

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

**SUPPLIER RELATIONSHIP MANAGEMENT AND FIRM PERFORMANCE: THE
ROLE OF OPERATIONAL CAPABILITIES.**

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DECLARATION

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

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DEDICATION

To God Almighty and my Family

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With much humility, I acknowledge God Almighty for bestowing His manifold blessings of proficiency, understanding, wisdom, good health and capability on me to complete the MSc. in Supply Chain and Information Systems.

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ABSTRACT

Organizations invest valuable resources in strategies, which are sufficient to result in organizational performance in today's competitive environment. SRM has become increasingly essential in enhancing this goal. Even though supplier relationship management (SRM) and its alleged benefits have been extensively researched in the literature, most studies have focused on the direct relationship between SRM and firm performance. Interestingly, there is limited research on the applicability and effectiveness of such relationships in less developed countries. The researcher evaluates the role of operational capabilities (OC) on the relationship between SRM and firm performance using data from firms in Ghana. The study adopted a descriptive and explanatory research design. The total sample size for the survey was one hundred (100). The researcher adopted a convenient sample and a simple random sampling technique to select firms and respondents. The study used primary data. Descriptive statistics were used to summarize the frequency of the key variables. Linear and multiple regression analysis using Statistical Package for Social Science version 26 analyzed the direct and indirect effects of SRM, OC, and CI on FP. The descriptive analysis indicated that respondents strongly agreed that the statement impacts firm performance. The regression analysis revealed that the indirect relationship between SRM and firm performance via delivery and quality capability (operational capabilities) was positively moderated by competitive intensity. Also, the direct effect of supplier relationship management was found to have a positive and significant relationship with firm performance. The study revealed that the indirect relationship between SRM and firm performance via operational capabilities (delivery and quality capability) is positively moderated by competitive intensity. The findings of this research will alert buyer firm executives to the potential benefits of SRM investments, even during periods of high uncertainty when such firms may be tempted to move manufacturing in-house to reduce transaction costs. It is recommended that further studies can use other features or dimensions of operational capabilities such as service capability, innovation capability, and environmental capability as mediating or intervening variables. Also, investigating more mediators will strengthen the theory in that the strength of each capability variable might change in the presence of other mediators.

Table of Contents

DECLARATION	iii
ABSTRACT	iv
DEDICATION	v
ACKNOWLEDGEMENTS	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF ABBREVIATIONS/ACRONYMS	xii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the study	1
1.2 Problem statement	5
1.3 General objective	7
1.3.1 Specific objectives	7
1.4 Research questions	8
1.5 Justification	8
1.6 Scope of the study	9
1.7 Methodology	10
1.8 Limitation of the study	10
1.9 Organization of the study	11
CHAPTER TWO	12
LITERATURE REVIEW	12
2.1 Introduction	12
2.2 Conceptual Review	12
2.2.1 Description of key concepts	13
2.2.1.1 Supplier relationship management	13
2.2.1.2 Firm performance	16
2.2.1.3 Operational Capability	17
2.2.1.4 Competitive intensity	19
2.3 Theoretical Framework	22
2.3.1 Capability-based view (CBV)	22
2.3.1.1 Core competence	22
2.3.1.2 Absorptive capability	23

2.3.1.3 Dynamic capabilities	23	
2.4 Empirical review on supplier relationship management and firm performance		25
2.5 Conceptual framework	29	
2.6 Research Hypothesis	31	
2.6.1 Supplier relationship management and firm performance	31	
2.6.2 Mediating role of operational capability	33	
2.6.2.1 Cost capability	34	
2.6.2.2 Delivery capability	35	
2.6.2.3 Quality capability	36	
2.6.3 Moderating effect of competitive intensity	36	
2.7 Conclusion	38	
CHAPTER THREE	40	
RESEARCH METHODOLOGY	40	
3.1 Introduction	40	
3.2 Research design	40	
3.3 Population of the study	41	
3.4 Sample size and sample technique	41	
3.5 Sources of data	43	
3.5.1 Primary data	43	
3.6 Data collection instrument	43	
3.6.1 Questionnaire	43	
3.7 Measurement of variables	44	
3.7.1 Supplier relationship management	44	
3.7.2 Operational capability	45	
3.7.3 Competitive intensity	46	
3.7.4 Firm performance	46	
3.8 Data analysis	47	
3.8.1 Descriptive analysis	47	
3.8.2 Regression analysis	47	
3.9 Reliability and validity of the data	48	
3.9.1 Reliability	48	
3.9.2 Validity	48	

3.10 Ethical issues	48
3.11 Conclusion	49
CHAPTER FOUR	50
4.1 Introduction	50
4.2 Respondents' Demographics	50
4.2.1 Rank level of respondents	52
4.2.2 Descriptive summary of respondent	52
4.3 Measurement Issues	53
4.3.1 Testing for validity	53
4.3.2 Rotated component matrix	54
4.3.2 Reliability test	56
4.4 Descriptive Results	57
4.4.1 Descriptive statistic of supplier relationship management	57
4.4.2 Descriptive statistic of firm performance	58
4.4.2 Descriptive statistics on the components of operational capability	59
4.4.3 Descriptive statistic of competitive intensity	61
4.5 Indirect effect of SRM on firm performance via operational capabilities	62
4.5.1 Regression Results for Mediation	62
4.5.2 Indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity	68
4.6 Conclusion	72
CHAPTER FIVE	73
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION	73
5.0 Introduction	73
5.1 Summary of Key Findings	73
5.1.1 Relationship between SRM and firm performance	73
5.1.2 Indirect effect of SRM on firm performance via operational capabilities	73
5.1.3 Indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity	74
5.2 Conclusion	74
5.3 Recommendation	76
5.4 Theoretical and practical implications	77
5.5 Limitations and future research	78

LIST OF TABLES

Table 4.1: Distribution of demographic characteristics of respondents	51
Table 4.2: Descriptive summary of respondent	53
Table 4.3: Kaiser-Meyer-Olkin (KMO)	53
Table 4.4: Rotated component matrix	55
Table 4.5: Cronbach's α coefficients of the constructs	57
Table 4.6: Descriptive statistic of SRM	58
Table 4.7: Descriptive statistic of FP	59
Table 4.8: Descriptive statistic on the component of operational capability	60
Table 4.9: Descriptive statistic of competitive intensity	61
Table 4.10: Regression Results for Mediation	.64
Table4.11: Summary of analysis of moderated mediation analysis.....	69

LIST OF FIGURES

Figure 2.1; Conceptual model of the mediating and moderating role of operational capability (DC) and competitive intensity on the association between supplier relationship management (SRM) and firm performance (FP).	30
Figure 4.1: Management or rank level of employees	52
Figure 4.2: Indirect effect of SRM on firm performance via operational capabilities	67
Figure 4.3: Moderated mediated effect of operational capabilities and the competitive intensity of SRM on firm performance	71

LIST OF ABBREVIATIONS/ACRONYMS

CBV	Capability Base-View
CI	Competitive Intensity
FM	Firm Performance
GDP	Gross Domestic Product
ICT	Information and Communications Studies
IJD	In-Time Delivery
KMC	Knowledge Management Capability
LSRM	Lean Supplier Relationship Management
OP	Operational Capability
RBV	Resource-Based View
SEM	Structural Equation Modeling
SF	Supplier Flexibility
SP	Supply Partnership
SPSS	Statistical Package for Social Sciences
SRM	Supplier Relationship Management

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Supplier relationship management (SRM) is the occupational practice that offers how relationships with suppliers are developed and maintained. It also occurs when suppliers and buyers seek a competitive advantage in the marketplace, tapping into each other's resources because of the formation of associations (Lii & Kuo, 2016; Liao et al., 2010). The immediate goal of SRM is to simplify and improve the sourcing procedures between an organization and its suppliers. As a result, the processes of strategic sourcing related to SRM can vary from one organization to the next. However, SRM generally involves three broad steps: segmenting suppliers, developing a supplier strategy, and executing the supplier strategy.

Moreover, SRM has become a crucial corporate practice because of the need to consider risk and sustainability, competitive pressures, achieve cost efficiency in order to be cost-competitive, and the need to develop closer relationships with key suppliers who can provide the proficiency necessary to create innovative new products and successfully bring them to market. Other phases of SRM include material selection, engagements in product design, innovation, information sharing, long-term cooperative arrangements, and technology investments. According to researchers (i.e. Lii & Kuo, 2016; Whipple et al., 2015; Tseng, 2014; Liao et al., 2010), the collaborative methods are critical to gaining a competitive edge in the global supply chain environment, which is growing increasingly competitive. Similarly, Enz and Lambert (2012) posit that collaborative relationships with key suppliers can co-create value. Its proper implementation has helped organisations gain access to valuable resources and supplies, reduce

costs, enhance their flexibilities, ensure quality, implement technology successfully, and improve overall supply chain performance.

For all organizations and individuals, performance is a critical issue. Tseng (2014) posits that the main driver of firm performance is a set of unique resources that are valuable, rare, difficult to imitate, and irreplaceable by other resources. Furthermore, successful organizational performance is the key to gaining a competitive edge. Hence, firm performance delineates how well the organization function achieves its objective or goal, linking to attaining services, materials, cost, and the reasonable price at the correct quantity and ensuring that these resources are procured in the proper time or period an objective standard or condition. A firm's performance can occur if firms can manage costs, deliver on time, and produce quality goods. This has therefore created an opportunity for operational capabilities to influence firm performance.

Wu et al. (2012) delineate occupational capabilities as firm-specific sets of skills, processes, and routines developed within the operations management system that is regularly used in solving its problems through configuring its operational resources. This capability is characterized as the firm's capacity to increase business processes to be more effective and efficient while using fewer resources. They also posit that operational capabilities are the key sauce of an organization that helps it improve its efficiency. Lee et al. (2017) averred that operating capabilities enable an organization to carry out its primary operational activities. These capabilities will allow the organization to carry out its activities continuously by assisting the established products and services provided to customers. The organization's operational capabilities enable it to improve its business processes in cost reduction, speed, and quality.

According to Zhang and Cao (2018), SRM has become critical in buyer-supplier pairing because of the dynamics inherent in the global supply chain environment. Changes in demand patterns, currency fluctuations, governmental policies, inflationary pressures, and others are the dynamics that contribute to supply uncertainty. For instance, in times of high supply uncertainty, establishing and strengthening relationships with suppliers might provide prospective benefits such as getting access to essential supplies, lowering transaction costs, and minimizing the dangers of opportunism that contract enforcement procedures can provide (Zhang & Cao, 2018; Yang et al., 2016). Other sources of uncertainties or challenges that affect firm performance include communication gaps, non-transparency in processes, disharmony in the buyer-supplier chain, inadequate supplier training, not investigating supplier's record of accomplishment, conflicts over the contract, forgetting relationship at the time of damaged delivery, and overlooking their industry's business culture.

Evidence has indicated that the manufacturing industry's performance has decreased in America. As a result, its contribution to the overall American GDP is less than half of what it was two decades ago (Timmer et al., 2010). This was credited to a poor connection between suppliers and manufacturing sectors, which resulted in higher production costs and a drop in the gross operating profit margin from 10.5% in 2012 to 3.6% in 2013. The declining global economy drives firms to reexamine their relationships with customers and suppliers. As a result, costs must be reduced by concentrating on value addition throughout the procurement process. To create win-win events, bottlenecks must be minimized, and performance measures must focus on supplier relationship management for actors in the process. The goal is to achieve customer satisfaction at the delivery and constant process improvement.

Moreover, scholars posited that (Swink et al., 2007; Singh and Power, 2009; Lynn et al., 2010) sharing information might help suppliers integrate (So and Sun, 2010), and significant measures can be utilized to drive performance (Kim et al., 2010) and align attitudes (Giannakis, 2007). According to Frohlich and Westbrook (2001) and Rosenzweig et al. (2003), higher integration levels with suppliers improve performance. Conversely, the appropriate size of supplier integration will vary depending on the connection, so try to develop a plan that is specific to each one (Lambert, 2004; Das et al., 2005).

Additionally, SRM has been positively correlated to firm performance. Janda and Seshadri (2001) found that cooperative treatment of a small group of suppliers improves firms' effectiveness and efficiency. Courtsen and Felde (2015) concur that better supplier relations increase innovation capacity. In general, strong supplier relationships management minimizes contract administration costs.

Besides, organizational performance pertains to how a company works to accomplish market-oriented and financial objectives. The SRM's short-term goals are to boost productivity while lowering costs and shortening the goods-to-service cycle. Long-term objectives include enhancing market share and earnings for all supply chain members. SRM and other organizational initiatives must seek to improve the organization's performance. Flynn et al. (2010) show that organizational performance is based on market and financial factors, such as profit margin on sales, return on investment, market share, and competitive position and sales growth. Therefore, due to the higher performance of procurement in various organizations identified by scholars, this study uses flexibility capability as a mediating role to examine and investigate the relationship between supplier relationship management and procurement performance.

1.2 Problem statement

Organizations invest valuable resources in strategies, which are sufficient to result in organizational performance in today's competitive environment. SRM has become increasingly essential in enhancing this goal. Outsourcing is becoming a profitable and regular occurrence, necessitating a deeper and more critical buyer or supplier relationship knowledge. SRM is vital to the corporation and can generate difficulties if not appropriately managed. Changes in demand patterns, currency fluctuations, governmental policies, inflationary pressures, and others are the dynamics that contribute to supply uncertainty. Establishing and sustaining those ties, on the other hand, is not free. Poor output quality because of flawed standards, raw material duplication, late deliveries, and continued threats from suppliers throughout litigation because of late payments are all common occurrences. These occurrences' directly affect suppliers and indirectly affect procurement performance due to the late transfer of resources.

Numerous studies (i.e. Mutiso and Ochiri, 2019; Korir Loice, 2015; Grace and George, 2014; Abdullahi Abdi Mohamed; 2017; Geoffrey and Anaya, 2019; Bwana and Muturi, 2018; Mburugu and Senelwa, 2019; Momanyi and Paul, 2018; Kepher *et al.*, 2015; Beatrice and Mulyungi, 2018; Murugi and Shalle, 2016; Olusanya, 2018) have examined the influence of supplier relationship management on firm performance. These studies have primarily focused on investigating the direct effect of supplier relationship management on firm performance. Some of the literature, such as Senelwa (2019), found that supplier evaluation collaboration, supplier development, and trust had a positive statistical relationship on firm performance in state corporations in Kenya; Kathambi *et al.* (2019) revealed that supplier financing had a significant influence on firm performance; Olusanya (2018) exposed that there is a positive relationship

between trust, communication, timely delivery, and organizational performance and among others.

Other literature has also examined the moderating role of supplier relationship management on firm performance (Matunga *et al.*, 2021; Ngugi *et al.*, 2021; Iteba, 2017). This literature adopted a different moderating role in the study. Matunga *et al.* (2021) use monitoring and evaluation as the moderating role in the relationship between supplier relationship management and the implementation level of public procurement regulations. They found a significant positive relationship between supplier relationship management and the implementation level of public procurement regulatory framework in the devolved governments in Kenya. Similarly, Iteba (2017) adopted customer relationship management and supplier relationship management as the moderation role to investigate the relationship between the dependent variable (electronic data interchange, supplier training, and supplier training) and the independent variable (firm performance). Ngugi *et al.* (2021) also used monitoring and evaluation to moderate the relationship between procurement staff competency and the implementation level of public procurement regulations. Khaing (2019) also examined the buyer-supplier relationship and procurement performance of electrical panel manufacturing firms in Yangon. The researcher (i.e. Khaing, 2019) used trust as the mediating variable to determine the relationship between the dependent (buyer-supplier partnership, communication, and commitment to supplier) and the independent variable (firm performance).

Eventually, only a little study examined the moderating role of supplier relationship management on firm performance. Amoako-Gymapo *et al.* (2019) discuss a moderated mediation analysis of supplier relationship management's flexibility capability and ownership structure on firm performance. The researchers found that operational flexibility capability mediates the supplier

relationship management – firm performance link. Also, their moderated mediated analyses show that SRM's influence on firm performance is more substantial for locally-owned firms (domestic) than foreign-owned firms, indicating that domestic firms stand to gain more from investments in SRM than firms with foreign ownership.

