KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

COLLEGE OF HUMANITIES AND SOCIAL SCIENCE

SCHOOL OF BUSINESS

EFFECT OF SUPPLIER-BUYER RELATIONSHIP ON PROCUREMENT PERFORMANCE: THE MEDIATING ROLE OF SUPPLIER DEVELOPMENT IN THE GHANAIAN PUBLIC SECTOR

BY

APPIAH RICHARD ASIRIFI

A THESIS SUBMITTED TO THE (DEPARTMENT) KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

MASTER OF SCIENCE IN PROCUREMENT AND SUPPLY CHAIN MANAGEMENT

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DECLARATION

I hereby declare that this thesis is my own work towards a partial fulfillment of the requirements for the award of Master of Science in Logistics and Supply Chain Management. To the best of my knowledge, this is solely my genuine work and has not been submitted anywhere else by anyone for a degree or any academic purpose; and that all materials of other authors used in this study have been accordingly acknowledged and cited.

Appiah Richard Asirifi   Signature……….……….   Date……………

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Certified by:

Dr. Benjamin Cosmos Osei   Signature………………..   Date…………….

[Supervisor]

Certified by:

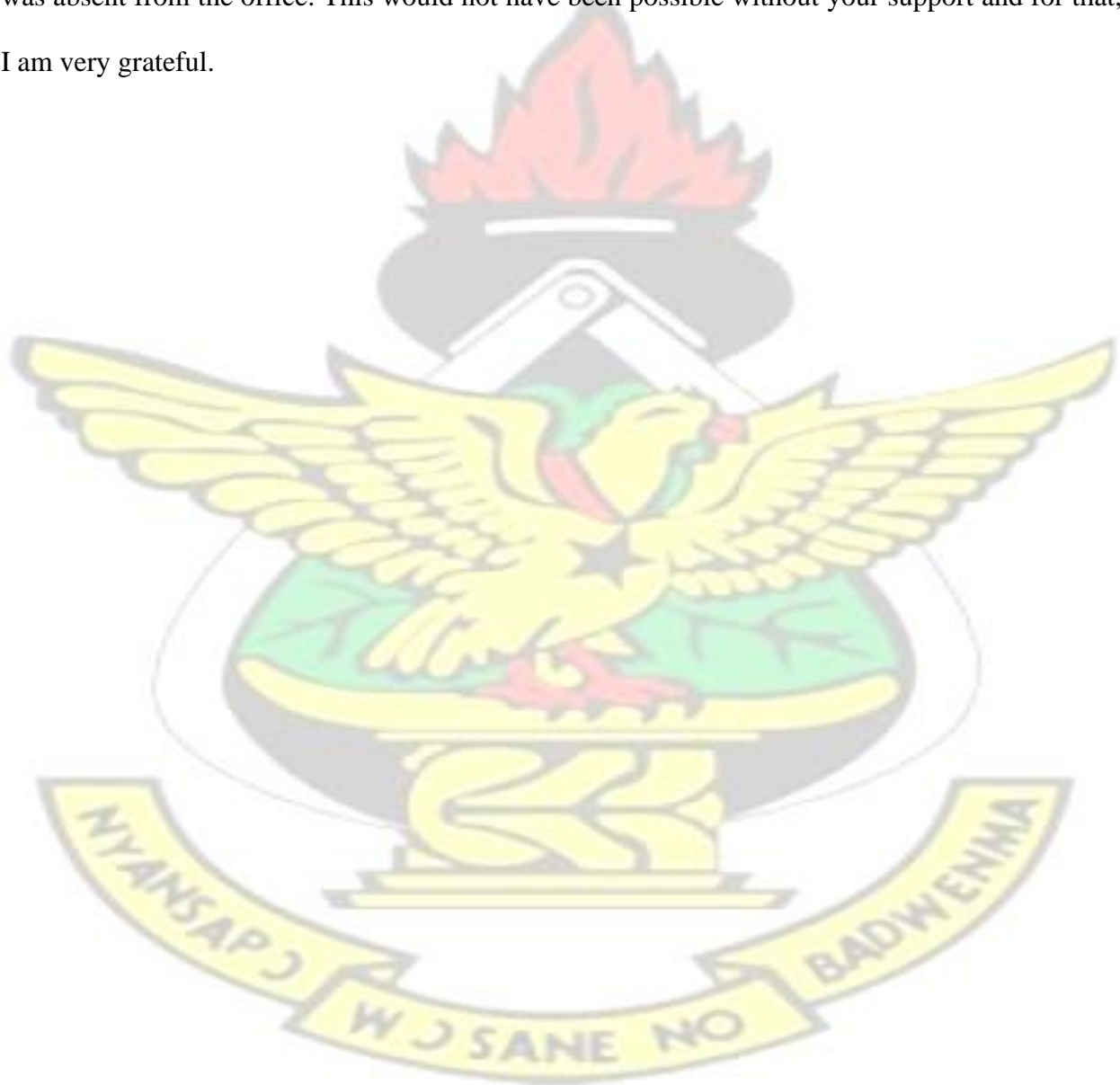Prof. David Asamoah   Signature……………….   Date…………….

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DEDICATION

This thesis work is dedicated to my friends and family. A special dedication to my loving wife whose constant encouragement gave me the strength to push to go on when the pressure was mounting and doubts began to creep in.

