdraw from the study anytime. Additionally, all relevant literature used in the study, whether paraphrased, summarised, or quoted, was properly cited to prevent plagiarism and maintain academic integrity

3.15 Chapter Summary

This chapter detailed the research methodology and procedures employed in the study. It discussed the research philosophy, specifically the positivist philosophy, which was chosen due to the nature and objectives of the research. The positivist philosophy emphasises the objectivity of scientific inquiry. The chapter also covered the research design, outlining the data collection procedures and statistical methods used. Additionally, it examined the research population and sample and evaluated the research instruments for validity and reliability. The Statistical Package for Social Science (SPSS version 26.0) and Smart PLS-SEM were utilised as powerful analytical tools to achieve the study's primary objectives. Ethical considerations were also addressed comprehensively.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

The study examined the effects of supplier development programmes on sustainable performance and the moderating role of the firm commitment. Descriptive statistics for various characteristics were analyzed and are detailed in this chapter. The developed hypotheses were tested using Smart PLS-SEM. The analysis first covered the measurement criteria, followed by the structural model.

4.1 Response Rate

A total of 152 questionnaires were distributed across the manufacturing the firms in the Greater Accra Region, Ghana. 117 responses were received, but three were incomplete and subsequently excluded from the analysis. Ultimately, 114 valid questionnaires were prepared for data entry and analysis. This resulted in a response rate of 75%, considered highly satisfactory for data analysis. The response rate of 75% underscores the reliability of the data collected and the robustness of the findings derived from the analysis.

Demographics Characteristics of the Sample

This section describes the final sample and details the data sources (response/respondent characteristics). Various demographic characteristics, such as gender, age, level of education, number of years worked in their organisation, and marital status, were analysed and presented in Table 1.

Table 1: Demographic Information

Gender		Frequency	Percentage
	Male	78	68.4
	Female	36	31.6
Age	27-34	35	30.7
	35-44	67	58.8
	45-54	9	7.9
	55-64	3	2.6
Level of Education	HND/Diploma	18	15.8
	First Degree	49	43
	Masters Degree	47	41.2
	PhD		-
Years of experience	Less than a year	21	18.4
	1-3 years	35	30.7
	4-6 years	18	15.8
	Above 7 years	40	35.1
Marital Status	Single	43	37.7
	Married	63	55.3
	Divorced	4	3.5
	Widowed	4	3.5
Product Types	Alcoholic	23	20.18
	Non-Alcoholic	42	36.84
	Packaged Food	39	34.21
	Ingredients/Additive	10	8.77
Total		114	100

Source: Field Survey (2024)

Table 1 outlines the demographic and professional characteristics of 114 participants in the study, providing insights into their gender, age, education level, years of experience, marital status, and the types of products they are associated with. The gender distribution shows a significant male predominance, with 78 male participants (68.4%) compared to 36 females (31.6%). The age distribution indicates that the majority of participants are between the ages of 35-44 years (58.8%), followed by those aged 27-34 years (30.7%). Notably, the group from 45 years and older represents a smaller fraction of the sample, indicating that the participant pool is relatively younger. In terms of education, most participants have at least a first degree (43%), with a substantial

number holding a master's degree (41.2%), and a small percentage (15.8%) holding an HND or diploma. No participants reported having a PhD.

Regarding professional experience, those with over 7 years of experience form the largest group (35.1%), suggesting a seasoned workforce, while the remaining participants are more evenly distributed across the other categories, reflecting a mix of relatively new and moderately experienced professionals. Most participants are married (55.3%), which might influence their stability and long-term commitment to their roles. In terms of product types handled by the participants, there is a fairly even distribution among non-alcoholic (36.84%), packaged food (34.21%), and alcoholic (20.18%) products, with a smaller segment dealing with ingredients or additives (8.77%). This product distribution could suggest diverse expertise and backgrounds among the participants, potentially influencing their perspectives and inputs in the study based on the industry sector they represent. The demographic and professional composition of the study group provides a rich basis for analyzing the impact of various factors on the performance outcomes and behaviors within the industry they are engaged in.

4.2 Descriptive Statistics of the Constructs

The descriptive statistics table provides an overview of the data collected for three constructs: supplier development programme, the firm commitment and sustainable performance. Each construct is measured using multiple items, with mean scores ranging from 3.016 to 3.549 on a 5-point scale. Standard deviations indicate variability, with values ranging from 0.997 to 1.289, suggesting a moderate spread of responses. Skewness and kurtosis values are within acceptable ranges for normality, typically defined as skewness between -2 and 2, and kurtosis between -7 and 7 (Kim, 2013). These statistics imply that the data distribution for all items is approximately normal, facilitating further parametric analysis.