Subsequently, most past studies have investigated or concentrated on the direct, moderating, and mediating role of SRM on firm performance. Still, few studies (i.e. Amoako-Gymapo et al., 2019) have focused on the mediating moderating role of SRM on firm performance. Besides, non-research has been conducted in such a field by using different indicators or variables to examine the moderated mediation role in the supplier relationship management on firm performance. Consequently, this has created a gap in knowledge concerning the mediating moderating variable(s) that examine the relationship between SRM and firm performance. Therefore, this study sought to bridge the gap by examining the relationship between SRM and firm performance using different mediating moderating (i.e. operational capabilities and competitive intensity) variables.

1.3 General objective

The study's main objective is to examine the relationship between SRM and firm performance.

1.3.1 Specific objectives

1. To explore the relationship between SRM and firm performance.
2. To analyze the indirect effect of SRM on firm performance via operational capabilities
3. To examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity.

1.4 Research questions

The following research questions guide the study;

1. What is the relationship between SRM and firm performance?
2. Do operational capabilities mediate the relationship between supplier relationship and firm performance?
3. Competitive intensity moderates the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity?

1.5 Justification of the study

Supplier relationship management (SRM) is the systematic approach to evaluating vendors that supply goods, materials, and services to an organization, determining each supplier's contribution to the success, and developing strategies to improve their performance. The SRM discipline helps determine each supplier's value and is critical to business continuity and performance. It also enables managers to cultivate better relationships with suppliers based on their importance. Supplier relationship management has become increasingly crucial as buyer-supplier networks become more global and interdependent and companies rely more heavily on strategic suppliers. SRM creates a framework for identifying the strategic supply partners and organizing the relationship lifecycle. Its practices create a common frame of reference to enable effective communication between an enterprise and suppliers and measure supplier performance. Hence, the breakdown of this chain (SRM) would significantly affect the procurement performance of a firm and will have a direct influence on the firm's operational and financial status. The study is justified in two different areas— researchers and practice.

This study will add to the body of knowledge on the understudied topic of supplier relationship management's impact on firm performance. It provides a foundation for research and encourages

it to understand better the effect of supplier relationship management on firms' performance. Future researchers will have a reference point based on the information obtained, which will help them comprehend the factors and contribute to future studies. Regarding the practice, government institutions will benefit from the findings of this study because they will better understand the impact of supplier relationship management on firm success. This study might serve as a starting point for those who want to undertake a more in-depth and comprehensive investigation of the impact of supplier relationship management on firm performance.

1.6 Scope of the study

The main objective of this research is to examine the influence of supplier relationship management (SRM) on procurement performance. The study would conceptually be bordered to determine supplier relationship management in the organization. Second, to examine the relationship between supplier relationship management and procurement performance, and lastly, to investigate the mediating role of delivery capability in the relationship between supplier relationship and procurement performance. The study would focus on managers of procurement management of the organization. Besides, the study employed theories to explain the various concepts involved. The theory includes a capability base-view (CBV) such as core competence, dynamic capability, and absorptive capability.

1.7 Overview of Methodology

The quantitative approach of the research design will be used for the study. The researcher will adopt a descriptive and correlational research design. The study targeted ten (10) firms to identify how supplier relationships, directly and indirectly, influence firm performance. The study used primary data obtained from administering ten questionnaires to each firm. A total of hundred (100) sample questionnaires were used to generate the outcome or result. This

questionnaire consists of closed and open-ended types to enable the respondents with less difficulty and limitations. The secondary materials also served as literature to support the outcome or result. The complete responses obtained from respondents or data were analyzed using SPSS. A reliability test was conducted using Cronbach's Alpha to determine the internal consistency of the data. In addition, a validity test was performed by using the Kaise-Meyer and principal components analysis.

1.8 Limitation of the study

The researcher anticipates several limitations. First, due to a large number of firms available in the district, the study would be limited to only ten firms to identify how supplier relationships influence procurement performance. In addition, the research timeframe shows a limited duration to carry out the project work. However, the impact of this limitation will be subdued by the researcher working extra hard to meet scheduled deadlines. Based on the objectives acquired, the level of analysis of the study would be limited to quantitative data analysis. Hence, it will deal with descriptive (i.e. mean, percentages, minimum, maximum, and frequencies) and inferential statistics (i.e. correlation and regression).

1.9 Organization of the study

This study is organized into five chapters. The forgone chapter, Chapter one, commenced with the background, outlined the research problem, research objectives, and questions, justified the scope of the study, a brief overview of the methodology, and finally provided the limitation of the study. Chapter two follows the conceptual review, theoretical review, empirical literature, and conceptual framework related to this work. Next is Chapter three, which contains the methodology employed in this study. This chapter consists of the research design, research purpose, population, sample size and sample technique, sources of data (primary and secondary

data), data collection, data analysis technique, validity and reliability, and organizational profile. In Chapter Four, the results of the data analysis are presented and discussed. Finally, in Chapter Five, the key findings from this study are summarized, some conclusions are derived based on the results, and some recommendations are provided based on the findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Under this section, the study reviews numerous literature relevant to this study. It examines two theories, namely resource-based view (RBV) and capability base-view (CBV) (i.e. core competence, dynamic capability, and that support the study. The literature reviewed was summarized in the thematic areas, including; a conceptual review covering the topic's key variables (supplier relationship management, firm performance, operational capability, and competitive intensity). The chapter also presents the empirical review with a relationship with the research topic; a conceptual framework that depicts the relationship between the dependent, intervening mechanism (mediator variable), boundary condition (moderator variable), explanatory variable; hypothesis and chapter summary.

2.2 Conceptual Review

The main aim of this research is to examine whether the indirect relationship between SRM and firm performance (FP) via operational capabilities (OC) is moderated by competitive intensity (CI). The conceptual review explains the key concepts of the research topic. The key variables or ideas from the case or study include the dependent variable (firm performance), boundary condition (moderator variable such as competitive intensity), an intervening mechanism (mediation variable such as operational capability), and an independent variable (SRM). This section uses different literature to define the fundamental concept of the topic. It also explains the moderating and mediating role of competitive intensity and operational capability.

2.2.1 Description of key concepts

In this section, various definitions or explanations stated by numerous scholars or literature were used to explain the critical variables of the study. These variables include supplier relation management, firm performance, operational capability, and competitive intensity. Hence, the details are discussed in the subsection.

2.2.1.1 Supplier relationship management

Supplier relationship management (SRM) is a management approach that manages all interactions between a company and its suppliers (Kroenke, 2012). Suppliers in this context refer to any organization that sells something to the company that runs the SRM application. The primary goal of supplier relationship management is to improve the efficiency and effectiveness of inter-organizational processes, with the delivery of superior value to customers taking precedence.

Previously, the customer was the primary focus of organizations, but the supplier has grown in importance with the global sourcing of non-core operations. Suppliers were handled adversarial, with transactional techniques predominating. Although, the growth of information communication systems, total quality management, and industrial restructuring shift buyer behaviour from transactional to more cooperative strategies (Sheth & Sharma, 1997). Tight collaboration with suppliers produces more perks than opportunism for one party.

Diplomatic suppliers in the twenty-first millennium are more reliant on their resource base and technologies. Firms depend on suppliers to lower costs, increase quality, and build innovative products and processes faster than competitors (Webb, 2017). They also add value to a company by providing access to technology, markets, and information (Chen, 2019). All of this has compelled firms to handle suppliers strategically. Based on the above explanation, the researcher

discusses how the term has been defined or conceptualized and measured in prior empirical research and defines supplier relationship management accordingly.

Olendo and Kavale (2016) explain supplier relationship management (SRM) as the method and style of communicating with suppliers. According to supply chain experts, SRM is a comprehensive design of defining what they demand from a supplier and managing the connectivity between the companies to reach the required necessities (Matunga et al., 2021). SRM bridges the gap between the organization and the end-user. Numerous companies face difficulties within their network chains, resulting in a loss of business. It is recommended that such firms find and implement Supplier relationship management practices to ramp up their supply chain efficiency (Matunga et al., 2021). According to Hughes et al. (2016), inefficiency and ineffectiveness in the supply chain system are the leading causes of deficiency in achieving its set goals. He also claims that entities with an interconnected supply chain network process made more money than others who paid less consideration to the supply chain process.

Similarly, Moeller et al. (2006) delineate SRM as the process carried out activities such as establishing, stabilizing, developing, and dissolving relationships with in-suppliers and observing out-suppliers to generate and enhance value within these relationships. Concurrently, both sides can sustain their relationship (Johnson et al., 2004). Giannakis et al. (2012) also stated that both sides are committed to a long-term relationship in supplier relationships. As a result, both parties are interested in establishing close collaboration by developing joint products and sharing cost savings to maximize mutual benefits. Benah and Li (2020) define supplier relationship management as the long-term relationship between a firm and its suppliers. The buyer-supplier relationship, oriented towards quality management, tends to be very close, based on long-term common interests.

Correspondingly, Al-Abdallah et al. (2014) revealed that supply chain management has long-term objectives and short-term objectives. Thus, the long-term and short-term goals. The long-term includes improving production operations' efficiency, creating value for customers, increasing market share, and increasing profits (Williams, 2006). On the other hand, short-term objectives include reducing cycle time, improving productivity, and reducing inventory (Wisner & Tan, 2000). Also, Zsidisin and Ellram (2001) averred that collaborations with selective suppliers result in mutual benefits such as lower overall costs, increased customer satisfaction, flexibility in dealing with changes, increased productivity, and long-term competitive advantages in the marketplace. Lii and Kuo (2016) also posit that SRM is an occupational practice that provides a framework for developing and maintaining relationships with suppliers. It also happens when suppliers and buyers seek a competitive edge in the industry by utilizing each other's reserves due to the creation of associations (Liao et al., 2010).

Other scholars have also identified various components of SRM. According to Mwangi (2017), a variety of factors influence the accomplishment of a supplier-buyer relationship, including efficient communication and information sharing, organizational adaptability, the inclusion of a firm's employees in purchasing its programs, and the absence of significant differences in the technology used and the industry in which a firm operates. Prajogo et al. (2012), an organization's supplier-customer management strategy positively affects its SRM strategy and thus operational performance. Equally, Mwangi (2017) contend five major measurements serve as SRM components. These include supplier quality improvement, supplier lead time reduction, trust-based relationships with suppliers, supplier collaboration in new product development, and supplier partnership or development.

Moreover, by merging the similar characteristics of these various theoretical approaches, the author thinks that supplier relationship management is an interdependent relationship developed and nurtured through strategic collaboration to gain mutual benefits. Supplier relationship management, in particular, concentrates on how to create and maintain a long-term strategic relationship with suppliers.

2.2.1.2 Firm performance

For all organizations and individuals, performance is a critical issue. Holsapple and Wu (2011) posit that the main driver of firm performance is a set of unique resources that are valuable, rare, difficult to imitate, and irreplaceable by other resources. Furthermore, successful organizational performance is the key to gaining a competitive edge. Although most researchers agree on the conceptual framework, many different criteria have been used to measure performance. As a result, the performance measurement index used in a study should be selected based on the research topic (Echambadi et al., 2006). Besides that, overall performance is frequently used as the foundation for business reward and punishment; thus, choosing the suitable quantification index becomes exceptionally relevant.

Tseng (2014) discovered that traditional financial measures (ROE, ROC, and ROS) could not determine firms' performance differences. Conventional financial accounting measures (e.g., ROI, EPS) can also provide misleading signals about continuous improvement and innovation (Kaplan and Norton, 1996). Tseng (2014) posits that there are two types of performance control: internal performance, which is concerned with issues such as product quality, cost, benchmarked performance, and profit level, which compares customer satisfaction, quality cost, and operations to a standard, such as the industry norm or the practices of its leaders.

According to Fliaster (2004), current remuneration systems support organizational culture's positive approach toward short-term financial performance indicators and its obtuseness of personnel issues. This indicates that economic metrics rooted in traditional accounting practices, focusing on short-term indicators such as profit, turnover, cash flow, and share prices, are insufficient for evaluating firm performance.

Based on the outcomes of the preceding discussion, this study will combine financial and non-financial measures to evaluate firm performance. Teeratansirikool et al. (2003) suggested five performance metrics that analyze firm performance, specifically market/customer, people development, financial implementation, process, and future, to consider both financial and non-financial measures. Moreover, Cotoră (2007) averred that a performance measurement system could not reassess firm performance or analyze value creation patterns unless the inter-relationships and transformation processes between contexts, situations, and intangible values such as competencies, and partnerships, knowledge are identified.

2.2.1.3 Operational Capability

Organizational capability is the ability of the organization to deploy its resources to perform the activity or task that can enhance the performance (Teece et al., 1997; Amit & Schoemaker, 1993). According to Helfat and Peteraf (2003), organizational capability is the organization's ability to take out an organized set of tasks while leveraging organizational resources to achieve a specific result. Organizational capabilities produce more value from assets and achieve performance goals (Peteraf & Barney, 2003; Andersen, 2011).

Organizational capabilities are classified into three categories. Zero-level capabilities, also known as operational capabilities, enable a firm to earn a living in the present. Second, first-level capabilities, also known as dynamic capabilities, change and modify zero-level capabilities.

Third, higher-order or passionate, regenerative capabilities work with first-level capabilities (Winter, 2003; Newey & Zahra, 2009; Ambrosini et al., 2009). These three capabilities' characteristics differ; even so, the goal is to focus on providing long-term performance. Table 2.1 depicts various authors' types of organizational capabilities.

Table 2.1: Organizational Capabilities by different researchers

Ambrosini et al. (2009)	Winter (2003)	Collis (1994)	Zahra et al. (2006)
Regenerative dynamic capabilities	Zero level capabilities	First-order capabilities	Substantive/Operational Capabilities
Resource-based capabilities	First-order capabilities	Second and third order capabilities	Dynamic capabilities
Incremental dynamic capabilities and renewing dynamic capabilities	Higher-order capabilities	Me ta capabilities	

Source: Hassan et al. (2017)

The author concentrates on the operational capability from the above table by drawing several definitions from scholars. Operational capabilities are firm-specific sets of skills, processes, and routines developed within the operations management system that are regularly used to solve problems by configuring operational resources. This capability is characterized as the firm's capacity to increase business processes to be more effective and efficient while using fewer resources. The differentiated way of allocating, coordinating, and utilizing resources improves organizational performance, but these attributes are sourced from operational capabilities (Winter, 2003; Cavusgil et al., 2007; Newey & Zahra, 2009; Helfat & Winter, 2011). Cavusgil et al. (2007) urge that operational capability is on how resources are used. Subsequently, these capabilities are critical to a firm's ability to solve problems in the organization effectively. Similarly, it also provides unity, integration, and direction to resources and operational practices. They encapsulate graphic elements (e.g., resources, practices) and tacit elements (e.g., know-how, skill sets, leadership) for handling various problems or dealing with uncertainty.

Another author (Winter, 2003) also defines operational capability as a high-level routine (or collection of ways) that, in conjunction with its adequate implementation input flows, affords an organization's management a set of decision options for giving maximum outputs a specific type. According to Newey and Zahra (2009), operating capabilities enable an organization to carry out its primary operational activities. These capabilities will allow the organization to carry out its activities continuously by assisting the established products and services provided to customers. The organization's operational capabilities enable it to improve its business processes in cost reduction, speed, and quality.

Wu et al. (2010) revealed that operational capabilities are the key sauce of an organization that helps it improve its efficiency. More so, these capabilities are regarded as critical for enhancing business performance (Helfat & Winter, 2011). The regimen of operational capabilities is continued improvement. Improvement is defined as the organization's ability to increase performance incrementally by utilizing existing available resources (Swink & Hegarty, 1998). At the same time, continuous improvement is a company-wide method of focused and ongoing incremental innovation (Helfat & Winter, 2011).

2.2.1.4 Competitive intensity

Competitive intensity is the extent to which companies within a specific industry exert pressure on one another. Some level of competition is healthy because it acts as an impetus for innovation within organizations. Whether in an industry or another setting, competition drives teams and individuals to give their best. Such rivalry keeps a majority of firms on their toes, propelling them to do better than their competitors. The examination of the substance of competition allows us to discuss its considerable influence on companies' productive level of competitiveness, that

is, on the degree of realization by them of the desired goals of activity in competitive market conditions (Hussey, 2002; Ceptureanu, 2015).

As a factor of the company's competitiveness, a competition usually functions first and foremost as an external force of counteraction to its activities (Tracey et al., 2011; Ceptureanu, 2015). As a result, its primary property, which allows measuring the degree of the imparted influence, is intensity. As a result, estimating the enterprise's productivity level of competitiveness presupposes evaluating the scale of competitive intensity as one of its defining variables (Thomson J, 1967).