I also dedicate this work to my office staff who also demonstrated their reliability in times when I was absent from the office. This would not have been possible without your support and for that, I am very grateful.
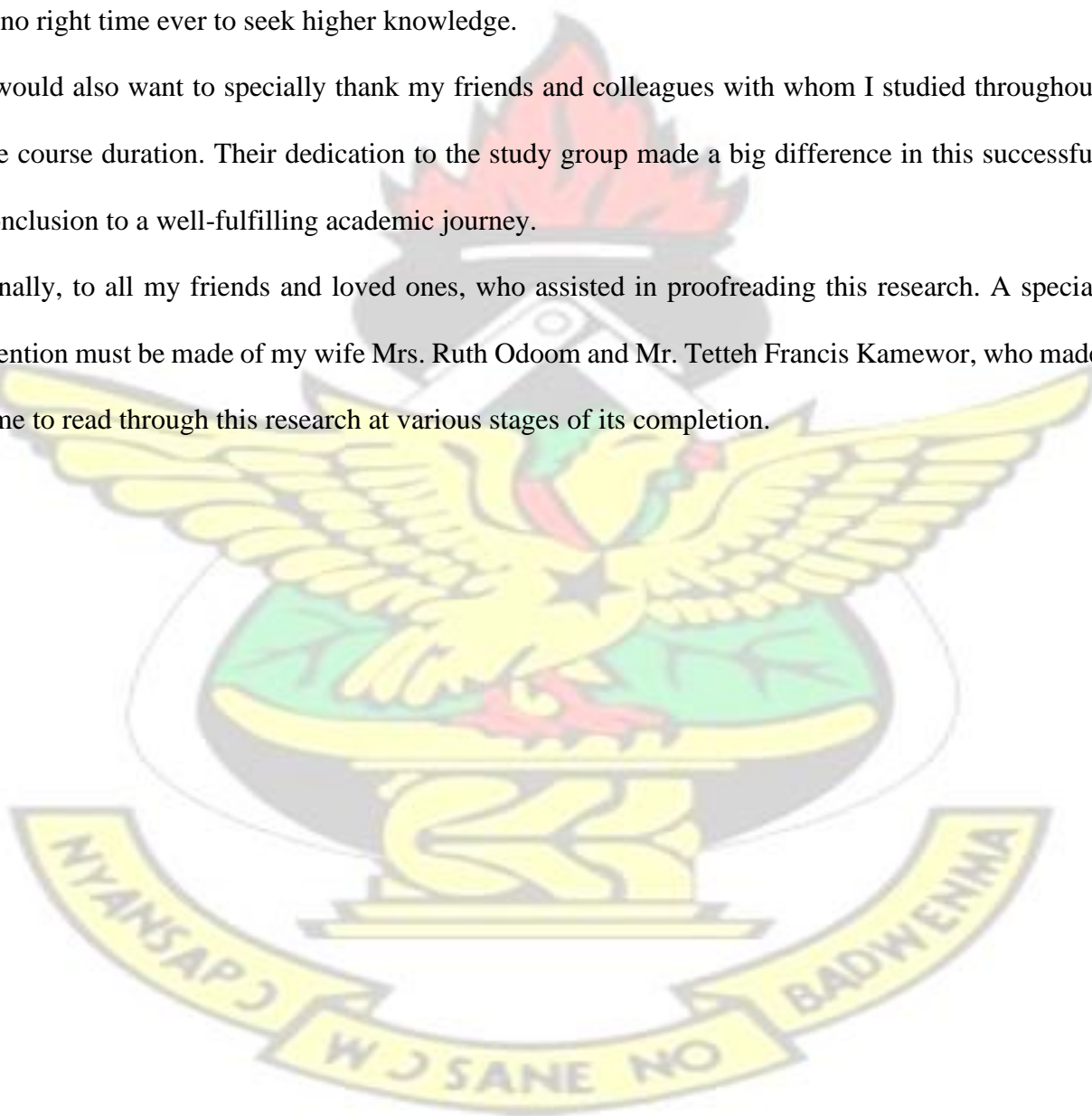
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ABSTRACT

This study was conducted to examine the effect of supplier-buyer relationship on public procurement performance, the mediating role of supplier development with evidence from Ghanaian Public Sector. Explanatory research design was used. The study employed the quantitative approach to address drafted questions in the study using questionnaires. For this study, the population focused on procurement officers, tender committee members of selected public sector institutions in Ghana. The sample size for this study was 200 was selected. Purposive sampling, a non-probability method, was used in the study to choose the respondents. The data was then analysed using the (SPSS) software programme after the coding process was completed. Data presentations were done using descriptive statistical tools and the study employed SEM in analysis the results. Inferences were obtained from the analysis and policy recommendations were provided. The finding showed that supplier-buyer relationship positively influenced procurement performance and supplier development. The finding showed that supplier development positively influenced procurement performance. The finding also showed that supplier development positively and partially mediates supplier-buyer relationship and procurement performance. The study therefore concluded that management in the firms should help design supplier product and build supplier products using technology during product development in order for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the right quantity.
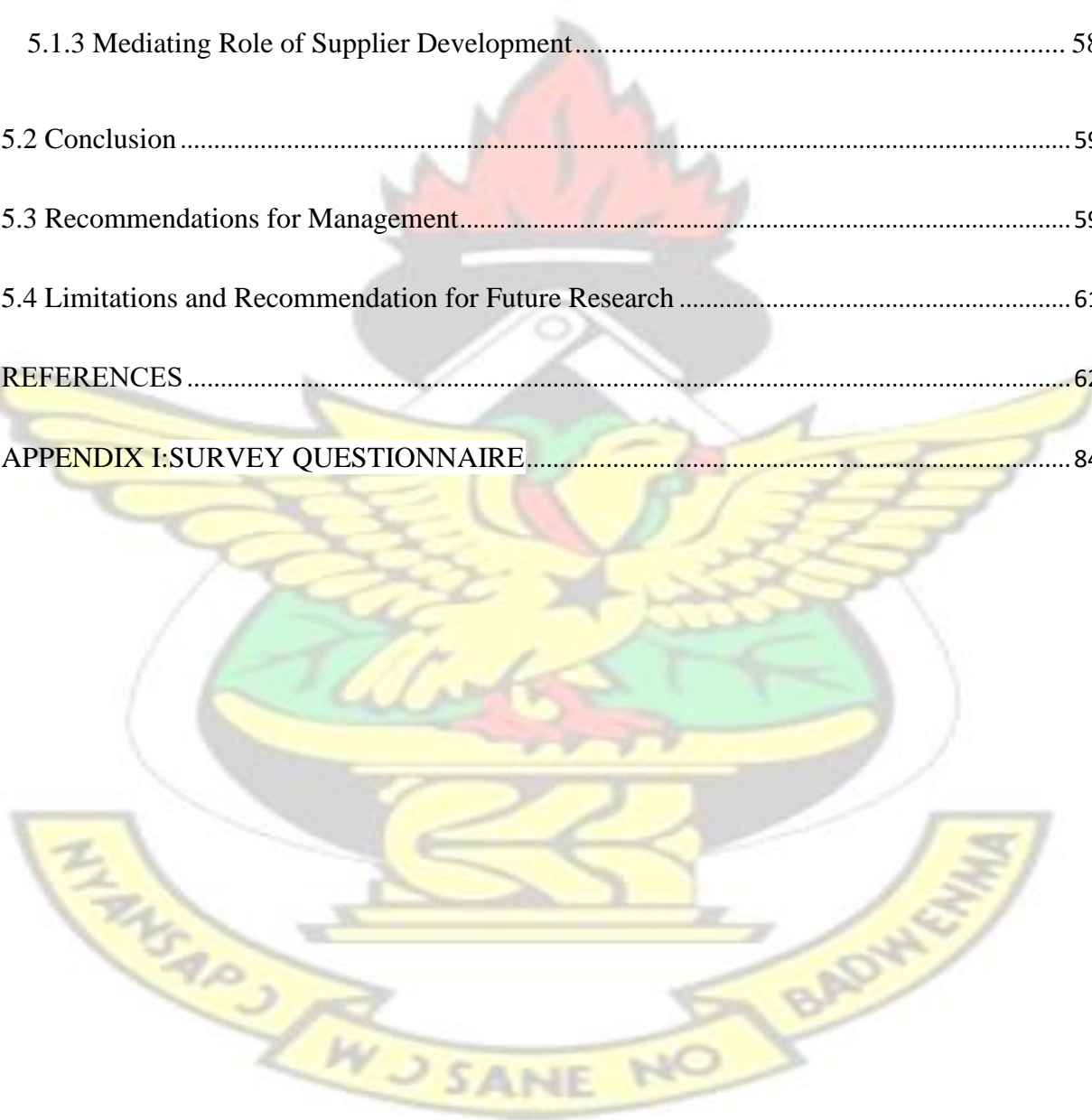
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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The role government procurement constitutes as stimuli for development has been an issue of particular interest over the past decade (Odero and Ayub, 2017; Liu et al., 2019; Patrucco et al., 2019; Raj et al., 2020). Public procurement provides varied contribution among countries, regions as well as sectors to underlying operations in health, environment, ICT, defense or infrastructure (Lember et al., 2014; Edquist, 2015; De Marchi et al., 2019). Procurement therefore plays an integral role in any establishment whether public or private. According to OECD (2017) procurement, constitute approximately 15% - 20% GDP of developed economics. Governments in both developed and developing economics attach significant attentions to issue of procurement. Owing to this, various governments across the globe has attempted to reform and implement sound procurement policies and practices in the effort to enhance value for many when procuring goods and services required to meet public needs (Osei-Tutu et al.,2010; Hazarika and Jena, 2017; Kinuthia et al.,2019). Unfortunately, public procurement outcomes or performance remain challenged despite various procurement reforms in developing economies especially Sub Sahara Africa which Ghana is no exception (Schapper et al., 2006; Basheka and Bisangabasaija, 2010; Uyarra et al., 2014; Hazarika and Jena, 2017).