Table 2: Descriptive Statistics of the Constructs

		Mean	Min	Max	SD	Kurtosis	Skewness
Supplier Development Programme							
SDP1	Our organisation provides regular training programmes for suppliers to enhance their capabilities.	3.357	1	5	0.997	0.166	-0.228
SDP2	We offer technical assistance to our suppliers to improve their processes and product quality	3.33	1	5	1.115	-0.806	-0.009
SDP3	Our company frequently shares information with suppliers regarding product design and specifications	3.17	1	5	1.148	0.815	0.134
SDP4	We provide financial support to our suppliers to help them improve their operations and capabilities	3.124	1	5	1.268	-1.065	-0.063
SDP5	Our organisation regularly evaluates supplier performance and provides feedback for improvement.	3.214	1	5	1.27	-1.079	0.06
The firm Commitment							
FC1	I feel a strong sense of belonging to this the firm	3.22	1	5	1.092	-0.884	0.025
FC2	The firm provides adequate workplace facilities to perform my job effectively.	3.464	1	5	1.09	-0.501	-0.4
FC3	I have access to the latest technological tools and software required for my work	3.379	1	5	1.275	-1.204	-0.1
FC4	The firm provides regular training programmes to help me develop my skills	3.357	1	5	1.273	-0.88	-0.308

FC5	My supervisor/manager provides the necessary support to help me achieve my work goals.	3.113	1	5	1.289	-1.11	-0.002
FC6	I have access to the information needed to perform my job effectively	3.429	1	5	1.215	-0.972	-0.267
	Sustainable Performance						
SP1	Our organization has significantly reduced its environmental impact over the past three years.	3.261	1	5	1.263	1.079	0.041
SP2	Our company has experienced improved economic performance due to sustainable practices	3.308	1	5	1.024	-0.585	0.003
SP3	We actively engage in practices that improve the social well-being of our employees and community	3.319	1	5	1.18	0.71	-0.175
SP4	Our operations are designed to maximize resource efficiency and minimize waste	3.368	1	5	1.216	-0.786	-0.247
SP5	We regularly engage with stakeholders to address sustainability issues and improve our performance	3.549	1	5	1.022	-0.749	-0.064
SP6	Our company invests in innovative solutions to enhance sustainability	3.505	1	5	1.086	0.797	-0.318

Source: Field Survey (2024)

The data revealed a moderate to positive perceptions among participants about their organization's Supplier Development Programme (SDP), The firm Commitment (FC), and Sustainable Performance (SP), with mean scores indicating general agreement on the presence of supportive practices in these areas. Specifically, SDP components such as training programmes, technical assistance, and performance evaluations received mean scores ranging from 3.124 to 3.357, suggesting that these practices are somewhat consistently applied, although the relatively high standard deviations indicate

variability in perceptions, possibly due to different experiences or interpretations among employees. Notably, the skewness values for most items are close to zero, reflecting a symmetric distribution of responses around the mean, which points to a balanced view among respondents regarding the implementation of supplier development practices.

The firm Commitment also scored moderately high, with mean values between 3.113 and 3.464, indicating that employees feel a sense of belonging and perceive adequate support from the organization in terms of workplace facilities, technology access, and managerial support. Again, the standard deviations are significant, underscoring varied experiences among employees that could reflect inconsistent application or awareness of these supportive practices. Sustainable Performance scores, which assess the organization's environmental, economic, and social sustainability efforts, also showed moderate positivity (mean scores from 3.261 to 3.549). This suggests a general perception that sustainable practices contribute effectively to the organization's performance. The skewness and kurtosis values, particularly the higher kurtosis in SP1, suggest that responses cluster around a higher mean, indicating more uniform agreement or experiences regarding the organization's efforts to reduce environmental impacts and engage with sustainability initiatives.

4.3 Indicator Loading, Internal Consistency Reliability and Convergent Validity Assessment

The study examined the indicator loadings for all constructs, adhering to the recommendation that each item (indicator) should exhibit a loading of 0.708 or higher. This standard ensures that the construct proxy accounts for at least 50% of the variance in each item (Hair et al., 2012). Following the validation of indicator loadings, the study assessed internal consistency reliability. Internal consistency reliability measures how

well a set of indicators consistently represents the underlying construct. Using composite reliability and Cronbach's alpha for this assessment is recommended. Using these two measures is important because Cronbach's alpha underestimates reliability, while composite reliability overestimates it. Together, they provide the lower and upper bounds of the true composite reliability, respectively (Hair et al., 2022). For internal consistency reliability to be considered acceptable, these measures should have a minimum value of 0.7 (Hair & Sarstedt, 2019). On the other hand, the convergent validity was assessed using the average variance extracted. The Average Variance Extracted (AVE) measures the amount of variance captured by a construct from its indicators relative to the amount due to measurement error. For a construct to demonstrate good convergent validity, its AVE should be 0.5 or higher, indicating that it explains more than half of the variance of its indicators (Hair, Howard & Nitzl, 2020). The result is highlighted in Table 3.

Table 3: Indicator loading and internal consistency reliability

	Loading	Cronbach Alpha	Composite Reliability	AVE
The firm Commitment		0.886	0.914	0.639
FC1	0.839			
FC2	0.724			
FC3	0.810			
FC4	0.804			
FC5	0.732			
FC6	0.878			
Supplier Development Programme		0.895	0.922	0.704
SDP1	0.825			
SDP2	0.868			
SDP3	0.826			
SDP4	0.823			

SDP5	0.852			
Sustainability Performance		0.899	0.922	0.663
SP1	0.764			
SP2	0.806			
SP3	0.862			
SP4	0.816			
SP5	0.853			
SP6	0.781			
The firm Commitment x Supplier Dev. Programme	1.000			

Source: Field Survey (2024)

Table 3 presents the reliability and validity metrics for different constructs used in a study: The firm Commitment, Supplier Development Programme, and Sustainability Performance, along with an interaction term between the firm Commitment and Supplier Development Programme. The result shows that Cronbach's Alpha values for all constructs exceed the commonly accepted threshold of 0.7, indicating strong internal consistency. The Composite Reliability for each construct is also robust, surpassing 0.9, further confirming their reliability. The Average Variance Extracted (AVE) for each construct meets the minimum criterion of 0.5, suggesting good convergent validity. The AVE values are 0.639 for the firm Commitment, 0.704 for Supplier Development Programme, and 0.663 for Sustainability Performance, which reflects the variance captured by the construct relative to the variance due to measurement error. The result indicates that the constructs are reliable and valid for this study.