According to Michael Porter (1979), competitive intensity is one of the concepts covered in detail in the Five Forces framework. The concept is most widely known as Porter's five Forces Analysis. It contains five forces: the threat of possible new entrants, supplier bargaining power, rivalry intensity, the threat of substitute goods and services, and buyer negotiating strength. The model is an essential instrument used in strategic analysis to assess an industry's competitiveness.

He posits that firm competition has two dimensions: intensity and dimension. The competitive power of a company determines its profitability potential. As a result of intense competition, a company will provide more value to its customers. The match between T-Mobile, AT&T, and Verizon is a good example. All three are mobile phone companies competing for the same consumer base. They accomplish this by lowering their prices and providing incentives to customers who switch to their company. The level of competition is an entirely different issue. This is concerned with the specific features or factors for which firms compete. Organizations can compete in various areas, including pricing, quality, customer service, product features, and others. When businesses compete in the exact dimensions, they encounter a zero-sum game. As

stated, this is a cyclical situation in which one firm's profit becomes another firm's loss. Businesses will frequently enter two or more market segments to close this gap.

Porter (1979) shows that numerous factors impact a firm's competitive intensity. Costs, industry concentration, market growth rate, differentiation, and switching costs. He points out that actual costs influence how intense an industry's competition becomes. High fixed costs, high storage expenses, and low switching costs are examples of costs that could increase competition. Firms will lower their prices if their fixed costs are high.

Nevertheless, as prices fall, the competition will heat up. Within the concentration in the industry, he revealed that if a business sector has a large number of firms providing identical goods or services, the competitive intensity will increase. There will be minor rivalry in a monopoly or oligopoly market structure ruled by only a few firms. As a result, the degree of concentration in an industry has a significant impact on the intensity of competition.

He also discusses the market growth rate as the overall industry grows, which is another aspect that influences competitive intensity. For example, if the market rapidly expands, the firm rivalry will be less intense. Slow growth, on the other hand, increases competitive power. The firm is nearing overload due to slow growth – there are few new customers to attract. However, if the market is strong, there will be room for new entrants and clients. There may even be untapped opportunities for businesses to capitalize on.

Porter (1979) further discusses differentiation the degree of differentiation also determines how intense the competition will be. With competing goods like food and clothing, there is very little room for differentiating the items offered by a specific company. This means that businesses will be competing for the same customers, heightening rivalry. Regrettably, if a company provides

highly differentiated products that other companies cannot easily replicate or copy, it will face less competition.

2.3 Theoretical Framework

This framework reviews theoretical literature relevant to supplier relationship management and firm performance. The study was based on one theory, such as the Capability-based view (CBV), as explained in the subsection.

2.3.1 Capability-based view (CBV)

Since Wernerfelt (1984) proposed RBV, many intellectuals (Zahra & George, 2002; Szulanski, 2000; Simonin, 1999; Foss, 1996; Amit & Schoemaker, 1993; Barney, 1986; Barney, 1991) in addition to the representative above scholars, have conducted extensive research and developed the relevant theory. Even though RBV has always viewed significant firm capabilities as the source of competitive advantage, intellectuals who favour capabilities have emphasized the key role of obtaining competitive advantage based on the resource theory framework (Prahalad & Hamel, 1990). CBV proved the firm competitive advantage by demonstrating the firm's unique ability, which can assist the firm in obtaining and maintaining a competitive advantage. The primary capabilities are core competence, absorptive dynamic capability, and capability.

2.3.1.1 Core competence

Prahalad and Hamel (1990), two well-known American scholars, were the first to propose the concept of core competence. Prahalad and Hamel defined a firm as "the set of capabilities". The set was demonstrated by its one-of-a-kind knowledge accumulation, which can be combined to form heterogeneous resources to gain a competitive advantage. Ductility, scarcity value, and difficulty to imitate all contributed to this heterogeneity. The notion of core competence broadens the scope of RBV theory. Prahalad and Hamel (1990) believed that to produce core products and

develop a set of final products, the source of sustainable competitive advantage lay within every connection of the value chain in internal organizational collective learning. The core competence theory gained popularity rapidly, but its constraints were quickly exposed. Due to its "relatively viscous" nature in the dynamic and complex environment, the traditional core technology and resource frequently became a significant hurdle in the firm's development (Teece et al., 1997).

2.3.1.2 Absorptive capability

An absorptive capability, which refers to enterprises' ability to identify, digest, and utilize external knowledge, was first revealed by Cohen & Levinthal (1990). They also mentioned that industries that understood the past had a significant impact on absorptive capability. Following that, many academics dedicated themselves to research absorptive capability and broadened the idea. Grant (1996) defined absorptive capability

as "*the capability of evaluation, acquisition, integration and commercial use of external new knowledge*". Absorptive capability encompassed the ability to learn and solve problems. Understanding is to digest knowledge, imitate others, and solve problems to generate new knowledge to innovate. According to Zahra and George (2002), absorptive capability, which includes knowledge utilization ability, knowledge transformation, knowledge acquisition, and knowledge digestion ability, was a strong guarantee of organization competitiveness. Indeed, Zahra & George (2002) posited that the absorptive capability was a dynamic capability embedded in organizational conventions and processes. This capability evolved along with a flexible rather than a fixed path of knowledge acquisition and utilization.

2.3.1.3 Dynamic capabilities

Dynamic capabilities are defined in the literature as complicated routines that emerge from path-dependent processes (Teece et al., 1997; Zollo & Winter, 1999). Nevertheless, while

transformation emphasizes the encoding of generalizations from firms' unique records into distinct procedures, path dependence is more precisely explained in learning mechanisms identified primarily in the psychological literature (Argote, 1999). These learning mechanisms guide the evolution of dynamic capabilities (Kathleen & Jeffrey, 2000). The Dynamic Capability Perspective was the most prominent among these points of view (Teece et al., 1997). Per this theory, the theory of core competence had a few limitations. In a dynamic environment, a firm's actual core competence was probable to become a hardship that hampered the company's current development. Thus, it could explain how entities obtained competitive advantage and why some companies maintained a sustainable competitive advantage in a dynamic market. They delineate *“dynamic capability as the company capacity of integration, construction, re-configuration of internal and external capabilities to respond to the rapidly changing environment”*.

According to Kathleen and Jeffrey (2000), dynamic capabilities are the clear conventions and procedures that can be affirmed in the company. Dynamic capabilities include dynamic obtaining and transferring resource capability (such as the routines of knowledge innovation and knowledge acquisition from the outside), capabilities include dynamic resource integration capability (such as product development convention and strategic decision formation), and dynamic re-allocation resources capability (such as replication, resale routine, managers use to change and re-combination of resources). Capabilities were produced and evolved due to the interplay of long-term detailed information based on tangible or intangible corporate assets (Amit & Shchoemkaer, 1993). These capabilities defined the heterogeneity of various firms and were difficult to imitate and replace (Barney, 1986; Mahoney & Pandina, 1992; Amit & Sehoemaker, 1993; Peteraf, 1993). Consequently, dynamic capabilities have the possibility for strategic management to seize opportunities. It caused companies to gain a competitive

advantage by acquiring a location advantage in the perspective monopoly market (Rumelt, 1984; Prahalad & Hamel, 1990).

2.4 Empirical review on supplier relationship management and firm performance

Amoako-Gyampah et al. (2019) examine moderated-mediation relationships between SRM, operational flexibility, ownership structure, and firm performance (FP). The study was conducted in Ghana. The researchers distributed 250 questionnaires to the respondent, and a total of 185 were returned. The questionnaires were distributed to firms, a student in the supply chain and operations management department, and students pursuing an executive MBA program at a national university in Ghana. They demonstrate that operational flexibility capability mediates the supplier

relationship management – firm performance link. Moreover, their moderated mediated analyses show that SRM's influence on firm performance is more vital for locally-owned firms (domestic) than foreign-owned firms, indicating that domestic firms stand to gain more from investments in SRM than firms with foreign ownership. They recommended that future research incorporate other operational capability measures such as quality, innovation, and delivery since these additives can serve as intervening variables.

Kosgei (2016) evaluates the impact of supplier relationship management on organizational performance. The study was taken in Kenya. The researchers adopted a cross-sectional study design. A sample of 82 respondents was selected from a target population of 272 KQ employees to answer research questions of interest. A stratified random sampling method was adopted to arrive at the sample since the people in different departments at KQ were considered heterogeneous. Primary data for the study was used to take questionnaires from the respondent. The study also discovered a significant way for companies to enhance their performance by

correctly applying SRM strategies. Kosgei (2016) recommended that organizations demonstrate a more substantial commitment to SRM by implementing systems to monitor, appraise, and evaluate performance at the strategic level.

Benah & Li (2020) examine the relationship between Lean Supplier Relationship Management (LSRM) practices and the performance of manufacturing companies in Ghana. A close-ended questionnaire was used to collect the data for their analysis. A total of 200 questionnaires were handed back and analyzed further. The survey data were analyzed using IBM SPSS 25 and IBM AMOS 24 software. To investigate the relationship between the latent and express constructs, the Structural Equation Modeling (SEM) approach was used. The structural findings indicate that Just-In-Time Delivery (JD), Supply Partnership (SP), and Supplier Flexibility (SF) had a positive and significant effect on the performance of manufacturing companies in Ghana. The study aims to add to the existing literature on the impact of lean supply chain management and lean supplier relationship management on the performance of Ghanaian manufacturing companies. According to the researchers, studies should be done in other sectors, such as human resources, warehouses, and transportation, to determine the effect of these sectors on firm performance, as this study was limited to LSRM practices.

Avery et al. (2014) examine the impact of supplier relationship management practices on buying firm performance: by comparing the United States and China. The study was conducted in the United States and China. The number of respondents was 352. Both secondary and primary data were used for carrying out the study. The study's findings indicate that buyer commitment positively influenced buying firm performance in China, whereas buyer commitment and shared values positively influenced buying firm performance in the United States. These findings

indicate that some regions of social capital are important in China, but there are differences between the two countries that may be credited to culture.

Prajogo et al. (2012) the multidimensional relationships between supplier management practices and firm operational performance. Primary data was used for the study. Data was collected from 232 manufacturing firms in Australia to conduct the study. The scholars tested ten hypotheses simultaneously using the Structural Equation Modeling (SEM) technique. The findings indicate that various supplier management practices affect various operational performance measures. Supplier evaluation correlates positively with quality performance.

Adesanya et al. (2020) explore how tobacco manufacturing companies can improve sustainability through effective supplier relationship management (SRM). The research used a single case study of a multinational tobacco company. Semi-structured interviews were conducted with respondents from the firm who are acquainted with sustainable SRM in the tobacco lobby and are using various techniques to enhance sustainability performance. This paper's findings emphasize the significance of a procurement team's ability to collaborate with other functional units in incorporating green SRM. The conclusions also add to the growing body of knowledge about the influence of sustainability on supplier segmentation and multi-tier supplier management. More research is needed to investigate the generalizability of the findings of this study, which are based on a single case study.

Mwangi (2017) investigate the effect of supplier relationship management on the operational performance of sugar firms in Kenya. The researcher adopted a descriptive research design. The target population for the study consisted of all the employees of the 13 currently operating sugar companies in Kenya serving the companies' supply chain departments. Primary data was collected for analysis using questionnaires as instruments of taking the data. The study was done

using SPSS, and the finding presented using frequency tables, graphs, and charts. It was found that trust-

based relationships, information sharing, and supplier collaboration in NPD positively impact operational efficiency in the sugar sector in Kenya. The researcher recommended that sugar firms establish an effective supplier-buyer information relationship structure and encourage supplier involvement in product development. Operational systems within the organization should be made reliable for the firms to attain operational excellence.

Tseng (2014) investigated how KMC influences the relationship between enterprises and suppliers and enhances corporate performance. The research design used in this study was the survey design. The researchers' used primary sources for the collection of data. The samples were restricted to a list of the largest Taiwanese corporations compiled by China Credit Information Service (2011), from which 500 corporations were selected. Results indicate that KMC positively influences corporate performance, while SRM is the partial intervening variable between KMC and corporate performance. This method provides valuable suggestions that allow firms.

Kepher et al. (2015) examine the role of supplier management on firm performance in the manufacturing sector in Kenya. The study used the case of East African Breweries Ltd and focused on employees from various departments within the company. It used a descriptive research design, which was suitable because it concerned gathering data to answer relevant questions about the current state of the subjects under study. The target population consisted of 450 employees from various departments who were directly needed to manage the firm's production process. The study's findings revealed a positive relationship between the predictor variables and procurement performance. The results also showed that lead time management has

the most significant impact on firm performance, followed by organizational policy and ICT integration. The study suggests that more research be conducted on the same topic in other sectors of the economy, such as the automotive industry, to identify the role of supplier relationship management on firm performance.

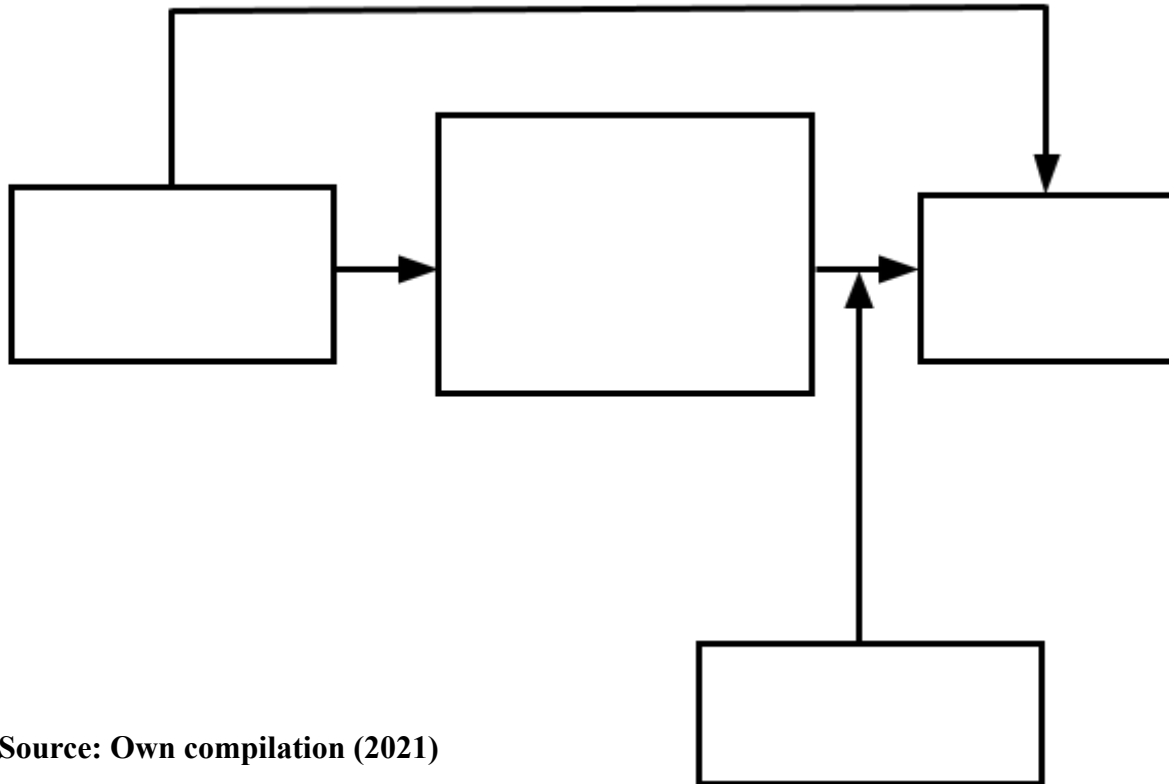
Geoffrey et al. (2019) investigate the effects of supplier relationship management on firm performance in Kenya. Their study adopted a descriptive survey design to establish to which extent the independent variables affected firm performance in state corporations in Kenya. Both quantitative and qualitative data were used in the study. The sample size for the study was 80. The data were analyzed using SPSS version 23 and Excel 2016 to obtain quantitative measures of the study. The study of the findings indicates that supplier evaluation, collaboration trust, and supplier development had a positive statistical relationship on procurement performance in state corporations in Kenya. The study recommends more stringent measures to ensure the contractual obligations of suppliers are met.

2.5 Conceptual framework

Camp (2001) revealed that the conceptual framework is a structure that the researcher believes explains the natural progression of the phenomenon to be studied in the research. It is based on the concepts, which are the main variables in the study. It is linked to the ideas, empirical evidence, and critical theories used in promoting and systemizing the knowledge adopted by the researcher in their research (Day et al., 2017).