Efficiency and effectiveness remain two important measure of procurement performance. According to Anane and Kwarteng (2019), effective procurement occurs when previously defined goals and objectives regarding the acquisition of goods and services in any organization are met. This term connects actual and planned performance, which is used to make a decision. Following that, effective procurement connects planned and real obtained resources to achieve established

goals and objectives. Achieving efficiency in public procurement is not just an issue of the buying entity but a joint effort of the supplier and buyer. This demonstrate that both the buyer and supplier are two important entities in ensuring efficiency in public procurement. Prior studies have also augured that the delivery of quality service is linked to efficient procurement system (Meyer et al., 2017; Uygun and Ilie, 2018; Uyarra et al., 2014).

Again, Amaratunga and Baldry (2002) underlined that procurement performance plays a critical role in increasing service quality. In the lack of acceptable procurement performance, impediments arise, causing purchasing functions to worsen. Owing to this, developing economies are increasingly becoming aware of the relevance of effective management of the public procurement processes both at the control and local government levels (Basheka, 2017; Adjei-Bamfo et al.,2019; Meyer et al., 2017; Bawole and Adjei-Bamfo, 2020). As stated earlier, procurement consumes significant part of government budget, hence improving procurement performance will lead to a great savings as well as enhancing service delivery in the public sector. The procurement functions in the public sector especially in Africa have been ineffective and inefficient characterized by massive corruption (Cherop, 2016). Extant literature (Damoah et al.,2018; Rasul et al.,2018; Muhwezi et al., 2020; Gray, 2021) argues that the poor procurement performance in the public sector could be traced to poor contract management, poor planning, resolve allocating staff completely, corruption and conflict of interest. Additionally, World bank (2001) identified corruption and conflict of interest major obstacle to public procurement performance.

In Ghana, the public sector continues to make significant strides in its effort to ensure the availability of products for the service delivery. However, the Public Procurement Authority (2018) opines that the process of procuring goods services and works in the public sector inherent

many challenges. Among the numerous challenges identified by the PPA assessment in 2018 included inadequate procurement planning, delay in payment, delivery problems, interference, poor inventory management and control, corruption and conflict of interest. The numerous challenges faced by healthcare facilities coped with the increasing cost of healthcare delivery heartens the sustainability of the healthcare system. It is therefore imperative to develop strategies to maximize healthcare delivery with minimum cost or spending.

A notable resource for firms in improving organizational outcomes is by building a lasting relationship between the buying entity and the supplier. Prior studies (Gligor and Holcomb, 2013; Gligor and Esmark, 2015) have demonstrated that the supplier-buyer relationship (SBR) positively enhances organizational level outcomes such as cost reduction, superior business performance and increased business volume. In the context of marketing, earlier studies have also advanced that SBR is essential for buying firms to gain access to potential suppliers in the market and access to external resources (Golicic and Mentzer, 2006). Additionally, other studies have also shown that supplying firms can reap high profits and retain their customers for longer periods by developing lasting relationships (Pearson, 2016; Atif, 2019). On the other hand, the buying firm also enjoys benefits such as higher trust, reciprocity and mutual loyalty (Gligor and Holcomb, 2013; Atif, 2019). Despite the numerous benefits of SBR, Adobor (2006) argue that such a relationship could also be detrimental to buying organizations, as managers could leverage that relationship for their gains/interest.

Owing to the numerous weaknesses in the Ghanaian public sector, developing a lasting relationship with suppliers remains imperative, i.e., payments are delayed hence without mutual trust and loyalty between suppliers and procuring entities, the provision of services may be delayed and could affect the entire nation. The study envisages that building a strong SBR could be useful

in providing efficient and effective procurement in the Ghanaian public sector. While significant studies exist on how SBR impacts supply chains, especially in the private sector, it is unclear how SBR may the performance of public procurement in Sub-Saharan Africa, drawing on their earlier debate that SBR could have a positive consequence on firms, the study envisages that supplier-buyer interactions could important in driving procurement in the public sector. Hence, the study examines how SBR affects procurement performance in the Ghanaian Public sector. Raising concerns regarding environment and sustainability drive and the increasing intensity of competition forced the companies to find ways of reducing cost and enhance their images. So, it has become increasingly important for companies to balance economic and environmental performance. One of the important way is the commitment of top management team in supporting company's practices in green product development as well as green manufacture.