4.4 Discriminant Validity Assessment

Discriminant validity refers to the extent to which a construct is truly distinct from other constructs by empirical standards. In other words, discriminant validity ensures a construct is unique and captures phenomena that other constructs in the model do not. This is crucial for establishing the construct's validity and ensuring that the results of

the SEM analysis are reliable and meaningful (Hair et al., 2016). There are several methods to assess discriminant validity. It includes Fornell-lacker, the Heterotrait-Monotrait ratio and cross loadings. This study applied the Heterotrait-Monotrait ratio because of its robustness over the other methods (Henseler et al., 2015; Hair et al., 2016). HTMT is considered a more reliable criterion for assessing discriminant validity and involves calculating the ratio of between-trait correlations to within-trait correlations. An HTMT value below 0.85 and 0.90 suggests good discriminant validity for distinct and similar constructs. Ensuring discriminant validity is essential because it confirms that the constructs in the model are distinct and not merely reflections of each other. This distinction allows researchers to make more accurate inferences about the relationships between constructs and better understand each construct's unique contributions to the overall model. The HTMT result is indicated in Table 4.

Table 4: Heterotrait-Monotrait ratio

	1	2	3	4
The firm Commitment [1]				
Supplier Dev. Programme [2]	0.803			
Sustainable Performance [3]	0.818	0.780		
The firm Commitment x Supplier Dev. Programme [4]	0.274	0.106	0.342	

Source: Field Survey (2024)

Table 4 shows the Heterotrait-Monotrait (HTMT) ratio of correlations, a measure used to assess the discriminant validity between the constructs in a study. Ideally, HTMT values should be below 0.85 or 0.90 to confirm that constructs are distinct. For the firm Commitment and Supplier Development Programme, the HTMT ratio is 0.803. For The firm Commitment and Sustainable Performance, it is 0.818, both nearing the upper threshold but still acceptable, suggesting adequate discriminant validity. The HTMT ratio between Supplier Development Programme and Sustainable Performance is

0.780, comfortably below the threshold, indicating good discriminant validity. The interaction term (The firm Commitment x Supplier Development Programme) has much lower HTMT values when compared with the other constructs (0.274 with The firm Commitment, 0.106 with Supplier Development Programme, and 0.342 with Sustainable Performance), which demonstrates that the interaction term is distinctly different from the main constructs. This supports the construct's uniqueness and appropriateness in the model.

4.5 Structural Model Assessment

After validating the reliability (internal consistency) and validity (convergent and discriminant) of the measurement model, the study assessed the structural model to accurately predict the relationships between exogenous, moderating, and endogenous constructs. According to Hair et al. (2016), a structured approach should be used to analyze the outcomes within the structural model in PLS-SEM, emphasizing its predictive efficiency and the relationships among variables. The study first analyzed collinearity issues, ensuring no significant multicollinearity was present. It then examined the significance and relevance of the relationships within the structural model, evaluating the strength and direction of the hypothesized paths. Further, the study evaluated the coefficient of determination (R^2) to determine the proportion of variance explained by the exogenous variables. Additionally, the F^2 effect size was examined to assess the impact of each predictor construct on the endogenous constructs, and the Q^2 effect size was measured to evaluate the model's predictive relevance.

4.6 Collinearity Assessment

Collinearity assessment is a critical step in evaluating structural models using Partial Least Squares Structural Equation Modeling (PLS-SEM). Collinearity occurs when two or more predictor variables in a model are highly correlated, leading to redundancy and

potentially unstable estimates of regression coefficients (Cheah et al., 2023). In PLS-SEM, collinearity assessment is essential to ensure the robustness and reliability of the model's results. High collinearity can inflate standard errors and make it difficult to determine the individual effect of each predictor variable on the endogenous constructs (Hair et al., 2019). To assess collinearity, researchers typically examine the Variance Inflation Factor (VIF) values, with a common threshold being a VIF value below 3.3, indicating acceptable collinearity levels (Knock, 2015). Addressing collinearity issues helps refine the model and ensure that the structural paths are accurately estimated, leading to more reliable and valid conclusions. Proper collinearity assessment enhances the interpretability of the model and supports the validity of the theoretical relationships being tested. The results of VIF values are presented in Table 5.

Table 5: Multicollinearity Statistics

	VIF
The firm Commitment -> Sustainable Performance	3.137
Supplier Dev. Programme -> Sustainable Performance	2.961
The firm Commitment x Supplier Dev. Programme -> Sustainable Performance	1.108

Source: Field Survey (2024)

Table 5 presents the Variance Inflation Factor (VIF) statistics for predictors in a model assessing their impact on Sustainable Performance. Generally, a VIF value below 5 suggests that multicollinearity is not a concern, and each predictor can be considered to provide unique information to the model. The VIF for the firm Commitment and Supplier Development Programme, with values of 3.137 and 2.961, respectively, are well below this threshold, indicating no significant multicollinearity affecting the model. The interaction term (The firm Commitment x Supplier Development

Programme) has an even lower VIF of 1.108, further confirming the absence of multicollinearity and illustrating that it is a distinct, non-redundant contributor to predicting Sustainable Performance. These VIF statistics suggest that the model is well-specified with independent predictors that do not unduly influence each other.