The variables from the framework are the researcher's compilation which was modified from various literature (Khaing, 2019 Amoako-Gyampah et al., 2019). This framework gives a brief

explanation of the research topic. It also indicates the relationship between dependent and independent variables.



Source: Own compilation (2021)

Figure 2.1; Conceptual model of the mediating and moderating role of operational capability (DC) and competitive intensity on the association between supplier relationship management (SRM) and firm performance (FP).

From the above framework, it consists of dependent (firm performance such as financial and operational performance), mediating role (operational capabilities, i.e. cost capability, quality capability, delivery capability), moderating role (competitive intensity), and independent

variables (SRM, i.e. joint decision, information sharing, and commitment). Examining the relationship between these variables assists the researcher to understand the form that the study would take about the methodology and translating it into practice.

2.6 Research Hypothesis

In this section, the researcher derives three hypotheses and develop a theoretical model that builds on the foundations of supplier relationship management on firm performance having both direct and indirect effect. The main variables and the hypothesized relationships among them are depicted in figure 2.1.

2.6.1 Supplier relationship management and firm performance

Supplier Relationship Management (SRM) is the “systematic approach of assessing suppliers’ contributions and influence on success, determining tactics to maximize suppliers’ performance, and developing a strategic plan for executing these decisions”. In today’s complex world, where industries have many supply sources at various levels all over the world that may or may not be delivering accurately what they need and when they need it, SRMs are critical since their technique offers increased flexibility as well as enhanced cost savings amidst the other difficulties associated with global sourcing. Supplier Relationship Management (SRM) represents one thing, thus a company's success. It is revealed that SRM is important because there will be no supplies coming into your firm or goods distributed out from it, resulting in business failure.

The benefit of SRMs allows buyers to manage their supplier relationships by providing visibility on crucial processes. It has been shown that SRMs decrease operational costs and increase inventory turns while increasing customer satisfaction. Similarly, Zhang and Cao (2018) revealed that firms involved in collaborative practices are more willing to share resources such as

technical knowledge for jointly advertising or training their products and services among supply chain partners. Consequently, buyers can leverage supplier competencies to build competitive capabilities and increase performance, particularly during high business volatility. Other benefits companies obtain from SRM include increasing efficiency, improving supplier quality and expectation management, increasing flexibility, strengthening the supply chain, better risk assessment, etc.

Moreover, it is often presumed that the focal organization (manufacturer) will have a dominant position in the relationship among supply chain partners. The manufacturer places numerous burdens on suppliers and other partners in the supply chain to invest in process integration and information sharing to enhance supply chain performance (Leuschner et al., 2013; Schloetzer, 2012; Krause et al., 2007).

Moreover, the focus point of an entity or organization is frequently assumed to dominate the association among supply chain partners. Scholars (i.e. Leuschner et al., 2013; Schloetzer, 2012; Krause et al., 2007) posit that producers put a lot of pressure on suppliers and other supply chain partners to invest in integrating and sharing information on supply chain performance. According to Nyaga et al. (2010), suppliers in buyer-supplier relationships frequently think that they did not earn a balanced portion of the value accumulating from the ties, contributing to suspicions of lack of parity. Nevertheless, provided the challenging and instability business environment that Ghanaian companies, as previously described, suppliers become conscious of Ghanaian producers' vulnerability (with Ghanaian manufacturers having less damaging information about their suppliers). This vulnerability or threat creates imperfect information that may influence or affect firms' performance (Brinkhoff et al., 2015). Nevertheless, given the overwhelming

evidence that collaborations of both entities improve performance. Hence, the researcher proposes that:

H₁: Supplier relationship management is positively related to firm performance.

2.6.2 Mediating role of operational capability

The term capability refers to the skills, abilities, aptitudes, and knowledge one possesses for the job one is hired to perform. In most cases, lack of capability will result in poor work performance in one's role, which will probably create issues both for managers and coworkers.

According to the RBV, organizational performance is determined by resources and capabilities (Kaleka, 2002). “Resources are the input to the capabilities and capabilities utilize resources to have desired outcomes”. Organizational capabilities are a subset of operational capabilities (Winter, 2003; Newey & Zahra, 2009; Wu et al., 2010), and similar to the organizational capabilities, input to operational capabilities are the resources of the organization (Wu et al., 2012; Inan & Bititci, 2015; Wilden & Gudergan, 2015). Furthermore, resources necessitate operational capabilities to create relevance for an organization, and both reaffirm each other in an attempt to develop more value (Wu et al., 2010; Coltman & Devinney, 2013). Given this, operational capabilities can contribute positively by interacting with the organization's existing resource base and establishing complementarities (Schmidt & Keli, 2013).

Notwithstanding, knowledge-based resources (intellectual capital) are critical to capabilities (Metcalfe & James, 2000). Operational capabilities are associated with organizational knowledge-based resources (Benner & Tushman, 2003). According to Jordan (2012), the technique by which these resources impact operational capabilities must first be transformed into operational capabilities before affecting performance. Such reserves enhance operational capabilities, making them unique and leading to long-term performance (Jordan, 2012; Lee &

Choi, 2003). Similarly, Wu et al. (2012) contend that firm-specific skills such as unique technical knowledge combined with human capital allow operational capabilities to develop. Schmidt and Keli (2013) revealed that by merging operational capabilities with the organization's existing knowledge-based resources, operational capabilities add value to the firm.

Wu et al. (2010) posit that operational capabilities are the key sauce of an organization that helps it enhance its efficiency. Moreover, Newey and Zahra (2009), operating capabilities enable an organization to carry out its primary operational activities. These capabilities help the firm carry out its operations continuously by sustaining the existing products and services provided to customers. The organization's operational capabilities enable it to improve its quality, speed, and cost reduction business processes. Furthermore, these capabilities are critical for improving business performance (Helfat & Winter, 2011).

Similarly, other literature (Wu et al., 2010; Newey & Zahra, 2009; Krasnikov & Jayachandran, 2008) revealed that continuous improvement and business excellence are provided by operational capabilities, which reduce costs, build a solid customer base, and improve quality. To summarize, operational capabilities enable an organization to develop superior performance. As a result, these capabilities lead to incremental innovation. Hence, it is hypnotized.

H₃: Operational capabilities positively mediate the relationship between supplier relationship management and firm performance.

2.6.2.1 Cost capability

This study uses cost capability as a component of operational capability to analyze the mediating role of the relationship between supplier relationship management and firm performance. A nutshell cost requires the payment of (a specified sum of money) before it can be acquired or done. Researchers have posited that firms need to minimise the price to be successful. Firms with

a high cost of goods and services lose the overall profitability or performance. Previous literature shows that cost capability and SRM positively impact firm performance. Supplier relation management and cost capability positively affect performance, according to Hassan and Johari (2017), and cost capability positively affects firm performance. Because of this, it is posited that;

H_{3a}: Cost capability mediates positively and significantly the relationship between SRM and firm performance.

2.6.2.2 Delivery capability

Organizations must understand that delivery capability is measured across two unique parameters and that delivery capability is intrinsically cross-functional to use delivery to boost competitiveness effectively. First, a company seeking to create a sustainable delivery capacity must (1) offer competitive delivery dates and (2) deliver on time.

This remark implies that speed and dependability are vital aspects of a delivery capability (Bagchiet al., 1988; Lieb and Miller, 1988). Building a solid delivery capability thus necessitates both reducing order cycle time and eliminating unpredictability within the order delivery system. Fawcett et al. (1997) posit delivery capability is found to have a strong positive influence on a firm's performance. Firms that establish a strong delivery capability can meet market requirements, achieve customer satisfaction, and build a positive reputation and are thus able to achieve high levels of overall firm performance (Fawcett et al., 1997). Therefore, based on this argument, it is hypothesized that;

H_{3b}: *Delivery capability mediates positively and significantly the relationship between SRM and firm performance.*

2.6.2.3 Quality capability

This is the process whereby the firm or the supplier provides a standard of goods and services to compete in the market. However, this type of capability has been vital to the success of all organizations. Firms that create and distribute high-quality goods and services are more likely to succeed or attain overall profitability or performance. The benefits are the quality capability to manage cost, build reputation, increase customer loyalty, and lead the industry or become industry leaders. Prior research (i.e. Wu et al., 2010) has shown that quality capability as a component operational positively influences firm performance. Therefore, it is hypothesis that;

H_{4b}: Quality capability mediates positively and significantly the relationship between SRM and firm performance.

2.6.3 Moderating effect of competitive intensity

Competitive intensity refers to how competitors in the marketplace affect the firm. The force of competition is an essential aspect of a company's external environment and regional units, which influences strategy decisions, decisions to enter new regions and markets, model selection, and performance evaluation. Similarly, researchers (i.e. Hussey, 2002; Ceptureanu, 2015) posit that evaluating the essence of competition allows discussing its significant effect on the productive level of competitiveness of companies, such that, on the attainment by them of the pursued goals of activity in competitive market conditions. As a criterion of the firm's competitiveness, a competition usually acts first and foremost as an external force of counteraction to its activity (Tracey et al., 2011; Ceptureanu, 2015). As a result, its primary characteristic, which allows for summarizing the degree of the given influence, is intensity. Hence, estimating the firm's productivity level of competitiveness presumes predicting the scale of competitive intensity as one of its defining factors (Thomson, 1967).

Moreover, Gu et al. (2008) revealed that competitive intensity is an essential indicator of environmental dynamism because it reflects the degree to which firms face competition within their industries. Intense competition is usually associated with price wars, heavy advertising, and a wide variety of competing product offerings. Firms in more technology-intensive sectors, such as the electronic product industry, for instance, face more dramatic changes in technology development, as well as more significant uncertainty and competition (Wiggins et al., 2005). The external business environment can influence internal processes by generating or impeding strategic matches, and interacting with internal procedures to help the firm achieve higher performance (Chen et al., 2015).

According to the findings of Aragon-Correa and Sharma (2003), environmental factors can moderate the relationship between the deployment of diverse organizational capabilities and ecological strategy. Although the approach literature predicts both positives and negatives of operating in a highly competitive business environment.

In particular, when competition is fierce, firms must engage in risk-taking and innovative activities that necessitate both learning and exploration to break free from price wars. Examples of such activities include exploring new markets, innovating new products, and seeking novel ways to examine how to achieve differentiation and compete (Zahra, 1993). Similarly, Zhang et al. (2020) posit that a high level of competitive intensity is characterized by cutthroat competition, many promotion wars, similar product offerings, and a high level of price competition. Competitive intensity can be induced by competitors' intentional, strategic actions in the industry or a lack of understanding of information and competitors' future actions (Farrell & Saloner, 1986; Sutcliffe & Zaheer, 1998). Even though competitive intensity stems from current and future competitors, new initiatives find it challenging to maintain control. According

to previous research, competitive intensity influences strategic decision-making (Anderson & Tushman, 2001; Kuivalainen et al., 2004). In the circumstance of highly intensive, firms tend to pay more attention to their competitors.

In this facet, companies within a specific industry exert pressure on one another. Some level of competition is healthy because it acts as an impetus for innovation within organizations. Whether in an industry or another setting, competition drives teams and individuals to give their best. Such rivalry keeps a majority of firms on their toes, propelling them to do better than their competitors. To put it in a nutshell, competitive intensity offers several benefits, such as introducing different incentives and technologies, incentives to reduce production costs, and low prices on commodities. Therefore, it is hypothesized that;

H₄: Competitive intensity moderates positively and significantly the relationship between supplier relationship management and firm performance.

2.7 Conclusion

Supplier relationship management plays a crucial role in the firm's development and success.

The primary goal of supplier relationship management is to improve the efficiency and effectiveness of inter-organizational processes, with the delivery of superior value to customers taking precedence. The main aim of this research is to examine whether the indirect relationship between SRM and firm performance (FP) via operational capabilities (OC) is moderated by competitive intensity (CI). The study commences with the conceptual review by explaining the research topic's key concepts (supplier relationship management, firm performance, operational capability, and competitive intensity). During the study, various literature (Amoako-Gyampah et al., 2019; Kosgei; 2016; Benah & Li; 2020; Tseng; 2014) averred that supplier relationship management strongly influences firms' performance. More so, relevant theories such as

resource-based view (RBV) and capability base-view (CBV) support the study. An empirical review was done to know the various outcome of prior research linked to this research. In addition, based on the objectives or the research topic, a conceptual framework was proposed. The next chapter presents the methodology. It is organized to acquire information from the targeted population to comprehend a particular phenomenon and conclude from the data obtained. It also offers research design, people, sample and sampling techniques, data collection instruments, and data analysis techniques.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is the organized way of acquiring information from the targeted population to comprehend a particular phenomenon and conclude from the data received. The study examines whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. This section describes the research design, purpose, population, sample and sampling techniques, data collection instrument, and data analysis techniques.

3.2 Research design

The overall method used by the researcher to incorporate the many aspects of the study coherently and logically is referred to as the research design. This concept assists the researcher in efficiently addressing the research challenge. It also serves as data gathering, measurement, and analysis (De Vaus, 2006). Similarly, (Kothari 2014) also viewed research design as the arrangement of the conditions for collecting and analyzing data in a manner that aims to combine relevance to the research purpose with economy in the procedure. There are two types of research designs: qualitative and quantitative methods. The quantitative technique focuses on generating numerical information, whereas the qualitative approach requires a subjective assessment of a particular sample's opinions, cognition, conduct, and attitude. It is divided into four types: exploratory, descriptive, explanatory, and evaluation research design.

This study employed a quantitative approach. This methodology or method is used to investigate the relationship between variables by analyzing and explaining their findings using statistics and

numbers. It is divided into four types: experimental, quasi-experimental, descriptive, and correlational research designs (Cramer, 2003).

Furthermore, a correlational research strategy was used for the study. A correlational study is a sort of experimental research. The researcher analyzes two variables and evaluates the statistical relationship (i.e., the correlation) between them with little or no effort to control extraneous variables (Seeram, 2019).

3.3 Population of the study

A research population is a big group of people or things that focus on a scientific investigation (Hassan, 2016). Conversely, the researcher is concerned with the entirety or aggregate of the observations (Seeram, 2019). The population for this study included the management levels (i.e. top, middle, and lower-ranked employees) from firms in the Ashanti region. The study targeted twenty (20) firms to identify how supplier relationships influence their performance. The study used primary data obtained from administering ten questionnaires to each organization. Two hundred (200) workers were obtained from the human resources department at various firms. However, as the study population is finite, then Yamane's (1973) formula was used (Sarmah & Hazarika, 2012) to determine the minimum sample size for the study. The detailed calculation is shown in the next section.

3.4 Sample size and sample technique

There are two fundamental types of sampling procedures or approaches in nursing research. According to Mugo (2002), a sample is a group of "respondents (people) chosen from a wider population for a survey". The probability and non-probability sampling methods are examples of this. Probability sampling ensures that all population members have an equal chance of being

chosen. Non-probability selection does not guarantee that all units in the people have an equal opportunity of being selected.

The probability and non-probability sampling strategies were used in the investigation. The probability sampling approach provides an impartial and superior estimation of the parameters (Singh and Masuku, 2014). Systematic sampling, simple random sampling, stratified sampling, and cluster sampling are all examples of this sampling technique.

Nevertheless, the researcher used purposive sampling to select the study area for convenience. Respondents were chosen using a simple random selection from various firms. It is the most widely used method for determining a sample from the population for multiple objectives (Etikan et al., 2016). In this sampling procedure, each member of the population has an equal chance of being picked as a sample member. "The reasoning behind simple random sampling is that it removes bias from the selection procedure and should result in representative samples," it has been said (Gravetter & Forzano, 2011).

Furthermore, sample size refers to the number of individual samples or observations used in a survey or experiment. The study collected primary data from ten firm sites by presenting a questionnaire as a survey instrument. Furthermore, it is impossible to survey the entire population of the firms. The researcher must select a sample from the study population. The Yamane (1973) formula was used to calculate the sample size for this study. The mathematical expression is given below.

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

In this formula n = Sample size; 1 = 1 is constant; N = Total population; e = Precision level (i.e. error limit or margin of error. It is usually accepted at 5% or 0.05

Where $N = 200$; $e = 0.05$; $n = ?$

$$n = \frac{200}{1+200(0.05)^2} \quad n = \frac{200}{1+200(0.05)^2} = 133$$

Therefore, the sample size for the study is one hundred and thirty-three (133).