1.2 Problem Statement

Despite the numerous reforms and interventions implemented by the various government to streamline procurement in the public sector, the available remedy has not been able to deal with the existing procurement problems, hence the silent remedy. Ethical buyer-supplier relationship remains a critical remedy to deal with the procurement performance challenges in the public sector, especially in SSA, a developing region (Hung et al., 2011).

Supplier-buyer relationship is not new, existing literature has largely examined the role of supplier-buyer relationship in private sector supply chains (Benton and Maloni, 2005; Kataike et al., 2019; Awan and Khan, 2021; Awan and Khan, 2021; Hung et al., 2011; Glavee-Geo et al., 2019). A literature review conducted by the researcher shows large concentration of existing studies (Hung et al., 2011; Patrucco et al., 2016; Atif, 2019; Changalima et al., 2022) on barriers in procurement processes while few (Blind et al., 2020) focused drivers of companies' success in public

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procurement. This creates a huge gap that need to be explored as the concept of public procurement performance though recognized as a critical driver of an organizational competitiveness and enhancing service delivery, the concept is under-explored in academic literature, especially in Sub-Saharan Africa

Till date, the relationship between supplier-buyer, supplier development and procurement performance has not been studied with respect to the public sector in emerging economies (Korir, 2015; Oromoand and Mwangangi, 2017). As a result, the objective of this research is to empirically test a framework on the effect of supplier-buyer relationships in enhancing procurement performance in the Ghanaian public sector by considering the mediating role of supplier development.

1.3 Objective of the Study

This study was conducted to examine the effect of supplier buyer relationship on public procurement performance, the mediating role of supplier development with evidence from Ghanaian Public Sector. Specifically, this study intends to:

1. Examine the effect of supplier buyer relationship on procurement performance in the Ghanaian Public sector.

2. Evaluate the relationship between supplier buyer relationship on supplier development in the Ghanaian Public sector

3. Explore the mediating role of supplier development in the relationship between supplier buyer relationship on procurement performance in the Ghanaian Public sector.

1.4 Research Questions

This study is driven by the research questions below:

1. What is the effect of supplier buyer relationship on procurement performance in the Ghanaian Public sector?

2. What is the relationship between supplier buyer relationship on supplier development in the Ghanaian Public sector?

3. What is the mediating role of supplier development in the relationship between supplier buyer relationship on procurement performance in the Ghanaian Public sector?

1.5 Significance of Study

The study is conducted basically on the effect of supplier buyer relationship on public procurement performance, the mediating role of supplier development with evidence from Ghanaian Public Sector. The outcome of this study would make significant practical and theoretical contributions. The nature of the study is such that it is categorized into two folds with regards to its benefit to the public procurement and its conceptuality. First and foremost, the nature of the study would benefit these organizations by contributing immensely towards how these organizations will come out with policies that would ensure that unethical issues that confront them are addressed with respect to the recommendations that will be made available in the studies. Again, this study would also contribute to firms with institutional frameworks that by far will ensure that relational issues relating to procurement performance can be resolved in these frameworks.

Theoretically the study would also add to literature in academia especially in Sub Sahara Africa by providing direction on procurement performances among procurement professionals of diverse cultural orientation. This study is an attempt to fill the chasm. Resource Based View was employed to understand the phenomena in Ghanaian context. The literature again revealed that,

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most research in procurement or buyer supplier relationships has predominantly been done in private sector organizations. However, there is very little empirical research of this nature in developing counties in Africa. This study see this gap as one worth investigating especially in Ghana which is known to accout for ore than 50% of the national budget.

Furthermore, the findings of this research are poised to offer invaluable insights for policymakers, government officials, and procurement practitioners, guiding the formulation of strategies that enhance transparency, efficiency, and accountability in the allocation of public resources. By fostering stronger and more collaborative relationships between suppliers and buyers, informed by effective supplier development practices, the Ghanaian public sector can optimize procurement processes. This optimization, in turn, not only contributes to cost-effectiveness and timely resource delivery but also creates a ripple effect in bolstering economic development, promoting local businesses, and ultimately advancing the overarching goals of good governance and sustainable national progress.

1.6 Research Methodology

The study employed a positivist research approach, which made use of a quantitative methodology. Again, the study also adopted both descriptive and explanatory research design. Combining these two designs enabled the researcher to describe the study variables in the Ghanaian context and explore the relationship among the variables at the aggregate level. The study population comprised all public procurement departments in the various Ministries, Department and Agencies. A sample of One hundred public institutions were included in the study. After selecting the organization, the researcher further used a purposive sampling method to select individuals that were directly involved in the subject under investigation (procurement managers and officers). The study conducted extensive literature review to help to discover the academic writings

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supporting the relevant of topic and the research hypotheses. Again, the study used primary source of data to validate the results produced in literature through field survey using questionnaires adopted from previously validated instruments. After the data collection, the primary data that had been gathered from the field was vetted for accuracy and reliability. The questionnaires that had been adequately filled were coded into excel for analysis. This study employed two data analysis approaches i.e. descriptive and inferential analysis using multivariate data analyzes such as Structural Equation Modelling (SEM) and factor analyzes in order to fulfil set objectives in chapter one. Descriptive analysis was based on information provided by respondents concerning their organization (demographical data), which included profile of the organization and the respondents. The essence of the descriptive analysis was to test for normality and this included frequencies, percentages, means, skewness and kurtosis statistics. The motive of this analysis was to ensure that data gathered were suitable for covariance based-SEM analysis. It was done to check for missing data, outliers, and data distribution (Hair et al., 2017). Inferential analysis was used to test the hypothesis in the study.

1.7 Scope of the Research

The scope sets the context and boundaries of the research. Contextually the study focused on procurement units of public sector organizations across the country. Though procurement performance is affected by several factors, this study focuses on the the effect of supplier buyer relationship on public procurement performance, the mediating role of supplier. The geographical scope of the study was focused on the Ghanaian public sector.

1.8 Limitation of the Study

The study has some limitations. Though prior studies recommend the use of single respondent in a study of this nature, however, in practice no single person controls or manages the entire SC, this

study therefore is limited by using single respondent. Additionally, including a moderator in the the effect of supplier buyer relationship on public procurement performance, in addition to mediating role would be more robust and valid in contexts specific to service delivery or public sector. Future studies using longitudinal research design could be useful in understanding the relationship. Though the study had no issues of common method bias despite using single respondent, it is important that future studies consider multiple respondents from each firm. Again, future researchers can also investigate the conceptual model using other sectors of the economy of Ghana such as service sector and nonprofit organizations.