4.7 Coefficient of Determination (R^2)

When collinearity is non-problematic, the subsequent step involves evaluating the R^2 value for the endogenous variables. The R^2 is a key metric used to assess the model's explanatory power. R^2 represents the proportion of variance in the dependent (endogenous) variable that can be explained by the independent (exogenous) variables (Shmueli & Koppius, 2011). Higher R^2 values indicate that the exogenous variables account for a greater amount of variance in the endogenous variable, reflecting a better fit of the model. This metric is crucial as it helps researchers understand the strength and significance of the relationships between constructs within the model, thereby providing insights into its predictive accuracy (Hair, Hult, Ringle, & Sarstedt, 2016). Analyzing R^2 values allows for a comprehensive evaluation of how well the theoretical framework fits the observed data, which is essential for validating the proposed hypotheses and ensuring the robustness of the research findings. The results of the R2 values are shown in Table 6.

Table 6: Coefficient of Determination

	R-square	R-square adjusted
Sustainable Performance	0.625	0.621

Source: Field Survey (2024)

Table 6 presents the coefficient of determination (R-square) and the adjusted R-square for the model predicting Sustainable Performance. The R-square value is 0.625, indicating that approximately 62.5% of the variance in Sustainable Performance can be

explained by supplier development programmes and the firm commitment. This suggests a strong model fit. The adjusted R-square, which accounts for the number of predictors in the model and the sample size, is very close to the R-square at 0.621. The small difference between these two values indicates that the model is efficient and not overly complex, given the number of predictors used. This robustness in the adjusted R-square reinforces the model's explanatory power and its generalizability in predicting Sustainable Performance.

4.8 Predictive Relevance (Q2) Assessment

Another key indicator for evaluating predictive accuracy is the Q^2 value, often associated with the blindfolding technique (Geisser, 1974; Stone, 1974). Q^2 measures how well the model can predict the data points of the endogenous constructs, indicating its out-of-sample predictive power. A model demonstrates predictive relevance if the Q^2 value is greater than zero, suggesting that the model can predict the endogenous variables based on the exogenous variables (Hair et al., 2020). This assessment is crucial because it not only confirms the explanatory power of the model (as indicated by R^2) but also ensures that the model can generalize beyond the sample used for estimation, thus enhancing its practical applicability and reliability (Hair, Hult, Ringle, & Sarstedt, 2016). By incorporating Q^2 assessment, researchers can verify that their models are theoretically sound and practically useful for predicting future observations, making it an indispensable component of model evaluation in PLS-SEM. The output of the Q2 is highlighted in Table 7

Table 7: Predictive Relevance

	Q^2predict	RMSE	MAE
Sustainable Performance	0.581	0.651	0.477

Source: Field Survey (2024)

Table 7 displays the predictive relevance (Q^2predict), Root Mean Square Error (RMSE), and Mean Absolute Error (MAE) for the model predicting Sustainable Performance. The Q^2predict value of 0.581 suggests that the model has substantial predictive relevance, indicating that it can explain about 58.1% of the variance in the Sustainable Performance, which strongly indicates the model's practical utility. The RMSE value of 0.651 and the MAE of 0.477 are metrics used to measure the average magnitude of the prediction errors. The RMSE, considering it squares the errors before averaging, typically gives a higher weight to larger errors. A value of 0.651 in this context reflects moderate error magnitude, implying predictions that are reasonably close to the actual values. Similarly, the MAE value of 0.477, being lower, indicates that, on average, the absolute prediction errors are less than half a unit on the predicted scale, suggesting good accuracy of the model's predictions. Together, these statistics support the model's effectiveness in accurately predicting Sustainable Performance.

4.9 Effect Size (F2) Assessment

Effect size assessment is crucial for understanding the practical significance of relationships between constructs within the model. Effect size, typically measured by Cohen's f^2, indicates the impact of a specific exogenous variable on an endogenous variable by quantifying the change in the coefficient of determination (R^2) when the exogenous variable is included or excluded from the model (Hair et al., 2020). An f^2 value of 0.02, 0.15, and 0.35 suggests small, medium, and large effects, respectively (Cohen, 1988). Assessing effect size is important because it provides deeper insights into the strength and relevance of predictor variables beyond mere statistical significance, helping researchers to identify which variables have the most substantial impact on the model's outcomes (Hair, Hult, Ringle, & Sarstedt, 2016).

Table 8: F-square statistics

	f-square
The firm Commitment -> Sustainable Performance	0.130
Supplier Dev. Programme -> Sustainable Performance	0.133
The firm Commitment x Supplier Dev. Programme -> Sustainable Performance	0.079

Source: Field Survey (2024)

Table 8 presents the f-square statistics for the impact of the firm Commitment, Supplier Development Programme, and their interaction on Sustainable Performance. The f-square values measure the effects size of each predictor within the model. Values for the firm Commitment and Supplier Development Programme are relatively similar, at 0.130 and 0.133, respectively, indicating that both have a small but meaningful effect on Sustainable Performance. These values suggest that each variable individually contributes to the explanation of variance in Sustainable Performance, albeit modestly. The interaction term (The firm Commitment x Supplier Development Programme) shows a smaller f-square value of 0.079, which is also considered small according to Cohen's conventions for effect size. This indicates that while the interaction term contributes to the model, its impact is less pronounced than the main effects of the firm Commitment and Supplier Development Programme. These findings highlight the distinct roles that each variable and their interaction play in influencing Sustainable Performance.