3.5 Sources of data

The data sources were divided into two categories: primary and secondary data. The researcher relied on primary data. The following subsection provides a more in-depth description.

3.5.1 Primary data

Original data obtained for research purposes through lab experiments, focus group talks, interviews, and questionnaires is the major source of data (Saunders et al., 2012). Similarly, Koziol and Arthur (2012) define it as data gathered directly from the people or work being examined. So, the information is in raw form and collected first. This form of data is typically gathered from respondents through questionnaires, interviews, and suggestions. Based on it, the study collected information from respondents using both questionnaires. This approach is advantageous since it is always reliable, authentic, and objective because it was gathered to meet a specific study problem.

3.6 Data collection instrument

Data collection instruments allow the researcher to gather the information they want to collect about the object of the study. There are several methods of collecting data, depending on the type of research. This method could be qualitative, quantitative, or mixed-method. However, this research adopts a quantitative approach. It entails a structured questionnaire.

3.6.1 Questionnaire

The respondents created several questions, including different participants from the firms. To collect data from the sample, the questionnaire method was employed. The questionnaire was divided into four sections. For respondents to answer the questionnaire, questions are structured based on open-ended and closed-ended. But for the sake of this research, the researcher adopted the open-ended type to structure questionnaires for respondents.

This questionnaire structure prohibits the respondent from going beyond the option (multiple-choice) offered to the question. In this study, closed-ended questions include categorical or qualitative variables (therefore, questions with numerous possibilities or multiple-choice questions), polar answers (yes or no), and Likert scale questions. The sample questionnaire can be found in the appendix. The first section (A) collected information on the respondents' sociodemographic traits. It provides background information on employees whose comments or opinions will be solicited. It also includes some questions on educational level or qualification, gender, age, position level, and years in the institution. The remaining sections, namely B, C, D, and E, highlight supplier relation management, operational capability, competitive intensity, and firm performance.

3.7 Measurement of variables

This section presents the key components of the research topic. These components include supplier relationship management, operational capability, competitive intensity, and firm performance. It also demonstrates how these variables are measured. These are explained in the subsection.

3.7.1 Supplier relationship management

Supplier relationship management (SRM) is a management approach that manages all interactions between a company and its suppliers (Kroenke, 2012). On the other hand, the occupational practice offers the structure for developing and maintaining relationships with suppliers. It also occurs when suppliers and buyers seek a competitive advantage in the marketplace, tapping into each other's resources because of the formation of associations (Lii and Kuo, 2016; Liao et al., 2010).

The modification of the questions for data collection was adapted from Amoako-Gymapo et al. (2019). The researcher indicated nine items or respondents to answer to assess supplier relationship management on firm performance. A Likert scale was used to measure all items, which clearly showed disagrees from one (1) (strongly disagree) to five (5) (strongly agree). A questionnaire sample includes a "*clear understanding of roles and responsibilities of each side; joint understanding effort on identifying and resolving problems; organizations structures are aligned to suppliers' organizations' structures; here is a recognizable amount of shared technology between buyer and suppliers*". The total sample of the questionnaire is indicated in the appendix.

3.7.2 Operational capability

Operational capabilities are firm-specific sets of skills, processes, and routines developed within the operations management system that are regularly used to solve problems by configuring operational resources. This capability is characterized as the firm's capacity to increase business processes to be more effective and efficient while using fewer resources.

According to Newey and Zahra (2009), operating capabilities enable an organization to carry out its primary operational activities. These capabilities will allow the organization to carry out its

activities continuously by assisting the established products and services provided to customers. The organization's operational capabilities will improve its business processes in cost reduction, speed, and quality. Hence, this aspect is centred on how cost reduction, speed, and quality are being operated to enhance performance.

Respondents asked a questionnaire sample to include “capability to deliver product and service according to firm demand, and suppliers provide support and warranty for the product and services, suppliers access the market place and provide new ideas to the firm”. The researcher adopted 5-items on a scale or respondent to rate to measure operational capability. The five-point scale which measured the variables was indicated from one (1) (strongly disagree) to five (5) (strongly agree).

3.7.3 Competitive intensity

Competitive intensity is the extent to which companies within a specific industry exert pressure on one another. Some level of competition is healthy because it acts as an impetus for innovation within organizations. Whether in an industry or another setting, competition drives teams and individuals to give their best. Such rivalry keeps a majority of firms on their toes, propelling them to do better than their competitors.

The researcher adopted a 5-items scale from Narver and Slater (1990) to measure competition intensity, as indicated in Zhang et al. (2020) work or study. The 5-items scale of competition intensity composed included “*competition in your industry is cutthroat, there are many promotion wars in our industry, anything that one competitor can offer, others can match readily, price competition is a hallmark of our industry, and our competitors are relatively weak*”.

Participants rated each item using a 5-point Likert-type scale, ranging from 1 (strongly agree) to 5 (strongly disagree). The nature of the questions is illustrated in the appendix.

3.7.4 Firm performance

Holsapple and Wu (2011) posit that the main driver of firm performance is a set of unique resources that are valuable, rare, difficult to imitate, and irreplaceable by other resources. Also, successful organizational performance is the key to gaining a competitive edge. To determine a firm's performance, the researcher measured performance based on four key variables: overall performance, growth attainment, current profitability, and market share gain. These items were adopted from Amoako-Gymapo et al. (2019). Each item was measured with a five-point scale that ranged from "much better (=1)" to "much worse (=5)". Sample of the questions include *“does your firm achieve overall performance, does your firm attain growth, does your firm attain market share”*. Using this scale, respondents were asked to indicate the extent to which their firms have performed on items over the past years. The structure of the scale is shown in the appendix

3.8 Data analysis

Both descriptive and inferential statistics are used in the data analysis. Descriptive data is described, whereas "inferential" data infers or allows the researcher to conclude based on the information gathered. The questionnaires collected from respondents were rigorously reviewed to guarantee uniformity in the responses gathered. SPSS was used to analyze the entire replies

obtained from respondents. The analytical technique utilized to analyze the specific research objectives is described in the following sections.

3.8.1 Descriptive analysis

Descriptive analysis was used to analyze the demographic characteristics of respondents. Measures adopted in this analysis include percentages (%), means, standard deviations, and minimum and maximum values.

3.8.2 Regression analysis

The regression analysis was adopted to examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. The study used a statistical package for social science (SPSS) version 24. The software was also used to, directly and indirectly, affect SRM on firm performance through operational capabilities. The details of this output of the analysis are illustrated in chapter four.

3.9 Reliability and validity of the data

To determine the internal consistency and structural detection, reliability and validity test was conducted. A detailed explanation is indicated in the subsection.

3.9.1 Reliability

Reliability is roughly defined as how measurements are error-free and produce consistent findings. Internal consistency reliability, equivalent forms reliability, and test-retest reliability are all approaches for calculating reliability. The internal consistency approach was used in this study to assess the link between each item in the questionnaire. Cronbach's Alpha is used to calculate the internal consistency approach. This is illustrated in Chapter 4.

3.9.2 Validity

The validity of research can be defined as the extent to which the requirements of the scientific research method were met during the process of obtaining research findings. This study will use primary data to assess whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. To determine the adequacy of the data for structural detection, a validity test was performed using the Kaise-Meyer-Olkin Measure of Sample Adequacy (KMO) and factor loading. In addition, questionnaires were employed to collect the necessary information, achieving the study's goal. The results will also be based on the researcher's actual findings.

3.10 Ethical issues

Ethical issues or considerations are critical for any research endeavour. Through an introductory letter, the researcher will gain access to the organization. Human subjects are used in this area. According to Saunders et al. (2007), researchers must be conscientious in their approach to data collection by allowing respondents to participate in a survey of their own free will. Respondents who are still hesitant to participate in the research opinions will be respected and removed from the study. Furthermore, the respondents' confidentiality and anonymity will be maintained throughout the study.

3.11 Conclusion

The study aimed to assess whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. The study deployed several strategies to achieve the research objectives. Initially, the researcher adopted quantitative research, descriptive, and correlational research as the study's research design and research purpose. The sample size for the survey is one hundred (100). The study adopted the probability

and non-probability sampling methods. The primary source of data was used for the analysis. Structured questionnaires were prepared for the respondent to solicit their ideas on how a supplier's relationship management influence or affect firm performance. Descriptive and inferential statistics were used as data for the analysis. The inferential statistics consists of the regression analysis. However, the complete responses obtained from the respondent was analyzed using SPSS. The validity and reliability of data were also checked to be free of errors.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND DISCUSSION OF RESULTS

4.1 Introduction

The purpose of this study aimed to examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. The study's specific objectives were to investigate the indirect effect of SRM on firm performance via operational capabilities; examine the relationship between SRM and firm performance, and determine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. A detailed analysis is provided based on the specific objectives. The study also presents the demographic characteristics and descriptive nature of the critical components of the research topic.

4.2 Respondents' Demographics

Data for the study was obtained from twenty (20) firms in the Ashanti Region of Ghana. A total of one hundred and thirteen questionnaires (133) were administered to respondents. Out of it, one

hundred (100) of the questionnaires were effectively answered. Table 4.1 indicates the distribution of demographic characteristics of respondents.

Table 4.1: Distribution of demographic characteristics of respondents

Variables	Frequency	Percentage
<i>Gender</i>		
Male	47	47
Female	53	53
<i>Marital status</i>		
Single	49	49
Married	44	44
Divorced	5	5
Widowed	2	2
<i>Educational status</i>		
SHS liver	27	27
Diploma	19	19
HND	26	26
Degree	21	21
Postgraduate	7	7
<i>Ownership of the structure</i>		
Local	56	56
Foreign	44	44

Source: Field Survey, (2021)

The result unveils that 47% of the respondents were males, while 53% were females. This output clarified that more Males are employed in the selected firms than females. According to the marital status, 49% of respondents were single, followed by married (44%), divorced (5%),

and widowed (2%). The output indicates that most of the employees working within the firms were single. About 27% of respondents were SHS leavers, 26% were HND holders, 21% were degree holders, 19% were diploma holders, and 7% were postgraduate (i.e. Masters, M.Phil., and Doctorate). Moreover, respondents were asked to indicate the ownership of the structure. It was found that local members owned 56% of the firms, and foreigners owned 44%.

4.2.1 Rank level of respondents

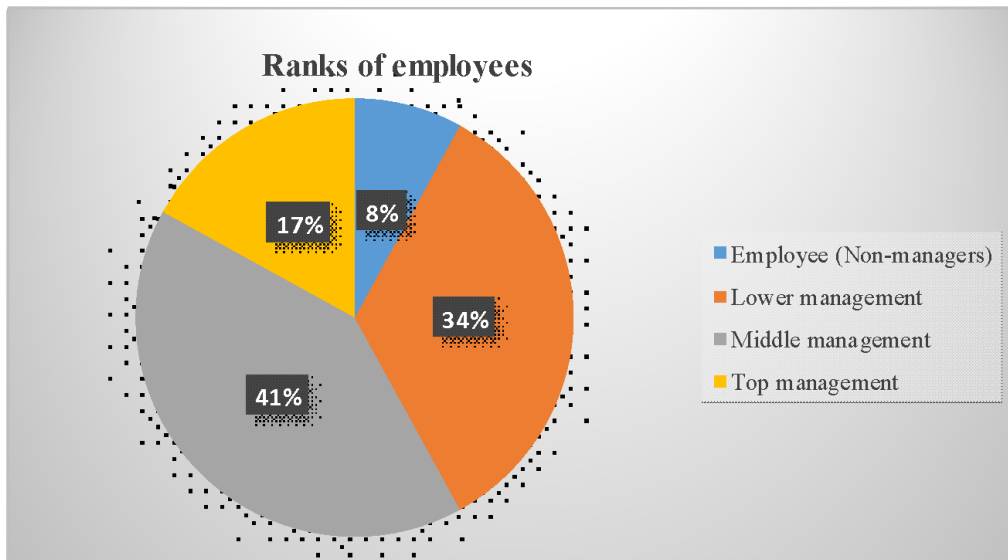


Figure 4.1:

Management or rank level of employees

The pie chart above illustrates the management level of employees within the firm. The result showed that 41% of the employees were middle managers, 34% indicated lower managers, 17% were top managers, and 8% indicated non-managers (employees). The output shows that middle managers dominate various selected firms in Kumasi.

4.2.2 Descriptive summary of respondent

Respondents were asked to indicate years of work and the number of employees from various industries. The analysis suggests that the total number of employees or workers within firms falls within the range of 100-99, which indicates 39%. The remaining analysis on the number of employees revealed that less than 50 employees showed 28%, followed by the range of 100-199 employees (9%), more than 500 employees (13%), and 200-499 employees, which represent 1%. Moreover, the average number of employees within the various organizations was 2.21, with a standard deviation of 1.33. The mean and standard deviation comparison indicates that the standard deviation (1.33) is low or lower than the mean (2.21). This means that the data points tend to be very close to the mean.

Table 4.2: Descriptive summary of respondent

Variable	Range	Frequency	Percentage
	50-99	39	39
Number of employees	Less than 50	28	2
	100-199	19	19
	200-499	1	1
	More than 500	13	13
Years of working	Less than 5	36	36
	5-9	25	25
	10 -13	21	21
	14 – 20	18	18

Source: Field Survey, (2021)

Furthermore, employees' years of work were assessed. Years of work also determine the experience level of employees within an organization or firm. From table 4.2, years of employee work show that less than five (5) years indicated (36%), followed by 5-9 years (25%), 10-13 (21%), and 14-20 (18%). The output means that most employees within the selected firms for the study were less than five (5) years, which means that most employees are inexperienced.

4.3 Measurement Issues

The measurement issues concern the outcome or result of the following analysis: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy or exploratory factor analysis, reliability test, and correlational analysis.

4.3.1 Testing for validity

Table 4.3 indicates two (2) tests that specify the suitability of the data for structure detection. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is a statistic that shows the proportion of variance in the variables that the underlying factors may cause. Higher values close to 1.0 suggest that factor analysis may be helpful with the data.

Table 4.3: Kaiser-Meyer-Olkin (KMO)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.659
	Approx. Chi-Square	797.354
Bartlett's Test of Sphericity	Df	276
	Sig.	0.000

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test from Table (4.3) indicated 0.659, close to 1.0. This means that the factor analysis is helpful with the data. Also, Bartlett's Test of Sphericity was found to have a significant level of 0.000 (1%) which indicates that factor analysis is helpful with the data at hand. Research had stated the rule of thumb for the significant level of Bartlett's Test of Sphericity should be less than 0.05. However, the significant level of Bartlett's Test of Sphericity was less than 0.05, which indicates that the data is suitable for further analysis.

4.3.2 Rotated component matrix

The rotated component matrix, often known as the loadings, is the most critical result of principal component analysis. It includes correlation estimates for each of the variables and the expected components. Correlations of less than 0.55 are usually considered trivial when

analyzing a component matrix. (These correlations are generally referred to as loadings; negative correlations are also possible, and correlations of -0.55 or -0.3 and 0.0 are considered trivially small in this case.)

Moreover, the result from Bartlett's Test of Sphericity indicates that variables are correlated ($\chi^2 = 797.354$, $p < 0.001$, which signifies 1%). Using the method for extracting factor (eigenvalue greater than 1), twenty-four (24) factors were extracted explaining 19.5%, 10.2%, 8.4%, 6.9%, 6.1%, 5.6%, 5.0%, 4.8%, 4.3%, 3.7%, 3.3%, 3.1%, 2.9%, 2.4%, 2.3%, 2.1%, 1.8%, 1.6%, 1.3%, 1.2%, 1.1%, 0.9%, 0.7%, and 0.7% of variance in all 24 variables. After the orthogonal rotation totaling, 70.83% of variance explained by twenty-four (24) factors.

Table 4.4: Rotated component matrix

	1	2	3	4	5	6	7	8	9
DC ₃	0.86								
DC ₂	0.75								
DC ₄	0.75								
DC ₁	0.66								
FP ₂		0.86							
FP ₁		0.80							
FP ₃		0.78							
FP ₄		0.76							
SRM ₃			0.87						
SRM ₄			0.75						
SRM ₂			0.65						
SRM ₉			0.59						
CI ₄				0.85					
CI ₃				0.77					
DC ₅					0.78				
CC ₃					-0.70				
CI ₁						0.81			
QC ₁							0.68		
CC ₂							0.67		
CC ₁								0.87	
CC ₄									0.80
SRM ₆									0.70

Subsequently, Joseph F. Hair, Jr. revealed that loading is significant (over a certain threshold) depending on the sample size needed for significance. The sample size for the study was one hundred (100). Therefore, the absolute value used to determine the loadings' significance was below 0.55. Hence, the output of the analysis is indicated in the table above.