1.9 Organization of the study

The study is structured into five chapters. The Chapter One introduces the background to the study, the research problem, research objectives, research questions, justification or significance of the study, scope of the study, limitations of the research and overview of the research methodology. The Chapter Two, reviews relevant literatures related to social capital theory, innovation and firm performance. The literature review encompasses both theoretical and empirical sections. The various concepts about the study will also be reviewed in the Chapter Two. The Chapter Three elaborates on the research methodology. The chapter discusses the study design, population of the study, sampling, data collection, data processing, data analysis and ethical consideration. The Chapter Four of the study present analyses the data and discuss the result. The Chapter Five summarizes the research result, make the necessary conclusions and recommend appropriate and feasible policy and managerial measures for improving procurement in Ghana.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two of this thesis is organized into four main sub-headings. The chapter provides information organized under conceptual review, theoretical review, empirical review and finally the research model and hypotheses development. The Conceptual review section provides definitions, operationalizations and how the constructs have been used in this study. The theoretical review section also provides the theoretical underpinnings of the study. The various prepositions proposed in this study were depicted using a conceptual framework and various relationships were well discussed.

2.2 Conceptual Review

This section presents a conceptual review of major concepts used in this study. These concepts include Supplier-buyer relationship, supplier development and procurement performance.

2.2.1 Supplier-Buyer Relationship

To achieve supply chain sustainability and value growth, a stable relationship is necessary, especially one between customers and suppliers (Cole and Aitken, 2019; Hastings et al., 2016; Kanter, 1994). Goal compatibility between buyers and suppliers is necessary for relationship stability (Kam and Lai, 2018). When goals are in line, cooperative parties would see their coordinated efforts as mutually advantageous (Naudé and Buttle, 2000) and be inclined to strengthen their bond (Hung et al., 2011), leading to commitments to allocate resources to produce products of higher quality and enhance client services, reduce costs, and boost delivery reliability (Goffin et al., 2006).

According to Nyaga et al. (2010), buyers and suppliers place different emphasis on the antecedents and results of collaborative relationships: suppliers are more concerned with collaborative activities like sharing information, whereas buyers are more concerned with relationship outcomes like demonstrating trust and a desire to improve performance (Agarwal and Narayana, 2020). Trust is the foundation of a dyadic exchange connection, and buyers and suppliers in emerging economies relate to their exchange partners with the goal of building, nourishing, extending, and blossoming their relationship (Kam and Lai, 2018). When parties are confident in one another, they come up with strategies for resolving conflicts. However, trust is not always present in trade relationships, particularly during the early stages of a transaction (Hung et al., 2011). However, when investments are made just for business with one partner, it does raise the firm's reliance on that partner and the expense of ending the partnership (Narayana, 2020).

However, the majority of research on trust in relationships has focused on competence and honesty (Connelly et al., 2018; Michalski et al., 2019). In contrast, trust is the belief that one party has in the other party's motivation, intention, reliability, integrity, and commitment to uphold and develop the relationship (Kumar and Rahman, 2016). Relationships that are based on trust sustain the test of time and cannot be easily destroyed are also those where valuable information is shared (Sodhi and Son, 2009; Michalski et al., 2019; Hung et al., 2011). The study of buyer-supplier relationships (BSRs) highlights specific relational traits as essential for fruitful collaboration (Schmitz et al., 2016). Agarwal and Narayana (2020) and Morgan and Hunt (1994) discovered that commitment, trust, intense inter-firm communication, relational investment, or partner and resource compatibility create favorable relational outcomes like shared long-term planning or improved operational effectiveness. The establishment of reliance was suggested as the primary factor in explaining why a cooperative relationship between a consumer and a provider could turn into a

passionate and long-lasting exchange. Yang and Lin (2020) and Emerson (2008) as the requirement to rely on a partner's assistance in accomplishing one's own goals defined dependence.

According to Anderson and Narus (1990), reliance exists when the results of a particular relationship with a partner are better than those of possible alternative partnerships. Both parties' expectations must be fulfilled for a long-term buyer-supplier relationship (BSR) to materialize (Meena et al., 2012; Glavee-geo, 2019). It makes sense to believe that a company with greater influence would be better positioned to spearhead the supply chain's adoption of sustainable by bolstering BSR and pooling resources (Kumar and Rahman, 2016; Saeed and Kersten, 2019; Kumar et al., 2020). Long-term BSR boosts sustainability advantages like increased market share, revenue, and trust (Kumar and Rahman, 2016; Ytterhus et al., 1999; Zhu et al., 2008). Without the assistance of the suppliers, it is extremely challenging to achieve sustainability in a supply chain (Kannan et al., 2014; Ahmadi et al., 2020; Giannakis et al., 2020). In order to build sustainability that is focused on BSR, top management of supply chain partners appears to be essential (Ytterhus et al., 1999; Kumar and Rahman, 2016).

In light of this, it can be concluded that supply chain partners who are dedicated to sustainability often work hard to advance BSR. Studies have indicated that when suppliers become more critical to the competitiveness of the buying firm, the connection between buyers and suppliers gradually gains importance (Narasimhan and Talluri, 2009; Schiele and Krummaker, 2011; Najmi et al., 2020). Additionally, it is crucial to understand that collaboration, which can be defined as an agreement between two or more autonomous supply chain partners to work effectively together towards common goals and mutual gains and to integrate their resources in a better way than when they were functioning in independently, plays a key role in buyer-supplier relationships (De Goede

et al., 2018). For instance, a sustained partnership with suppliers has a favorable effect on the performance of the suppliers, according to Yang and Zhang (2017). One of the main causes of the lack of tight collaboration between supplier and buyer relationships, according to Yunus and Kurniawan (2015), is leadership and top management concentration.

2.2.2 Procurement Performance

According to several studies (Neely, 2005; Shao et al., 2012; Carter et al., 2005; van Weele, 1994), the effectiveness of the procurement function is evaluated against two main profiles: efficiency and effectiveness. The former refers to the effective use of the function's resources through appropriate practices and procedures (van Weele, 1994). The first category refers to the performance characteristics unique to the suppliers chosen by the procurement function and to the contractual terms established with them; as a result, they are easily measurable through a variety of metrics, such as delivery dependability, delivery lead times, scrap rates, unit cost, and savings against a budget for bought-out materials and services (Carter et al., 2005). Indicators that can be used as proxies for determining if procurement resources are being used effectively, such as the number of formal procedures or the function's budget, are typically used to monitor the latter category (Dumond, 1994). To enable managers to concentrate on a specific set of goals, organizations must pick a small number of indicators to regulate while designing a Procurement Management System (PMS) (Neely, 2005).