4.10 Assessment of Path Coefficients and Significance Level

Once the measurement model was confirm firmed to meet the requirements established by PLS-SEM, all study hypotheses were evaluated. This evaluation involved examining the direction and magnitude of relationships using path coefficients. The significance levels were determined using t-statistics derived from 10000 bootstrap samples,

following a 2-tailed test recommended by Hair et al. (2014). According to the established standards, a hypothesis is considered statistically significant if the t-statistics exceed the threshold of 1.96 and the p-values are below 0.05. The results from applying Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis to the three hypotheses aligned with the research objectives are detailed in Figure 2 and Table 9.

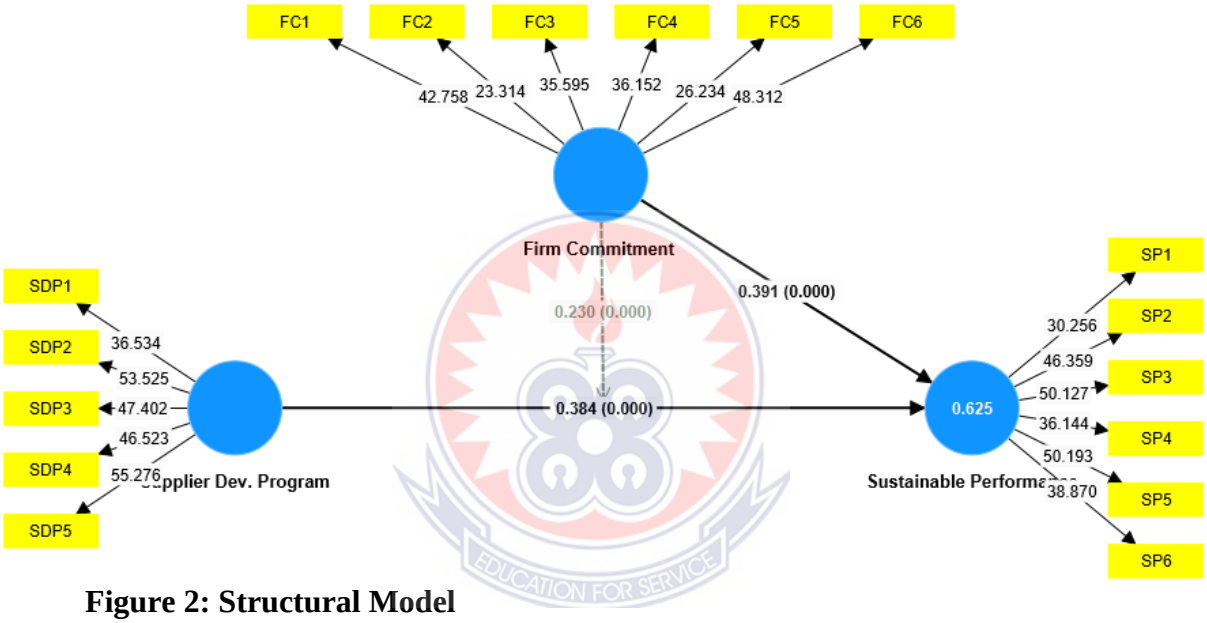

Figure 2: Structural Model

Table 9: Hypothesis testing

		β	T stat.	P values	Decision
	Direct Relationship				
H1	Supplier Dev. Programme -> Sustainable Performance	0.384	5.757	0.000	Accept
H2	The firm Commitment -> Sustainable Performance	0.391	5.744	0.000	Accept
	Moderating Effect				
H3	The firm Commitment x Supplier Dev. Programme -> Sustainable Performance	0.230	6.024	0.000	Accept

Source: Field Survey (2024)

The results presented in Table 9 provide statistical support for the hypothesized relationships in the study. Both hypotheses H1 and H2, which posited direct relationships between Supplier Development Programme and Sustainable

Performance, and the firm Commitment and Sustainable Performance respectively, show significant positive coefficients (β = 0.384 for H1 and β = 0.391 for H2) with high t-statistics (5.757 for H1 and 5.744 for H2) and p-values of 0.000. These results indicate strong evidence to accept both hypotheses, suggesting that both the Supplier Development Programme and The firm Commitment significantly contribute to Sustainable Performance. Hypothesis H3, which examines the moderating effect of the interaction between The firm Commitment and Supplier Development Programme on Sustainable Performance, also shows a significant positive coefficient (β = 0.230) with a t-statistic of 6.024 and a p-value of 0.000. This result supports the hypothesis that the firm commitment moderates the relationship between supplier development programmes and the sustainable performance of manufacturing the firms in Ghana, providing strong justification for accepting H3.