The result revealed that the correlation among variables (DC₃, DC₂, DC₄, and DC₁) loaded on factor 1 was significant, with rotated component matrix or loading of 0.86, 0.75, 0.66, and 0.54, respectively. This is because the variables' loadings were above the rule of thumb (0.55).

Again, the correlation among variables (FP₂, FP₁, FP₃, and FP₄) loaded on factor 2 was significant, with rotated component matrix or loading of 0.86, 0.80, 0.78, and 0.76, respectively. This is because the variables' loadings were above the rule of thumb (0.55).

Moreover, the correlation among variables (SRM₃, SRM₄, SRM₂, and SRM₉) loaded on factor 3 was significant, with rotated component matrix or loading of 0.87, 0.75, 0.65, and 0.59, respectively. This is because the variables' loadings were above the rule of thumb (0.55). Also, the correlation among variables (CI₄ and CI₃) loaded on factor 4 was significant, with a rotated component matrix or loading of 0.85 and 0.77, respectively. The correlation among variables (DC₅ and CC₃) loaded on factor 5 was significant, with rotated component matrix or loading of 0.78 and 0.70, respectively. It was also found that the correlation among variables (CI₁) loaded on factor 6 was significant, with a rotated component matrix or loading of 0.81. Similarly, the result shows that the correlation among variables (QC₁ and CC₂) loaded on factor 7 was significant, with a rotated component matrix or loading of 0.68 and 0.67, respectively. It was also averred that the correlation among variables (CC₁) loaded on factor 8 was significant, with a rotated component matrix or loading of 0.87.

Lastly, the table indicated that the correlation among variables (CC₄ and SRM₆) loaded on factor 9 was significant, with rotated component matrix or loading of 0.80 and 0.70, respectively. This is because the loadings among the variables were above the rule of thumb (0.55) that Joseph F. Hair, Jr, stated.

4.3.3 Reliability test

The Cronbach (α) coefficients of determination were used to determine the internal consistency and reliability of the data. The Cronbach (α) coefficients of the constructs are shown in Table 4.4. The research conducted by Hair *et al.* (1998) posits that the minimum requirement of the Cronbach (α) coefficient is 0.7.

Table 4.5: Cronbach's α coefficients of the constructs

Construct	Number of items	Cronbach's alpha	Remarks
SRM	9	0.833	Good
FP	4	0.834	Good
OC	13	0.703	Acceptable
CI	5	0.727	Acceptable
Total number of items	31		

Source: Field survey, (2021)

The result estimated in Table (4.4) shows that the Cronbach (α) coefficient of supplier relationship management (SRM), firm performance (FP), operational capability (OP), and competitive intensity (CI) were 0.833, 0.834, 0.703, and 0.727, respectively. The Cronbach (α) coefficients of all the four (4) sub-constructs were more than 0.7. The output of this analysis was consistent with Aliet al. (2021), who found that the reliability coefficient of all their components was more than 0.7. Hence, the four (4) constructs' total reliability coefficient was 0.797. Therefore, measuring these variables or constructs is acceptable in reliability.

4.4 Descriptive Results

This section presents descriptive results or statistics of the critical component of the research objectives. It shows the mean, standard deviation, minimum, and maximum.

4.4.1 Descriptive statistic of supplier relationship management

Respondents from various firms were asked to rate the level of supplier relationship management (SRM). This was attained with the help of constructing a five-point Likert scale (1=strongly agree to 5= strongly disagree). This scale was compressed to three points to enhance ease of analysis. The mean scale between 1.0 to 2.4 classifies that employees agree (strongly agree and agree) with the phenomenon. The central value of approximately 3 corresponds to neutrality to the statement posed. Also, values that fall within the interval of 3.5 to 5.0 support the disagreement (strongly disagree and disagree) on the information provided. Table 4.5 presents a descriptive summary of supplier relationship management.

Table 4.6: Descriptive statistic of SRM on firm performance

Variable	Mean	Std. Deviation	Minimum	Maximum
SRM ₁	1.64	0.811	1	5
SRM ₂	1.95	0.821	1	5
SRM ₃	1.79	0.756	1	3
SRM ₄	1.72	0.792	1	4
SRM ₅	1.75	0.869	1	5
SRM ₆	1.89	0.852	1	4
SRM ₇	1.86	0.779	1	4
SRM ₈	1.97	0.846	1	5
SRM ₉	1.91	0.933	1	5

Source: Field survey, (2021)

Table 4.5 indicates that the subscale or sub-constructs of supplier relationship management (SRM₁, SRM₂, SRM₃, SRM₄, SRM₅, SRM₆, SRM₇, SRM₈ and SRM₉) obtained an average value of 1.64, 1.95, 1.79, 1.72, 1.75, 1.89, 1.86, 1.97, and 1.91, respectively. The meaning of this output indicates that respondents agree with the statements posed. It recorded a standard deviation of 0.811, 0.821, 0.756, 0.792, 0.869, 0.852, 0.779, 0.846, 0.933 respectively, with a

minimum and maximum value of 1 corresponding to each identified sub-construct. Moreover, the standard deviation corresponding to each construct was less than the mean, implying that data points tend to be very close to the mean. Similarly, SRM₃ received a maximum number of 3. The meaning of the subconstruct is indicated in the Appendix.

4.4.2 Descriptive statistic of firm performance

Data on firm performance was obtained from respondents from various firms. Table 4.6 provides the results of the descriptive summary nature of firm performance. A Likert scale questionnaire was adopted to solicit respondents' perceptions of the firm's performance. The scale ranged from 1 (strongly agree) to 5 (strongly disagree). The researcher categorized an average range for each variable out of the mean score of each statement. These ranges include 1.00 to 2.24=agree (strongly agree and agree), 3 = neutral, and 3.5 to 5.0 = disagree (strongly disagree and disagree). The mean scale between 1.0 to 2.4 classifies that employees agree (strongly agree and agree) with the phenomenon. The central value of approximately 3 corresponds to neutrality to the statement posed. Also, values that fall within the interval of 3.5 to 5.0 support the disagreement (strongly disagree and disagree) on the information posed.

Table 4.7: Descriptive statistic of firm performance

Variable	Mean	Std. Deviation	Minimum	Maximum
FP ₁	1.95	0.936	1	5
FP ₂	2.06	0.862	1	5
FP ₃	2.16	0.907	1	5
FP ₄	2.16	0.992	1	5

Source: Field survey, (2021)

The analysis posits that firm performance (FP₁, FP₂, FP₃ and FP₄) obtained a mean value of 1.95, 2.06, 2.16, and 2.16, respectively. It also received a standard deviation of 0.936, 0.862, and 0.907, 0.992, respectively. This output means that respondents strongly agreed or agreed with the statement. Also, the standard deviation corresponding to each subconstruct of firm performance

was lower than the mean, implying that data points tend to be very close to the mean. The subconstruct of firm performance obtained a minimum and a maximum number of 1 and 5 corresponding to each construct.

4.4.2 Descriptive statistics on the components of operational capability

Respondents were asked to use the scale to rate the questions to determine their perception of operational capability. Various components were derived from operational capability. A Likert scale rating from 1 strongly agree to 5 disagree was used to measure all items. The mean scale between 1.0 to 2.4 classifies that employees agree (strongly agree and agree) with the phenomenon. The central value of approximately 3 corresponds to neutrality to the statement posed. Also, values that fall within the interval of 3.5 to 5.0 support the disagreement (strongly disagree and disagree) on the information posted.

Table 4.8: Descriptive statistic on the component of operational capability

Variable	Mean	Std. Deviation	Minimum	Maximum
<i>Delivery capability</i>				
DC ₁	1.94	0.993	1	5
DC ₂	2.05	0.857	1	4
DC ₃	1.91	0.830	1	4
DC ₄	1.91	0.830	1	4
DC ₅	2.21	1.131	1	5
DC ₆	2.00	1.064		5
<i>Quality capability</i>				
QC ₁	2.00	1.064	1	5
QC ₂	2.48	1.105	1	5
QC ₃	2.06	1.003	1	5
<i>Cost capability</i>				
CC ₁	1.43	0.517	1	3
CC ₂	1.80	0.711	1	3
CC ₃	2.11	0.984	1	4
CC ₄	2.29	1.028	1	5

Source: Field survey, (2021)

Table 4.7 indicates that the mean value of delivery capability (DC₁, DC₂, DC₃, DC₄, DC₅, and DC₆) were 1.94, 2.05, 1.91, 1.91, 2.21, and 2.00, respectively. It also obtained a standard deviation of 0.993, 0.857, 0.830, 0.830, 1.131, and 1.064, respectively. However, this output falls within the range of 1.0 to 2.4, which classifies that employees or respondents agreed (strongly agree and agree) on the statement posed. Moreover, the standard deviation corresponding to each construct was less than the mean, implying that data points tend to be very close to the mean.

Also, quality capability as a component of operational capability (QC₁, QC₂, and QC₃) obtained an average value of 2.00, 2.48, and 2.06, respectively. It also received a standard deviation of 1.064, 1.105, and 1.003. Nevertheless, the output of the analysis falls within the range of 1.0 to 2.4, which classifies that employees or respondents agreed (strongly agree and agree) on the statement posed. Moreover, the standard deviation corresponding to each construct was less than the mean, implying that data points tend to be very close to the mean

Lastly, cost capability (CC₁, CC₂, CC₃, and CC₄), on the other hand, has a mean of 1.43, 1.80, 2.11, and 2.29, respectively. It also obtained a standard deviation of 0.517, 0.711, 0.984, and 1.028, respectively. The standard deviation corresponding to each construct was less than the mean, implying that data points tend to be very close to the mean. However, the output of the analysis falls within the range of 1.0 to 2.4, which classifies that employees or respondents agreed (strongly agree and agree) on the statement posed.

4.4.3 Descriptive statistic of competitive intensity

Respondents from various firms were asked to rate competitive intensity on firm performance. The researcher gave respondent scales rate to know the respondent's perception of competitive power on firm performance. Moreover, this was attained with the help of constructing a five-point Likert scale (1=strongly agree to 5= strongly disagree). This scale was compressed to

three points to enhance ease of analysis. The mean scale between 1.0 to 2.4 classifies that employees agree (strongly agree and agree) with the phenomenon. The central value of approximately 3 corresponds to neutrality to the statement posed. Also, values that fall within the interval of 3.5 to 5.0 support the disagreement (strongly disagree and disagree) on the information provided. Table 4.5 presents a descriptive summary of the level of occupational stress among employees in the selected healthcare district.

Table 4.9: Descriptive statistic of competitive intensity

Variable	Mean	Std. Deviation	Minimum	Maximum
CI ₁	1.90	0.937	1	5
CI ₂	2.02	0.738	1	4
CI ₃	1.91	0.753	1	4
CI ₄	2.07	0.935	1	5
CI ₅	1.95	0.936	1	5

Source: Field survey, (2021)

Table 4.8 indicates that the mean value of competitive intensity (CI1, CI2, CI3, CI4, and CI5) is 1.90, 2.02, 1.91, 2.07, and 1.95, respectively. However, the output of the analysis falls within the range of 1.0 to 2.4, which classifies that employees or respondents agreed (strongly agree and agree) on the statement posed. It also obtained a standard deviation of 0.937, 0.738, 0.753, 0.935, and 0.936, respectively. the standard deviation corresponding to each construct was less than the mean, implying that data points tend to be very close to the mean. The subconstruct of firm performance obtained a minimum and the maximum number of 1 corresponding to each construct. Also, the maximum number for (CI₁, CI₄, and CI₅) obtained a number of 5, while CI₂ and CI₃ had a maximum number of 4.

4.5 Indirect effect of SRM on firm performance via operational capabilities

4.5.1 Regression Results for Mediation

Operational capabilities are firm-specific sets of skills, processes, and routines developed within the operations management system that are regularly used to solve problems by configuring operational resources. This capability is characterized as the firm's capacity to increase business processes to be more effective and efficient while using fewer resources. These capabilities come in various forms, but the study concentrates on delivery, quality, and cost. These capabilities were merged to know the direct and indirect impact on supplier relationship management (SRM). To achieve these objectives (1 and 2), the researcher provided a Likert scale rated from 1=strongly agree to 5= strongly disagree for respondents to access the variables.

The goodness of fit of the model presented R^2 and F. The R^2 is the coefficient square and indicates the percentage of variation explained by the regression line out of the total variation. The value for R^2 is in the range between 0 and 1. This value tends to increase as the researcher includes additional predictors in the model. However, the indirect effect of SRM on firm performance via operational capabilities is indicated in the table below.

Table 4.10: Regression Results for Mediation

Dependent Variable	Operational capabilities						Firm performance					
	DC			QC			CC			Y		
	β	S. E	t-value	β	S. E	t-value	β	S. E	t-value	β	S. E	t-value
Constant	1.34	0.21	6.39	1.37	0.21	8.23	1.969	0.153	12.90	0.65	0.51	(1.27)**
SRM (X)	0.37	0.11	(3.33)***	0.12	0.11	(1.10)**	-0.03	0.08	-0.04	0.44	0.14	(3.18)**
DC										0.18	0.12	(1.50)**
QC										0.22	0.12	(1.82)**
CC										0.10	0.16	(0.63)
	R ² = 0.102			R ² = 0.062			R ² = 0.022			R ² = 0.266		
	<i>F</i> (1, 98) = (11.084)***			<i>F</i> (1, 98) = (10.21)**			<i>F</i> (1, 98) = (8.176)***			<i>F</i> (4, 95) = (14.962)***		
Bootstrapping effect= 0.043												
Indirect effect	SE= 0.13											
	CI (LL, UL) = 0.219, 0.743											

The hypothesis stated in chapter two was tested. The researcher initially investigated the mediation model (Hypotheses 1 and 2). These hypotheses also link with the specific research objective 1 and 2. Again, the moderator variable was added to the mediation model and tested the moderated mediation hypothesis empirically. In Hypothesis 1, the researcher examined the direct effect of supplier relationship management on firm performance. In Hypothesis 2, the researcher reviewed the indirect effect of SRM on firm performance via operational capabilities. From Table 4.10, the overall model goodness-of-fit was found as $F(4, 95) = 14.962, p < .000, R^2 = 0.266$. Generally, the p-value for the overall model was significant at 1% ($p < .000$), indicating that the explanatory variables jointly determined the dependent variables. The R^2 for the linear functional form is 0.266, which means that variations in SRM (X) explain about 27% of firm performance variations (FP). This indicates that the overall model of SRM on FP was good. Moreover, the result from the table indicated that supplier relationship management has a positive and significant relationship with firm performance ($\beta = 0.44, t = 3.18, p < .05$). It also recorded a standard error of 0.14. Besides, the lower and upper-level confidential interval (LLCI and ULCI) was significant. The range between LLCI and ULCI (0.164 and 0.713) did not contain zero, which means these two values are positive. On the other hand, the linear regression model of the dependent variable (Y) on the independent variable (X) can be interpreted as a unit increase in SRM that is more likely to increase firm performance by 0.44. The outcome of this analysis is consistent with Amoako-Gyampo et al. (2019), who found that supplier relationship management has a positive and significant relationship with firm performance. Similarly, it is also in line with the research hypothesis, indicating that supplier relationship management is positively related to firm performance.

Furthermore, the researcher examined the indirect effect of SRM on firm performance via the various components of operational capabilities. However, the research hypothesis stated that operational capabilities such as delivery, quality, and cost capabilities positively impact firm performance. These hypotheses were tested using the PROCESS Procedure for SPSS Version 4.0 computed by Andrew F. Hayes.

The result indicated that the path from supplier relationship management (SRM) to delivery capability (DC) was positive and significant ($\beta = 0.37$, $t = 3.33$, $p < .001$) while the path from delivery capability (DC) to firm performance was also significant and positive ($\beta = 0.18$, $t = 0.12$, $p < .05$). Also, the result indicated that the path from supplier relationship management (SRM) to quality capability (QC) was positive and significant ($\beta = 0.121$, $t = 1.10$, $p < .05$). At the same time, the path from quality capability (QC) to firm performance was also significant and positive ($\beta = 0.22$, $t = 0.12$, $p < .05$).