According to the purchasing management literature, in order to choose indicators and create their PMS, businesses must comprehend the function of procurement inside their organization in order to construct a functioning PMS. In this context, the efficiency-oriented PMS, effectiveness-oriented PMS, and multi-objective ones have been identified as the three primary possibilities (Zimmermann and Foerstl, 2014; Shao et al., 2012; Carter et al., 2005; Dumond, 1994; van Weele,

1994; Dumond, 1991). The first type is appropriate for situations where this function primarily performs routine tasks; the second is appropriate for businesses where the procurement function plays a strategic role and must be evaluated in relation to its capacity to ensure greater profitability, internal client satisfaction, and long-term relationships with the key suppliers (Dumond, 1994; van Weele, 1994; Dumond, 1991). The third type of PMS is regarded as a more thorough method of capturing the total performance of the procurement function since it includes both efficiency and effectiveness indicators (Shao et al., 2012; Carter et al., 2005). Although the multi-objective PMS is more complete in theory, it has a lack of concentration, which is a major weakness for a functional PMS (Dumond, 1994).

2.2.3 Supplier Development

The supply chain capabilities are fundamental and require constant improvement in order for innovation and competitive advantage to emerge (Chen et al., 2015; Carr and Kaynak 2007; Um and Oh, 2020). A methodical strategy to leverage capacity and capability increases throughout the supply chain is known as supplier development. Supplier development is "any attempt of a buying firm with a supplier to strengthen its performance and/or capabilities," according to Krause (1999), this definition continues to serve as the basis for research and practice in supplier development (Bai and Sarkis 2016). The literature reemphasizes the cost of supplier poor performance which reaches to four percent of the manufacturing buying firm's sales (Um and Oh, 2020), and expects supplier development programs to improve supplier capabilities (Chen et al., 2015; Blome et al., 2014), facilitate collaborative product design (Lawson et al., 2015), enhance production quality and flexibility (Carr and Kaynak 2007; Chang et al., 2006), boost supplier operational and financial performance (Arroyo-L´opez et al., 2012; Krause et al., 2007; Narasimhan et al., 2008), extend supply chain social responsibility (Zhang et al., 2017), increase supplier satisfaction (Ghijsen et

al., 2010), contribute to the firm's improvement initiatives such as TQM and JIT (Gupta and Heragu 1991; McAdam 2004), and improve supply chain collaborations (Blonska et al., 2013; Humphreys et al., 2004; Wang and Hu 2017).

Some empirical studies and executive reports also demonstrate how supplier development supports supply-base reduction (Jiang et al., 2018), product and process innovation (e.g., a comparative study in the automotive sector by Hertenstein and Williamson 2018; and multiple innovation initiatives case studies in the pulp and paper industry by Onufrey and Bergek, 2020), and how it boosts the sales of the suppliers (e.g.Supplier development programs are usually capital intensive (Mizgier et al., 2017), in both private and public sectors (Obwegeser and Müller, 2018). Recent studies report typically high rates for supplier development programs - e.g. US$100K-2M in mining sector (World Bank 2015), and US$132.7bn contribution of ExxonMobil to its supplier development programs (World Bank 2008).

The success or failure of supplier development programs may be, however, influenced by various non-capital enablers and barriers such as supply chain configuration (Caniato et al., 2013), complexity of the development program (Busse et al., 2016), buyer commitment to and support for supplier development (Carr and Kaynak 2007; Talluri et al., 2010), top management involvement (Modi and Mabert, 2007), buyer-supplier relationship (Mortensen and Arlbjørn 2012; Wagner 2011), cost sharing (Zeng et al., 2018), information sharing (Routroy et al., 2016), trust (Li et al., 2012), socio-economic and cultural similarities plier s (Busse et al., 2016), supplier resource competency and commitment (Krause 1999; Kumar and Routroy 2018; Savic et al., 2017), supplier status and current performance (De Toni and Nassimbeni 2000; Handfield et al., 2006; Krause et al., 1998; Routroy et al., 2016), supplier willingness/complacency (Kumar and Routroy 2018; Lascelles and Dale 1990), collaboration with other buyers (Friedl and Wagner

2016), purchasing power and price (Lascelles and Dale 1990), supply volume (Bai and Sarkis 2016), or even buyer attractiveness for supplier (Mortensen and Arlbjørn 2012).

2.3 Theoretical Framework

2.3.1 Resource-Based Theory (RBV)

According to the RBV, situations could make resources and capabilities which are available as important sources of sustainable competitive advantage (Barney, 1991). Grant (1991), describes resources to include tangible (e.g., equipment) and intangible (e.g., process knowledge) that enhances the produce and supply of services and goods. According to Grant (1996) and Barney (1991), resources can also be recognized as an organization's capabilities, assets, knowledge, competencies and processes which an organization controls to enable them to implement strategies and enhance competitiveness. For Wernerfelt (1984), a resource is thus recognized as either a strength or a weakness of an organization and the resources among other things include knowledge, skilled personnel, efficient procedures, machinery, reward system, capital, etc. Barney (1991) and Peteraf (1993) have deliberated on the five features of resources which may permit an organization to obtain a truly sustainable competitive advantage.

To start with, the resource must be treasured and be that which enhances the organization's efficiency and effectiveness. Secondly, the resource must be uncommon hence, the organization can exploit it to the detriment of its competitors when one exercises control over it (Grant,1996). Thirdly, the resource must be such that competitors cannot imitate it. fourthly, the resource must be that which cannot be easily be moved that is to say, an attempt to moving it, must cause a damage to it, so that only the organization will have control over it (Peteraf,1993). Finally, the resource should not have a close substitute so that competitors may not have alternative to it. Generally, firms possess both internal and external resources that can be employed in production.

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Internally, firms can maximize the utilization of human and financial resources in production. Managers and owners of firms require these resources to ensure efficient and sustainable production within an industry (Wernerfelt,1984). However, resources are limited and scarce and hence require efficient utilization to maximize production. Firms are confronted with several difficulties in the acquisition and competition for both financial and human resources. Thus, the internal resource capacity of firms whether financial or human capital is limited and hence limits their competitiveness and survival within several generations. The situation of resource scarcity is further worsened in a turbulent business environment with prevailing marketing dynamic characteristics (Wernerfelt, 1984).