4.11 Discussion of Findings

4.12 Objective 1: Supplier Development Programme and Sustainable Performance

The first objective assessed the effects of supplier development on the sustainable performance of manufacturing the firms in the Greater Accra region of Ghana. The result positively and significantly affected supplier development programmes and sustainable performance. The result suggests that supplier development initiatives are not merely operational improvements but are crucial for embedding sustainability into the core business strategy. By fostering better practices among suppliers, companies can see improved sustainable performance, which is increasingly important to stakeholders and for regulatory compliance. This impact is particularly relevant in industries where the supply chain plays a significant role in the overall sustainability footprint of the company. Therefore, integrating sustainability-focused supplier

development programmes can provide competitive advantages by improving supply chain resilience and efficiency and aligning the company's operations with broader sustainability goals, thereby enhancing its market positioning and stakeholder trust.

The findings align with other studies that collectively highlight the strategic importance of supplier development programmes (SDPs) as crucial resources within the Resource-Based View (RBV) theory framework, which posits that competitive advantage derives from unique, the firm-specific resources. For example, studies by Benton, Prahinski, and Fan (2020) and Rajput, Gulzar, and Shafi (2019) highlight the governance role of SDPs in stabilizing inter-organizational relationships and enhancing performance through mechanisms such as trust and bilateral communication. These findings align with the RBV's emphasis on leveraging both tangible and intangible assets to sustain competitive advantage. Additionally, the role of organizational context in maximizing the effectiveness of SDPs, as demonstrated in studies by Saliman, Rashidirad, and Soltani (2017), reflects the RBV theory's focus on the strategic deployment of resources tailored to the firm-specific capabilities and conditions, thereby enhancing performance and maintaining market differentiation. These insights reaf the firm the value of SDPs in strategic resource management and illustrate their critical role in fostering performance and competitive advantage across various industries.

4.13 Objective 2: The firm Commitment and Sustainable Performance

The second objective examined the effects of the firm commitment on sustainable performance in the manufacturing industry. The result shows that the firm commitment positively and significantly affects sustainable performance. The finding that the firm commitment has a positive and significant effect on sustainable performance highlights the critical role of organizational dedication in enhancing sustainability outcomes. The firm commitment, indicative of the extent to which an organization prioritizes and

integrates sustainability into its core operations, directly influences the effectiveness of its sustainable practices. This relationship suggests that when the firms are genuinely committed to sustainability, they are more likely to implement rigorous environmental, social, and governance practices that lead to improved performance metrics in these areas (Jain and Sullivan, 2019). Such commitment can drive the adoption of innovative sustainable technologies, foster a culture that values sustainability, and enhance stakeholder engagement, all of which contribute to better sustainability outcomes. This significant effect highlights the importance of strategic focus and genuine commitment to achieving and maintaining high levels of sustainable performance, reflecting the broader organizational value system and strategic priorities.

The findings align with other studies. For instance, Chie, Won, and Bae (2019) demonstrate how internal marketing boosts organizational commitment and job performance in the sports and fitness industry, mirroring findings from Cesário and Chambel (2017), who identify commitment as a pivotal driver of performance. This aligns with Patiar and Wang (2015) and Pradhan and Pradhan (2015), where transformational leadership fosters organizational commitment, thereby improving various performance metrics. Similarly, Imamoglu et al. (2018) link organizational justice to increased knowledge sharing and commitment, reinforcing the interconnectedness of just environments, employee relations, and performance.

4.14 Objective 3: Moderating Effect of the firm Commitment

The third objective examined the moderating effect of the firm commitment on the nexus between supplier development programmes and sustainable performance in a manufacturing the firm in the Greater Accra Region of Ghana. The results shows that the firm commitment positively moderates the relationship between supplier development programmes and sustainable performance. The moderating effect

suggests that when manufacturing the firms are highly committed to its goals and strategies, the benefits derived from supplier development programmes, such as improved efficiency, innovation, and sustainability, are significantly enhanced. Essentially, the firm commitment acts as a catalyst that strengthens the positive impact of these programmes on sustainable performance. This could be due to committed the firms being more likely to invest in thorough and strategic supplier development practices, ensure alignment of these practices with their sustainability goals, and foster a culture that encourages continuous improvement and collaboration with suppliers. Thus, the firm commitment supports and accelerates achieving sustainable outcomes, reinforcing the importance of aligning organizational commitment with strategic supply chain initiatives to maximize performance gains.

The results indicates that the firm commitment positively moderates the relationship between supplier development programmes and sustainable performance aligns well with extant studies and the principles of stakeholder theory. According to stakeholder theory, the firm's success is intricately linked to its ability to manage and satisfy its various stakeholder groups, which include suppliers. Studies like those by El-Kassar and Singh (2019) and Imamoglu et al. (2019) reinforce this by demonstrating that management commitment is critical in driving initiatives like green innovation and organizational justice, which are crucial for enhancing performance and competitiveness. This strategic commitment enhances supplier capabilities and ensures that these capabilities align with the firm's sustainability goals, leading to improved performance outcomes. By integrating the supplier into the firm's strategic objectives, as stakeholder theory suggests, the firm can create a more resilient and responsive supply chain that contributes to sustainable business practices, benefiting the firm and its broader network of stakeholders.

4.15 Chapter Summary

The chapter presented the demographic characteristics of the respondents, followed by the descriptive information of all three constructs in the study. All hypotheses were analysed and presented based on the research objectives. The results revealed that supplier development programmes and the firm commitment positively and significantly affect sustainable performance. Also, the study revealed that the firm commitment moderates the relationship between supplier development programmes and sustainable performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The study examined how the firm commitment moderates the nexus between supplier development programmes and sustainable performance in manufacturing the firms in the Greater Accra Region of Ghana. The concluding chapter summarises the findings presented in the preceding chapter and discusses the conclusions from the various hypotheses tested. Lastly, some recommendations are offered in light of the study's findings.