Lastly, the result revealed that the path from supplier relationship management (SRM) to cost capability (CC) was negative and not significant ($\beta = -0.03$, $t = 0.04$, $p < .676$) while the path from delivery capability (CC) to firm performance was also not significant and positive ($\beta = 0.18$, $t = 0.12$, $p = 0.276$). Hence, based on the outcome, it is concluded that delivery and quality capabilities are the two main components that are more likely to influence supplier relationship management and firm performance.

Subsequently, a bootstrapping approach with 5,000 repetitions revealed a statistically significant indirect effect of supplier relationship management on firm performance via operational capabilities (indirect effect = 0.043). In addition, the bootstrapped 95% confidence interval around the indirect effect did not contain zero (0.68, 1.33). Again, the result generated based on the direct and indirect impact is summarized in the framework below.

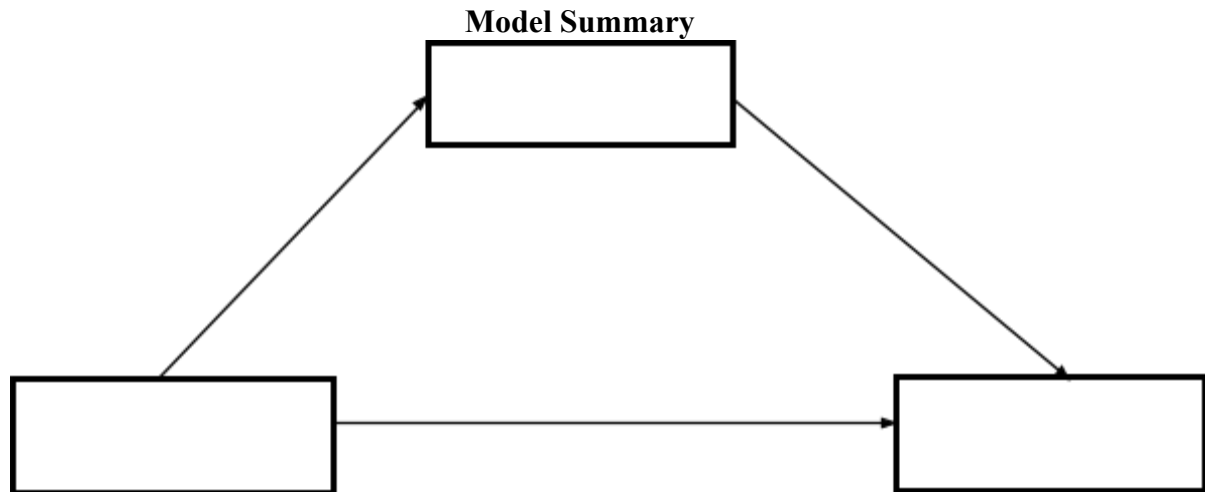


Figure 4.2: Indirect effect of SRM on firm performance via operational capabilities

The result revealed that the total effect of supplier relationship management (X) on firm performance (Y) was found to be positive and significant ($\beta= 0. 481$, $t = 3.3.65$, $p< .001$). It recorded standard error (S.E), LLCI, and ULCI of 0.132, 0.219, and 0.743. This output is illustrated in the table above. Also, to confirm the value of the total effect, the direct and indirect effect values were summed. If the summation of the direct and indirect values is the same as the total effect, then there is an indication of mediation effect. Mathematically;

$$\begin{aligned}
 \text{Total Effect (TE)} &= \text{Direct Effect (D.E)} + \text{Indirect effect (I.E)} \\
 &= 0.44 + 0.04 \\
 &= \mathbf{0.48}
 \end{aligned}$$

The outcome of this indicates a mediation effect. The mediation effect could be partial or full mediation. The analysis observed that the indirect effect was significant, and the direct effect was significant. In this case, both effects can be classified as partial mediation. The significant direct effect between supplier relationship management and firm performance suggests the presence of other mediators that might help explain the relationship between supplier relationship management and firm performance. The detailed estimation is indicated in the Appendix.

4.5.2 Indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity

From Table 4.11, the overall model goodness-of-fit was found to be significant. However, the estimates of the regression model's specifications are presented below. The overall specification for each component of operational capabilities (i.e. delivery, quality, and cost capability) is illustrated in Table 4.11. The analysis revealed that the path from supplier relationship management (SRM) to delivery capability (DC) was positive and significant ($\beta = 0.37$, $t = 3.33$, $p < .001$). At the same time, the path from delivery capability (DC) to firm performance was also significant and positive ($\beta = 0.17$, $t = 0.13$, $p < .05$). Also, the result indicated that the path from supplier relationship management (SRM) to quality capability (QC) was positive and significant ($\beta = 0.121$, $t = 1.10$, $p < .05$). At the same time, the path from quality capability (QC) to firm performance was also significant and positive ($\beta = 0.23$, $t = 0.12$, $p < .05$).

Last but not least, the result revealed that the path from supplier relationship management (SRM) to cost capability (CC) was negative and not significant ($\beta = -0.03$, $t = -0.04$, $p < .676$). At the same time, the path from delivery capability (CC) to firm performance was also not significant and positive ($\beta = -0.12$, $t = -0.69$, $p = 0.09$). Hence, based on the outcome, it is concluded that delivery and quality capabilities are the two main components that are more likely to influence supplier relationship management and firm performance. Additionally, the result from the table also indicated that supplier relationship management has a positive and significant relationship with firm performance ($\beta = 0.40$, $t = 2.79$, $p < .05$). It also recorded a standard error of 0.14. Besides, the lower and upper-level confidential interval (LLCI and ULCI) was significant. The range between LLCI and ULCI (0.116 and 0.69) did not contain zero, which means these two values are positive.

Model	Operational capabilities (M)						Firm performance						
	DC			QC			CC			Y			
	β	S. E	t- value	β	S. E	t- value	β	S. E	t- value	β	S. E	t- value	
Constant	-0.67	0.21	(-3.19)	0.22	0.21	1.06	0.06	0.15	0.40	1.37	0.28	(4.93)***	
SRM (X)	0.37	0.11	(3.33)***	0.12	0.11	(1.10)**	-0.03	0.08	-0.42	0.40	0.14	(2.79)**	
DC										0.17	0.13	(1.29)**	
QC										0.23	0.12	(1.87)**	
CC										-0.12	0.17	-0.69	
CI										0.09	0.18	(0.70)**	
Int_1										0.16	0.19	(0.84)**	
Int_2										0.21	0.21	(0.68)**	
Int_3										-0.09	0.38	(0.24)	
		R ² = 0.102 F(d.f); F(1,98) = 11.084			R ² = 0.012 F(d.f); F(1,98) = 7.211			R ² = 0.002 F(d.f); F(1,98) = 0.176			R ² = 0.190 F(d.f); F(8,91) = 2.672		
Moderator	Indirect	SE	95% CI										
(CI)	effect		(LL, UL)										
X->DC->	0.058	.090	(0.03, 0.24)										
Y													
X->QC->	0.017	.050	(0.05, 0.35)										
Y													
X->CC->	-0.003	.036	(-0.06, 0.09)										
Y													

Table 4.11: Summary of analysis of moderated mediation analysis

Regression coefficients are reported. Bootstrap sample size = 5,000. SRM = supplier relationship management; M = operational capabilities; W= competitive intensity; CI= competitive intensity; CI = confidence interval; LL = lower limit; UL = upper limit.; ** p < 0.05; *** p< 0.001

Furthermore, the second aspect of the model was examined, thus to examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. The overall goodness-of-fit was given as; $R^2 = 0.190$; $F(d.f)$; $F(8,91) = 2.672$, significant at 5%. The result indicated that competitive intensity has a positive effect on firm performance ($\beta = 0.09$, $t = 0.70$, $p < .05$). It also recorded a standard error of 0.18. Besides, the lower and upper-level confidential interval (LLCI and ULCI) was significant. The range between LLCI and ULCI (0.176 and 0.37) did not contain zero, which means these two values are positive.

The moderator variable was added to the mediation model and empirically tested the moderated mediation effect. To test the hypothesized first-stage moderated mediation model where mean centred the variables (Aiken and West, 1991) and examined the interaction or cross-product effect between the various component of operational capabilities and competitive intensity.

Result indicated that the cross-product term between delivery capability and competitive intensity was positive and significant ($\beta = 0.16$, $t = 0.19$, $p < .05$). Also, the interaction term (Int_2) or cross-product term between quality capability and competitive intensity was positive and significant ($\beta = 0.21$, $t = 0.21$, $p < .05$). Lastly, the cross-product (Int_3) between cost capability and competitive intensity was negative and not significant ($\beta = 0.16$, $t = 0.19$, $p < .05$).

The researcher examined the conditional indirect effect of supplier relationship management (X) on firm performance (Y) using tests recommended by Hayes (2013). For delivery capability, it was revealed that the index of moderated mediated model was positive and significant (indirect effect = 0.058, SE = 0.090, 95% CI = [0.03, 0.24]). Also, the researcher found that the moderated mediated for quality capability to be significant (indirect effect = 0.017, SE = 0.050, 95% CI = [0.05, 0.35]). These (delivery and quality capability) were significant because the range between

lower-level confidential interval (LLCI) and upper-level confidential interval (UPCI) did not contain zero (0), which indicates that those two values are positive. Lastly, the index of moderated mediated model for cost capability was found to be not significant (indirect effect = -0.003, SE = 0.036, 95% CI = [-0.06, 0.09]). This output was not significant because the range between lower-level confidential interval (LLCI) and upper-level confidential interval (UPCI) contains zero (0), which indicates that those two values have different signs. Bootstrap CIs confirmed the claim that the indirect relationship between SRM and firm performance via operational capabilities (delivery and quality capability) is positively moderated by competitive intensity. It also indicates that supplier relationship management is more likely to influence firm performance via delivery capability and quality capability (operational capabilities) when competitive intensity is high among rivals. The moderated mediated summary of operational capabilities and competitive intensity of supplier relationship management on firm performance is illustrated in the figure below.

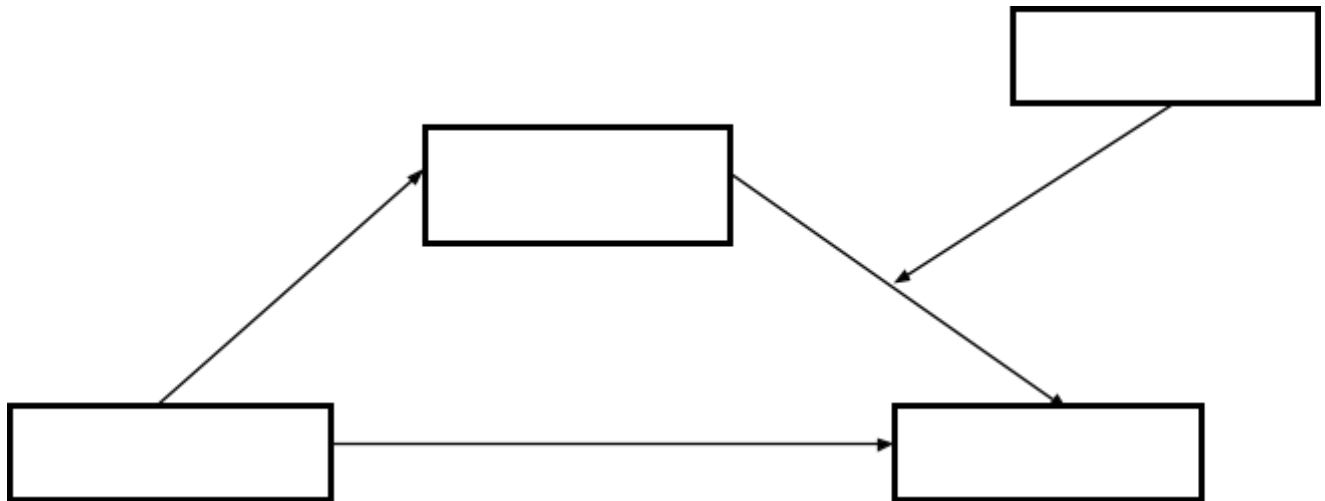


Figure 4.3: Moderated mediated effect of operational capabilities and competitive intensity of SRM on firm performance

4.6 Conclusion

The study used primary data, which was obtained from administering 100 questionnaires. Descriptive statistics were used to summarize the frequency of the critical variables (supplier relationship management, operational capabilities) and socioeconomic characteristics of respondents. The multiple regression analysis was done using SPSS to analyze the direct and indirect effect of SRM, operational capabilities, competitive intensity and firm performance.

The descriptive analysis result on competitive intensity (CI) indicated that respondents strongly agreed that the subconstructs (CI₁, CI₂, CI₃, CI₄, and CI₅) impact their firm. The descriptive statistics of various components of operational capability (delivery capability, cost capability, and quality capability) revealed that respondents strongly agreed that the statement posed has an impact on firm performance.

Again, the results based on the multiple regression model indicate that the direct effect of supplier relationship management was found to have a positive and significant relationship with firm performance. The path from supplier relationship management (SRM) to operational capabilities (i.e. delivery and quality capability) was positive and significant. At the same time, the path from operational capabilities (i.e. delivery and quality capability) was also significant and positive on firm performance. Hence, based on this outcome, it is concluded that delivery and quality capabilities are the two main components that are more likely to influence supplier relationship management and firm performance. Also, there was partial mediation due to the significance of the direct and direct effects. The moderated mediated model for competitive intensity was found to be significant. This indicates that the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter presents the study's main findings and concisely explains the conclusions made due to the survey. The evidence presented by the data and the analysis given is also summarized in this section. Section 5.2 presents a summary of key findings preceding the studies. Section 5.3 presents the conclusions made from the significant results. Section 5.4 offers the recommendations carved from the conclusions.

5.1 Summary of Key Findings

The study's general objective was to examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. However, specific objectives were generated from the general objective.

5.1.1 Relationship between SRM and firm performance

The first specific objective was to examine the relationship between SRM and firm performance. It was hypothesized in the review that supplier relationship management has a positive and significant effect on firm performance. The analysis revealed a positive and significant impact on the relationship between supplier management (SRM) and firm performance (FP).

5.1.2 Indirect effect of SRM on firm performance via operational capabilities

The second specific objective was to examine the indirect effect of SRM on firm performance via operational capabilities. But operational capabilities, which come with three components (i.e. delivery, quality, and cost capability), were hypothesized in the review to have a positive and significant effect on firm performance. The result showed that delivery capability and quality capability were found to have a positive and significant effect on firm performance. Generally,

the bootstrapping approach with 5,000 repetitions revealed a statistically significant indirect effect of supplier relationship management on firm performance via delivery and quality capabilities (operational capability).

5.1.3 Indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity

In addition, the last specific objective was to examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. The researcher stated that competitive intensity moderates positively and significantly the relationship between supplier relationship management and firm performance from the review. The outcome of the analysis averred that the indirect relationship between SRM and firm performance via operational capabilities (delivery and quality capability) is positively moderated by competitive intensity. It also indicates that supplier relationship management is more likely to influence firm performance via delivery capability and quality capability (operational capabilities) when competitive intensity is high among rivals

5.2 Conclusion

The study's general objective was to examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. However, specific objectives were generated from the primary goal. These were to examine the indirect effect of SRM on firm performance via operational capabilities, examine the relationship between SRM and firm performance and examine whether the indirect relationship between SRM and firm performance via operational capabilities is moderated by competitive intensity. Subsequently, the quantitative approach of the research design was used for the study. The researcher adopted a descriptive and explanatory method. The study used primary data, which

was obtained from administering 133 questionnaires. However, only one hundred questionnaires were fully answered by respondents. Therefore, this indicates the total sample size for the survey. A reliability test was conducted using Cronbach's Alpha to determine the internal consistency of the data. In addition, a validity test was performed by using the Kaise-Meyer-Olkin Measure of Sample Adequacy (KMO) to determine the suitability of the data for structural detection. Moreover, based on the key findings, the following conclusions are derived from the research objectives:

The study concluded that the direct effect of supplier relationship management was a positive and significant relationship with firm performance. The path from supplier relationship management (SRM) to operational capabilities (i.e. delivery and quality capability) was positive and significant. At the same time, the path from operational capabilities (i.e. delivery and quality capability) was also significant and positive on firm performance. The study concluded that the indirect relationship between SRM and firm performance via operational capabilities (delivery and quality capability) is positively moderated by competitive intensity. Also, the study concludes a moderate positive correlation between supplier relationship management and firm performance.