According to the RBV, a company's resources can be used to obtain abnormal profits and thus create sustainable competitive advantages (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). The relational view further states that heterogeneous linkages across firm boundaries and embedded inter-firm routines and procedures are sources of relationship rents and competitive advantages (Dyer and Singh, 1998). According to transaction cost economics, relational capital can reduce opportunistic behavior, increase confidence between parties, and reduce transaction costs, thus enhancing procurement performance (Dyer and Singh, 1998).

The application of the Resource-Based View (RBV) in the investigation of the effect of supplier-buyer relationships on procurement performance, with a specific focus on the mediating role of supplier development in the Ghanaian public sector, is highly relevant. The RBV offers a strategic lens to analyze how the unique resources and capabilities embedded within supplier-buyer relationships can serve as a source of sustained competitive advantage. In the context of procurement performance, understanding and leveraging the distinctive qualities of these relationships, such as effective communication, trust, and collaborative practices, become crucial

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resources that organizations can harness. Moreover, by examining the mediating role of supplier development, the study seeks to identify how investments in developing supplier capabilities contribute to the accumulation and deployment of valuable resources, thereby enhancing the overall efficiency and effectiveness of the procurement processes in the Ghanaian public sector. This aligns with the fundamental tenets of the RBV, emphasizing the strategic importance of internal resources and capabilities in achieving superior organizational performance.

2.3.2 Social Exchange Theory (SET)

The social exchange has been utilized in previous studies to highlight different theories used to explain the relationship between buyer-supplier interactions on procurement performance. The social exchange theory (SET) is the foundation of this work. According to the social exchange theory, a business network may be thought of as a particular sort of exchange network and is characterized as a collection of interconnected exchange interactions (Blakenburg and Johanson, 1992). (Prenkert and Hallen, 2006). This emphasizes the significance of the supply network within the context of the business network and is closely related to supplier connections.

The market exchange theory perspective (Easton and Araujo, 1994) is an alternative to the social exchange theory perspective and draws on the idea of organized behavioral systems, which Bagozzi (1974) contends that the viewpoint of networks as business systems, where the business network is seen as an ordered behavioral system of exchange, is even mentioned by Alajoutsijarvi and Tikkanen (2001). According to Eriksson (2001), the main emphasis of such a system is on the resource transformation and exchanges, and less on the social interaction component. Buyer-supplier networks, also referred to as supply networks, are most usually examined from this angle. However, these connections are typically part of larger networks of linked buyer-supplier connections, where market exchange transformation and resource exchange, as well as social

exchange views of trust, cooperation, etc., should play equal roles. Nevertheless, there is still a gap in the literature that prevents the study of buyer-supplier relationships from properly balancing both of these perspectives (Prenkert and Hallen, 2006).

As a result, supply chain management has narrowly focused on the hard determinants of flexibility, such as information optimization and inventory management, whereas marketing literature has, up to now, mostly focused on the impact of trust and commitment on satisfaction and loyalty. Claro (2004) also underlines how buyer-supplier interactions, supply chain networks, and business partnerships in general range from a web of links to a dyadic relationship with frequently ambiguous boundaries (Eriksson, 2001). Since supplier development is thought to be extremely important for organizational performance, the current study aims to investigate the relationship between supplier-buyer relationships and procurement performance while taking into account the mediation role of supplier development in Ghanaian public sectors (Liu et al., 2018).

The application of Social Exchange Theory (SET) proves highly relevant in examining the effect of supplier-buyer relationships on procurement performance, specifically within the Ghanaian public sector. Rooted in the work of Homans (1958) and Blau (1964), SET posits that social interactions are driven by the expectation of reciprocal benefits, emphasizing the importance of trust, shared norms, and mutual cooperation. In the context of supplier-buyer relationships, the principles of SET illuminate how trust and cooperation fostered through effective communication and collaborative practices contribute to a positive exchange dynamic. By investigating the mediating role of supplier development, this study aligns with SET principles, as investments in developing suppliers' capabilities are likely to strengthen the reciprocity and shared norms between buyers and suppliers, thus influencing procurement performance positively. Consequently, applying SET provides a theoretical lens through which the intricate social dynamics inherent in

supplier-buyer relationships and the mediating effects of supplier development can be comprehensively understood within the unique context of the Ghanaian public sector.

2.4 Empirical Review

2.4.1 Effect of Supplier-Buyer Relationship on Procurement Performance

Mady et al. (2014) conducted a study to compare and analyze the supplier selection, manufacturer-supplier relationships, and procurement performance of Kuwait's two industrial sectors. The results show that a plant's procurement performance is significantly impacted by supplier relationships and supplier selection. To understand the moderating effects of culture on the impact of supplier relationships and selection on procurement performance, empirical research is needed, according to the study's recommendations.

Ngugi and Kemunto (2014) conducted a study to look at the impact of strategic supplier-buyer alliances on Kenyan private sector companies' procurement performance. The study's conclusions showed that strategic buyer-supplier alliances have an impact on the effectiveness of procurement. The study's conclusion is that procurement performance might be improved by enhancing governance structure, technology, top management support, and procurement policy and legal framework.

Korir (2016) assessed the impact of buyer-supplier relationships on Kenyan supermarket procurement performance. The findings of the study demonstrated that trust, cooperation, communication, and commitment have a positive and significant impact on procurement performance. It is advised that this study be repeated in several business districts.

Shalle and Njagi (2016) examined how supplier relationship management affected Kenya's manufacturing sector's procurement performance. A strong favorable association between supplier relationship management and procurement performance was found, according to the data. The

study suggests that additional research be conducted on the same subject in other economic sectors, such as the auto industry, to ascertain the impact of supplier relationship management on procurement success.

Mutio (2014) determined how relationships between buyers and suppliers affect Kenyan pharmaceutical manufacturing companies' organizational effectiveness. According to the study's findings, there is a strong correlation between organizational success and relationships between buyers and suppliers. As a result, the researcher suggests conducting additional research on businesses outside the industrial and pharmaceutical industries.

2.4.2 Effect of Supplier Development on Procurement Performance

Mwangangi and Oromo (2017) ascertained the impact of supplier development on the performance of procurement in Kenya's public sector, a case of KenGen. Results showed that one method to make sure suppliers stay dedicated to a quality improvement strategy was to give them incentives. The report suggests working together to increase supplier capabilities in terms of technology, quality, delivery, and pricing.

Kiminza et al. (2017) examined how supplier development methods affect how well pharmaceutical suppliers performed for hospitals in Nairobi City County, Kenya. The results showed a strong and significant correlation between pharmaceutical suppliers' performance and supplier training, information exchange, management assistance, and strategic partnerships for hospitals in Nairobi City County. The report goes on to suggest that comparable studies be carried out in other Counties for comparison's sake.