5.1 Summary of Findings

Three objectives guided the study. The objectives include:

1. An examination of the effects of supplier development programme on sustainable performance
2. An examination of the effects of the firm commitment on sustainable performance
3. An examination of the moderating effect of the firm commitment on the nexus between supplier development programmes and sustainable performance.

The study adopts a positivist approach, which allows for an objective and scientific examination of the relationships between variables. This paradigm supports the formulation and testing of hypotheses, making it suitable for the study's aim of exploring the effects of supplier development programmes, the firm commitment and sustainable performance. The study employs an explanatory research design to assess these relationships, focusing on predicting the interaction between the key variables. The quantitative approach uses numerical data from a structured questionnaire to test the hypotheses. This approach is aligned with the chosen paradigm, ensuring that the

results can be generalized to the larger population. A census sampling technique is used, which involves including all 152 registered the firms in the region, as this population size is manageable for a census approach.

The study used a cross-sectional approach to data gathering, collecting data simultaneously to provide a snapshot of the phenomenon under study. This method efficiently identifies patterns, relationships, and correlations among variables, making it a critical tool for explanatory social science and business research. A structured questionnaire was also used as the primary data collection instrument. Pretesting was conducted to ensure the questionnaire's appropriateness and comprehensiveness. SPSS version 26 and SmartPLS-SEM 4 were used for data processing and analysis. Data was coded in SPSS and imported to SmartPLS-SEM for further study. The tools were chosen for suitability in testing hypotheses, analysing complex models, and providing robust significance testing through bootstrapping.

The study's findings proved that supplier development programmes substantially enhance sustainable performance, evidencing the strategic value of embedding sustainable practices within the supply chain to bolster overall sustainability and competitive advantage, aligned with the Resource-Based View (RBV) theory. Secondly, the firm commitment was shown to positively influence sustainable performance, highlighting the critical role of organizational dedication in integrating and enhancing sustainability efforts, which, in turn, drive improved performance outcomes in environmental, social, and governance dimensions. Finally, the study found that the firm commitment serves as a moderating factor, amplifying the effects of supplier development programmes on sustainable performance, suggesting that a higher degree of organizational commitment can catalyze and extend the benefits of these programmes, effectively creating a more resilient and responsive supply chain

that supports broader sustainability goals and stakeholder satisfaction. These findings collectively highlight the importance of strategic commitments and development programmes in achieving enhanced sustainability in the manufacturing sector.

5.2 Conclusion

The study's findings provide compelling evidence of the critical roles that supplier development programmes and the firm commitment play in enhancing sustainable performance within the manufacturing sector in the Greater Accra Region of Ghana. The positive and significant effects observed suggest that strategic initiatives such as supplier development are not merely operational enhancements but are integral to embedding sustainability into core business strategies, thus providing competitive advantages by improving supply chain resilience and aligning business operations with broader sustainability goals. Furthermore, the positive impact of the firm commitment on sustainable performance emphasizes the importance of organizational dedication in effectively implementing environmental, social, and governance practices, which are vital for meeting stakeholder expectations and achieving regulatory compliance. The moderating role of the firm commitment in strengthening the relationship between supplier development programmes and sustainable performance highlights that deeper organizational commitment can significantly magnify the benefits of such programmes, suggesting that committed the firms are more likely to achieve superior sustainability outcomes. These findings advocate for manufacturing the firms to intensify their focus on cultivating the firm-wide commitment and robust supplier development strategies as essential components of their sustainability agendas.

5.3 Theoretical Implication

The theoretical implications of this study enrich the Resource-Based View (RBV) and stakeholder theory by demonstrating how internal resources, specifically supplier

development programmes and the firm commitment, directly contribute to sustainable performance in the manufacturing sector. This study provides empirical support for the RBV by showing that supplier development programmes are not just resources but strategic assets that enhance competitive advantage through improved sustainability. The positive moderating effect of the firm commitment further suggests that the value derived from these resources can be significantly enhanced through strong organizational commitment, aligning with RBV's emphasis on leveraging the firm-specific capabilities for competitive advantage. Additionally, the findings reinforce stakeholder theory by illustrating the critical role of organizational commitment in managing and satisfying stakeholder demands, particularly in enhancing supplier relationships and performance. The study suggests that committed the firms can better implement effective sustainability practices, highlighting the interdependence between a the firm's internal strategies and its broader network of stakeholders. Thus, the study supports existing theoretical frameworks and explains how deep-seated organizational commitment and strategic supplier development are pivotal in realizing sustainability objectives, offering a robust model for integrating RBV and stakeholder perspectives in sustainability research.

5.4 Contribution to Knowledge

This study contributes to the existing body of knowledge by empirically validating the intertwined roles of supplier development programmes and the firm commitment to enhancing sustainable performance within a specific regional context of manufacturing the firms in the Greater Accra Region of Ghana. It extends the understanding of how targeted supplier development strategies can significantly influence the sustainability outcomes of a company. This area has not been extensively explored in this geographical and industrial sector. By showcasing the positive moderating role of the

firm commitment, the research highlights the amplifying effect of organizational dedication on the relationship between supplier development and sustainable performance. This dual focus provides insights into the dynamics of implementing sustainable practices effectively, emphasizing the critical role of both strategic resource management and organizational commitment. The findings bridge a gap in the literature by linking these elements within the Resource-Based View and Stakeholder Theory Frameworks, specifically within a developing country context where such strategic alignments may be underexplored. This enhances the theoretical understanding of sustainable supply chain management and offers a valuable empirical reference for future research in similar contexts.