Moreover, the study has demonstrated that supplier relationship management is a significant factor in enhancing firm performance through a rigorous methodology using a moderated-mediation approach. As a component of operational capabilities, delivery and quality capability are significant intervening (mediating) factors between SRM and firm performance. Therefore, it is concluded that SRM and operational capabilities are key strategic tools for a firm's performance in the competitive market or world. It also concludes that the indirect relationship between SRM and firm performance via operational capabilities is moderated by

competitive intensity. This is because SRM, operational capabilities and CI positively impacted firm performance.

5.3 Recommendation

Given the above discussion of the findings, the researcher makes the following recommendations.

The study focused on delivery capability, quality capability, and cost capability as components of operational capabilities to determine the indirect relationship between SRM and competitive intensity on firm performance. Therefore, it is recommended that further studies can use other features or dimensions of operational capabilities such as service capability, innovation capability, and environmental capability as mediating or intervening variables. Also, investigating more mediators will strengthen the theory in that the strength of each capability variable might change in the presence of other mediators.

The study has suggested that quality capability as a component of operational capabilities was not as significant as the indirect relationship between SRM and competitive intensity on firm performance. Therefore, it is recommended that further studies can use this mediating variable (quality capability) to test the indirect impact of SRM and competitive intensity on firm performance.

Moreso, it is recommended that further research can be conducted by using the multidimensional operational capability that contains three core capabilities (i.e. technical/technological, marketing and managerial capability) to test its impact or effect in different fields.

Assessing SRM's influence over time will be beneficial, and looking into specific variables that may impact the SRM – firm performance link will be a promising field of research. The researcher looked at SRM at a particular time in this cross-sectional study in Ashanti Region,

Ghana. Other researchers are invited to look at other countries with similar economic environments to determine if the results are identical.

5.4 Theoretical and practical implications

The researcher demonstrated that a close relationship between a procuring firm and its suppliers, involving information sharing, development of long-term contracts, joint investments, organizations structures aligned to suppliers', commitment to a partner, would enable the buyer to improve its ability to modify output quantities swiftly in response to changing consumer demand.

Operational capability and competitive intensity were used as moderated and mediated variables in the study. Operational capabilities are firm-specific sets of skills, processes, and routines developed within the operations management system that are regularly used to solve problems by configuring operational resources. This capability is characterized as the firm's capacity to increase business processes to be more effective and efficient while using fewer resources. Also, it will improve business processes in cost reduction, speed, and quality. The study revealed that delivery and quality capability as a component of operational capability was positively moderated to competitive intensity. Also, this result has a relationship with the CBV theory which revealed that a firm competitive advantage demonstrates a firm's unique ability, which can assist the firm in obtaining and maintaining a competitive advantage in the market.

According to the study, operational capability has the potential to reduce the uncertainties connected with supply problems and issues, as well as the response time and costs that may be linked with supply issues. The researcher also provides proof to managers that SRM has an impact on business success in terms of market share, sales growth, and profitability, both directly and indirectly (through operational capabilities).

Moreover, SRM has a cost, thus administrators in domestically owned businesses may be hesitant to invest in those relationships. The ability to share information may necessitate technological investments as well as technical changes. Long-term contracts necessitate a commitment based on trust and risk sharing, and revealing production plans and timelines may expose the purchasing firm to opportunist and security problems. Managers who understand how SRM affects business performance and overall competitiveness can solve these flaws. The findings of this study should alert buyer firm executives or managers to the potential benefits of SRM investments, even during periods of high uncertainty when those firms may be tempted to bring manufacturing in-house to reduce transaction costs.

5.5 Limitations and future research

The study used few sample sizes to test the moderated mediation analysis of operational capability and competitive intensity on supplier relationship management and firm performance. However, it is suggested that further studies can use a larger sample size to determine the direct and indirect effect of operational capability and competitive intensity on supplier relationship management and firm performance. Also, the research timeframe shows a limited duration to carry out the project work.

The third acknowledged limitation of this study is that competitive intensity was used as a moderating variable in the structured model. This study, therefore, suggests that future studies should consider adopting different moderating variables to determine the impact on the relationship between SRM and firm performance.

The study focused on delivery capability, quality capability, and cost capability as components of operational capabilities to determine the indirect relationship between SRM and competitive intensity on firm performance. Therefore, it is recommended that further studies can use other

features or dimensions of operational capabilities such as service capability, innovation capability, and environmental capability as mediating or intervening variables. Also, investigating more mediators will strengthen the theory in that the strength of each capability variable might change in the presence of other mediators. Future studies should investigate the impact of the following models (transaction cost theory (TCT); stakeholder theory; social exchange theory; and resource-based view) on firm performance.

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KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF BUSINESS
DEPARTMENT OF SUPPLY CHAIN AND INFORMATION SYSTEMS

**SURVEY ON SUPPLIER RELATIONSHIP MANAGEMENT AND FIRM
PERFORMANCE**

Dear Respondent,

My name is **Adu Puku Olivia**, an MSc. (Supply Chain and Information System) candidate at Kwame Nkrumah University of Science and Technology (KNUST). I am researching **Supplier Relationship Management. The Role of Operational Capability.**

The questions consist of five segments. The first aspect deals with the socioeconomic characteristics of respondents, followed by supplier relationship management, operational capabilities, competitive intensity, and firm performance.

Kindly accept my invitation to participate in this research by sparing time to complete this questionnaire. The data provided will be used purely for academic purposes and treated with the utmost confidentiality.

SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS.

>> What is your gender?

- a. Male [] b. Female []

>> What is your marital status?

- a. Single [] b. Married [] c. Divorced [] d. Widowed []

>> What is the total number of employees in this firm?

- a. Less than 50 [] b. 50 – 99 [] c. 100 -199 [] d. 200 – 499 [] e. More than 500 []

>> What is your qualification to your current position?

- a. BECE [] b. SSCE/WASSCE [] c. DIPLOMA [] d. HND/BACHELORS [] e. MASTER'S DEGREE [] e. Others specify

>> Which of these departments or units do you belong to in this company?

- a. Human resource [] b. Logistics and transport [] c. Marketing [] d. Accounts/Finance []
e. Procurement [] f. *others, specify*.....

>> Which of these management level does you belongs to?

- a. Employees (non-managers) [] b. Lower management[] c. Middle management[]
d. Top management []

>> Ownership of the structure

- a. Local [] b. Foreign [] c. *Others, specify*,.....

>> How many years have you been in the organization?

- a. Less than 5 [] b. 5-9 [] c. 10-13 [] d. 14-20

Based on the respective scales provided, kindly circle a number that best represents your opinion on each statement

How would you assess **the supplier relationship management** of your firm using the following statement on **1-5 Likert scale** such as? **1=Strongly agree, 2=Agree, 3=Neutral, 4= Disagree, and 5= Strongly disagree.**

-+

Based on the respective scales provided, kindly circle a number that best represents your opinion on each statement

How would you assess the **competitive intensity** of your firm using the following statement on **1-5 Likert scale** such as? **1=Strongly agree, 2=Agree, 3=Neutral, 4= Disagree, and 5= Strongly disagree.**

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation is available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : Y
X : X
M1 : ME_DC
M2 : ME_QC
M3 : ME_CC

Sample
Size: 100

OUTCOME VARIABLE:
ME_DC

Model Summary

R	R-sq	MSE	F	df1	df2	p
.319	.102	.351	11.084	1.000	98.000	.001

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.338	.209	6.392	.000	.923	1.754
X	.365	.110	3.329	.001	.147	.583

OUTCOME VARIABLE:

ME_QC

Model Summary

R	R-sq	MSE	F	df1	df2	p
.110	.062	.354	10.211	1.000	98.000	.027

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.365	.210	8.248	.000	1.948	2.783
X	.121	.110	1.101	.034	.340	.097

OUTCOME VARIABLE:

ME_CC

Model Summary

R	R-sq	MSE	F	df1	df2	p
.042	.002	.187	.176	1.000	98.000	.676

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.969	.153	12.900	.000	1.666	2.272
X	-.033	.080	-.419	.76	-.192	.125

OUTCOME VARIABLE:

Y

Model Summary

R	R-sq	MSE	F	df1	df2	p
.516	.266	.493	14.962	4.000	95.000	.001

Model

	coeff	se	t	p	LLCI	ULCI
constant	.648	.509	1.273	.206	.363	1.659
X	.438	.138	3.176	.002	.164	.713
ME_DC	.180	.120	1.503	.003	.058	.418
ME_QC	.218	.119	1.829	.041	.019	.455
ME_CC	-.104	.164	-.630	.530	-.430	.223

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:

Y

Model Summary

R	R-sq	MSE	F	df1	df2	p
.346	.119	.509	13.295	1.000	98.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.201	.252	4.769	.000	.701	1.701
X	.481	.132	3.646	.000	.219	.743

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.481	.132	3.646	.000	.219	.743	

Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.438	.138	3.176	.002	.164	.713	

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
TOTAL	.043	.070	.092	.188
ME_DC	.066	.056	.036	.189
ME_QC	.026	.031	.102	.021
ME_CC	.003	.016	.026	.043

 Bootstrap estimates were saved to a file

Map of column names to model coefficients:

	Conseqnt	Antecdnt
COL1	ME_DC	constant
COL2	ME_DC	X
COL3	ME_QC	constant
COL4	ME_QC	X
COL5	ME_CC	constant
COL6	ME_CC	X
COL7	Y	constant
COL8	Y	X
COL9	Y	ME_DC
COL10	Y	ME_QC
COL11	Y	ME_CC

***** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS *****

OUTCOME VARIABLE:

ME_DC

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	1.338	1.344	.247	.854	1.814
X	.365	.361	.130	.118	.621

OUTCOME VARIABLE:

ME_QC

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	2.365	2.368	.219	1.946	2.812
X	-.121	-.123	.110	.345	.092

OUTCOME VARIABLE:

ME_CC

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	1.969	1.969	.143	1.702	2.270

X -.033 -.033 .078 -.190 .118

OUTCOME VARIABLE:

Y

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	.648	.620	.561	.470	1.729
X	.438	.441	.152	.148	.747
ME_DC	.180	.185	.144	.094	.476
ME_QC	.218	.221	.116	.006	.453
ME_CC	-.104	-.100	.163	-.417	.224

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation is available in Hayes (2022). www.guilford.com/p/hayes3

Model : 14
Y : Y
X : X
M1 : ME_DC
M2 : ME_QC
M3 : ME_CC
W : MO

Sample
Size: 100

OUTCOME VARIABLE:

ME_DC

Model Summary

R	R-sq	MSE	F	df1	df2	p
.319	.102	.351	11.084	1.000	98.000	.001

Model

coeff	se	t	p	LLCI	ULCI
-------	----	---	---	------	------

constant	-.668	.209	-3.193	.002	-1.084	-.253
X	.365	.110	3.329	.001	.147	.583

OUTCOME VARIABLE:

ME_QC

Model Summary

R	R-sq	MSE	F	df1	df2	p
.110	.012	.354	1.211	1.000	98.000	.004

Model

	coeff	se	t	p	LLCI	ULCI
constant	.222	.210	1.056	.003	-.195	.639
X	-.121	.110	-1.101	.004	-.340	.097

OUTCOME VARIABLE:

ME_CC

Model Summary

R	R-sq	MSE	F	df1	df2	p
.042	.002	.187	.176	1.000	98.000	.676

Model

	coeff	se	t	p	LLCI	ULCI
constant	.061	.153	.402	.689	-.242	.364
X	-.033	.080	-.419	.676	-.192	.125

OUTCOME VARIABLE:

Y

Model Summary

R	R-sq	MSE	F	df1	df2	p
.436	.190	.504	2.672	8.000	91.000	.011

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.366	.277	4.931	.000	.816	1.916
X	.403	.144	2.792	.006	.116	.690
ME_DC	.169	.131	1.294	.012	.091	.429
ME_QC	.231	.124	1.871	.005	.014	.477
ME_CC	.116	.169	.686	.095	-.452	.220
MO	.097	.137	.703	.014	.176	.370
Int_1	.159	.191	.836	.003	.538	.219
Int_2	.143	.210	.683	.004	.559	.273
Int_3	-.088	.375	-.235	.091	.832	.656

Product terms key:

Int_1	:	ME_DC	x	MO
Int_2	:	ME_QC	x	MO
Int_3	:	ME_CC	x	MO

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p
---------	---	-----	-----	---

M1*W	.006	.698	1.000	91.000	.040
M2*W	.004	.466	1.000	91.000	.049
M3*W	.000	.055	1.000	91.000	.515

```

Focal predict: ME_DC      (M1)
Mod var: MO      (W)

```

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute it to produce plot.

```

DATA LIST FREE/
  ME_DC      MO      Y      .
BEGIN DATA.
  -.622      -.598      1.882
   .000      .598      2.046
   .622      .598      2.211
   .622      .000      1.999
   .000      .000      2.104
   .622      .000      2.209
   .622      .598      2.116
   .000      .598      2.162
   .622      .598      2.208

```

```

END DATA.
GRAPH/SCATTERPLOT=
  ME_DC      WITH      Y      BY      MO      .
-----

```

```

Focal predict: ME_QC      (M2)
Mod var: MO      (W)

```

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute it to produce plot.

```

DATA LIST FREE/
  ME_QC      MO      Y      .
BEGIN DATA.
  -.596      -.598      1.857
   .000      .598      2.046
   .596      .598      2.235
   .596      .000      1.966
   .000      .000      2.104
   .596      .000      2.242
   .596      .598      2.075
   .000      .598      2.162
   .596      .598      2.249

```

```

END DATA.
GRAPH/SCATTERPLOT=
  ME_QC      WITH      Y      BY      MO      .
-----

```

```

Focal predict: ME_CC      (M3)
Mod var: MO      (W)

```

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute it to produce plot.

```

DATA LIST FREE/
  ME_CC      MO      Y      .
BEGIN DATA.

```

-.430	-.598	2.074
.000	.598	2.046
.430	.598	2.019
.430	.000	2.154
.000	.000	2.104
.430	.000	2.054
.430	.598	2.234
.000	.598	2.162
.430	.598	2.089

END DATA.

GRAPH/SCATTERPLOT=

ME_CC WITH Y BY MO .

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.403	.144	2.792	.006	.116	.690

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

X -> ME_DC -> Y

MO	Effect	BootSE	BootLLCI	BootULCI
-.598	.097	.070	.034	.250
.000	.062	.060	.049	.196
.598	.027	.090	.135	.235

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
MO	-.058	.090	.031	.240

INDIRECT EFFECT:

X -> ME_QC -> Y

MO	Effect	BootSE	BootLLCI	BootULCI
-.598	-.038	.051	.170	.025
.000	-.028	.032	.105	.019
.598	.018	.035	.096	.051

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
MO	.017	.050	.052	.354

INDIRECT EFFECT:

X -> ME_CC -> Y

MO	Effect	BootSE	BootLLCI	BootULCI
-.598	.002	.025	-.052	.058
.000	.004	.016	-.024	.045
.598	.006	.028	-.042	.080

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
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MO .003 .036 -.064 .091

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: The following variables were mean centered prior to analysis:

MO ME_DC ME_QC ME_CC

----- END MATRIX -----

Rotated Component Matrix^a

	Component							
	1	2	3	4	5	6	7	8
Our firm provides reliable delivery by meeting schedules or keeping promises	.857							
Our firm provided support and warranty for the product and services	.750							
Our firm accepts the number of complaints on the package and gives feedback	.745							
Our supplier delivers product and service according to firm demand	.663							
Suppliers access the marketplace and provide new ideas to the firm	.541							
Attaining growth		.863						
Achieving overall performance		.799						
Current profitability		.776						
Attaining market share		.757						
Sharing information with major suppliers			.874					
The relationship increases the responsiveness of suppliers			.751					
Pursuing joint investments with suppliers			.646					

There is a recognizable amount of shared technology between buyers and suppliers.			.586				
Anything that one competitor can offer in our market, others can match readily			.847				
One hears of a new competitive move in our market frequently			.770				
Our firm can provide fast delivery and respond quickly to customer orders				.780			
Our suppliers can reduce the production cost				-.699			
Our firm can offer products that withstand hard use over an extended period				-.544			
There are many “promotion wars” in our market					.813		
Our firm can provide products and processes at the desired high level of performance						.675	
Our firm can generate profits in competitive markets while still offering products at the lowest price						.672	
Our firm can reduce production and distribution costs							

Our firm can optimize manufacturing resources (machines, equipment, and labour) and increase its output.								
A clear understanding of the roles and responsibilities of each side								

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 11 iterations.