5.5 Recommendations for Managerial Implication

The findings from this study offer pivotal managerial implications for manufacturing the firms, particularly in the Greater Accra Region of Ghana, by emphasizing the strategic importance of integrating supplier development programmes and reinforcing the firm commitment to enhance sustainable performance. Managers should consider investing more in comprehensive supplier development initiatives such as training, technical support, and performance evaluations, which have been shown to significantly improve sustainability outcomes. Such investments enhance supply chain efficiency and resilience and align supplier operations with the firm's sustainability goals, thus driving broader environmental, social, and economic benefits. Additionally, the critical role of the firm commitment suggests that management should foster a culture of sustainability within the organization, actively engaging and motivating employees through clear communication of sustainability goals, inclusive decision-making, and recognizing contributions to sustainability efforts. Implementing these strategies could improve stakeholder trust, compliance with regulatory standards, and,

ultimately, a competitive edge in the market. Managers are thus encouraged to view these elements as compliance or operational improvements and strategic levers that can drive long-term success and sustainability in a competitive global marketplace.

5.6 Recommendation for Future Research

The study, while insightful, has several limitations that should be acknowledged. Firstly, the focus on manufacturing the firms in the Greater Accra Region of Ghana may limit the generalizability of the findings to other Regions or industries with different operational dynamics and regulatory environments. Ghana's cultural and economic specifics might influence the extent to which supplier development programmes and the firm commitment impact sustainable performance, which may differ significantly in other contexts. Additionally, the study's reliance on self-reported data could introduce bias, as participants might provide socially desirable responses, or their perceptions might not accurately reflect true practices. The study's cross-sectional nature also restricts the ability to infer causality or track changes over time, making it difficult to determine the long-term effects of the examined strategies. Future research could address these limitations by incorporating a broader geographic scope, using longitudinal data, and employing objective measures of sustainable performance to enhance the robustness and applicability of the findings.

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APPENDIX

QUESTIONNAIRE

This survey instrument has been designed to enable me to conduct research on the topic: **SUPPLIER DEVELOPMENT PROGRAMMES AND SUSTAINABILITY PERFORMANCE; THE ROLE OF THE FIRM COMMITMENT.** The data is solely needed for academic purposes, and its confidentiality is assured. Participation is entirely voluntary. Please tick [√] the most appropriate answer to each of the questions.

Section A: Demographic Information

1. Gender Male [ ] Female [ ]
2. Age 25-34 years [ ] 35-44years[ ] 45-54years [ ]
   55-64years [ ] Above 65years [ ]
3. Educational level Diploma/HND [ ] First Degree [ ]
   PhD/Masters Degree [ ] Professional Degree [ ]
4. Year of Experience Less than a year[ ] 1-3years[ ] 4-6years [ ]
   Above 7 years [ ]
5. What type of product does your company manufacture?

Alcholic [ ] Non-alcholoic [ ] Packaged Foods[ ]
Ingredients/Additive [ ]

Section B: Supplier Development Programmes

Please indicate by ticking [√] the appropriate column using the scale: 1= Slightly agree – 5= Strongly agree

	Statements	1	2	3	4	5
SDP1	Our organisation provides regular training programmes for suppliers to enhance their capabilities.					

SDP2	We offer technical assistance to our suppliers to improve their processes and product quality					
SDP3	Our company frequently shares information with suppliers regarding product design and specifications					
SDP4	We provide financial support to our suppliers to help them improve their operations and capabilities					
SDP5	Our organisation regularly evaluates supplier performance and provides feedback for improvement.					
	Source: (Krause et al., 1998; Modi & Mabert, 2007; Wagner, 2006)					

Section C: The firm Commitment

Please indicate by ticking [√] the appropriate column using the scale: 1= Slightly agree – 5= Strongly agree

	Statements	1	2	3	4	5
FC1	I feel a strong sense of belonging to this the firm					
FC2	The firm provides adequate workplace facilities to perform my job effectively.					
FC3	I have access to the latest technological tools and software required for my work					
FC4	The firm provides regular training programmes to help me develop my skills					
FC5	My supervisor/manager provides the necessary support to help me achieve my work goals.					
FC6	I have access to the information needed to perform my job effectively					

	Source: (Davenport & Prusak, 1998; Eisenberger et al., 1986; Kraimer et al., 1999)					

Section D: Sustainability Performance

Please indicate by ticking [√] the appropriate column using the scale: 1= Slightly agree – 5= Strongly agree

	Statements	1	2	3	4	5
SP1	Our organization has significantly reduced its environmental impact over the past three years.					
SP2	Our company has experienced improved economic performance due to sustainable practices					
SP3	We actively engage in practices that improve the social well-being of our employees and community					
SP4	Our operations are designed to maximize resource efficiency and minimize waste					
SP5	We regularly engage with stakeholders to address sustainability issues and improve our performance					
SP6	Our company invests in innovative solutions to enhance sustainability					
	Source: (Zhu & Sarkis, 2004; Carter & Rogers, 2008; Freeman, 1984)					

Thank you