Kivite (2015) determined how supplier development affected the operational effectiveness of Kenya's large manufacturing companies. According to the study's results, supplier development

and operational performance are significantly correlated. The study advises more investigation into manufacturing companies outside of Nairobi and into industries other than manufacturing.

Glavee-Geo (2019) conducted a study to see whether supplier development may be used by buying organizations as a technique to actively boost supplier satisfaction and ultimately forecast the continuation of relationships in Norway. The results demonstrated that supplier development is a crucial strategy buying companies may use to boost supplier satisfaction. The study suggested additional research be conducted to see whether buyer-seller relations are similar in large organizations.

2.4.3 Effect of Supplier-Buyer Relationship on Supplier Development

Sarang et al. (2017) investigated the relationships between supplier development practices (SDPs) and supplier-buyer relationship practices (SBRSP), and to try to understand how particular SDPs may affect a buyer's operational performance as well as supplier-buyer relationship practices. According to the results, the buyer-supplier relationship can be improved from the supplier's perspective if SDPs and SBRSP are used in tandem. The study's findings are only applicable to manufacturing businesses that primarily serve the automobile industry and businesses that produce machines and components.

Wenli (2010) examined the impact of supplier development strategies on the efficiency of the buyer-supplier relationship. The findings demonstrate that key factors of transaction-specific supplier development include top management, supplier evaluation, and supplier strategic objectives. Future studies should take into account more factors, such as purchase amounts, the number of suppliers that manufacturing firms deal with, and the type of manufacturing firms (i.e., OEM), which could provide a more meaningful background to supplier development activities.

The researcher recommended that additional research is needed to confirm these findings with larger and more representative samples.

2.5 Hypothesis Development

2.5.1 Supplier-Buyer Relationship and Procurement Performance

The major enablers for enhancing supplier performance are direct involvement initiatives. Suppliers are unable to advance on their own (Khaing, 2019). An action made by the purchasing company to enhance their procurement performance and capabilities was deemed to be transaction-specific investment in the supplier (Hassan, 2014). As a result, the purchasing company must carry out direct engagement actions to boost performance, such as sending engineering personnel to the supplier company for technical problem solving or specialized know-how training (Krause et al, 2000; Hassan, 2014). According to the research of Loice (2015), transaction-specific investments made by the procurement business encourage procurement performance improvement in the manufacturing process and cost cutting. In a similar vein, research by Sobhani et al. (2014) found that transaction-specific procurement development had a substantial impact on the improvement of buyer-supplier performance. As a result, a buying company's unique investment encourages supplier performance. The development of close partnerships between buyer and supplier has yielded numerous advantages. Tungjitjarurn et al. (2012) have provided an overview of the potential of partnerships that enhanced both buyer and procurement performance, including cost savings, time reduction, risk reduction, superior quality, increased customer and supplier loyalty, and joint investment. According to Shahriar (2018), efficient joint engagement between the buying firm and the supplier has a direct, favorable impact on operational effectiveness, including product quality and cost. Additionally, closer linkages led to greater collaboration in production and design amongst businesses in an effort to cut back on or

do away with non-value-added operations (Shahriar, 2018). Managing supplier relationships has improved the performance of the purchasing department, which has affected the quality of the final product (Nguyen and Le, 2020). In order to set performance targets and give value to buying organizations, (Shahriar, 2018) discovered that the commitment between suppliers and buying firms is crucial. Therefore, commitment between the customer and the supplier is essential for enhancing supplier performance. Therefore, the following hypotheses were proposed:

H₁. Supplier-buyer relationship positively and significantly affect procurement performance.

H₂. There is a positive and significant relationship between supplier-buyer relationship and supplier development.

2.5.2 The Mediating Role of Supplier Development

A supplier development program was implemented by the purchasing company to enhance supplier competitiveness and procurement performance (Yawar and Seuring, 2020; Benton et al., 2020). In order to improve the potential provider, many tactics are offered in several purchasing and supply literatures. According to Bai and Satir (2020), raising supplier procurement expectations, early supplier design engagement, direct supplier development, and supplier procurement improvement awards were some of the suggested tactics. The activities listed by Lo et al. (2018) to improve procurement performance and/or capabilities included opening up the supply base to competition, evaluating the supplier through formal and informal channels, raising performance expectations, rewarding good procurement performance by increasing future business volume, training and educating the supplier's staff, and directly investing in the supplier's operations. The findings showed that suppliers who outperformed expectations put in more effort with a focus on communication with the supplier in terms of formal evaluation and feedback, future business rewards, site visits, and the supplier's staff training, which led to better

improvements in on-time delivery, a short cycle time, and completely received orders. The relationship between supplier development and procurement performance in the Hong Kong electronics industry was studied by (Glavee-Geo, 2019). The study discovered that increases in buyer-supplier performance were positively connected with efficient communication and supplier evaluation as parts of its infrastructural characteristics. The enhancement of product and delivery performance is positively impacted by indirect supplier development, according to (Rajput et al., 2019). From the standpoint of the buyer-supplier connection, supplier development is a crucial facilitator to promote the high level of buyer-supplier relationship (De Silva et al., 2019). According to (Joshi et al., 2018), supplier assessment systems have a favorable effect on the relationship between buyers and suppliers. Therefore, the buying firm must convey the issues and make clear its goals for improving supplier performance when the supplier fails to meet the firm's expectations. As a result, the supplier received more collaboration and dedication (Patrucco et al., 2020). Chemama et al. (2019) looked at whether improving supplier relationships has a favorable impact on indirect supplier development. As a result, supplier development plans are essential for promoting improvements in procurement performance and supplier-buyer relationships. In that regard, the following hypothesis are assumed:

H₃. Supplier development positively and significantly influence Procurement Performance.

H₄. Supplier development mediates the relationship between supplier-buyer relationship and procurement.

2.6 Conceptual Framework

The conceptual framework and assumptions that link the buyer-supplier relationship and procurement performance by taking supplier development into account as the mediating role are presented in this part. Programs to improve supplier-buyer relationships are important factors in

procurement performance. The examination of a task's efficacy and efficiency is known as performance measurement. The degree of goal achievement is the measure of effectiveness. Focusing on organizational effectiveness, Venkatraman and Ramanujam (1986) categorized corporate performance measurements as either financial or operational (non-financial). Key competitive success elements including quality, delivery, price, service, and flexibility are included in operational metrics of performance. Some of these competitive success variables were taken into account in this study's procurement performance.
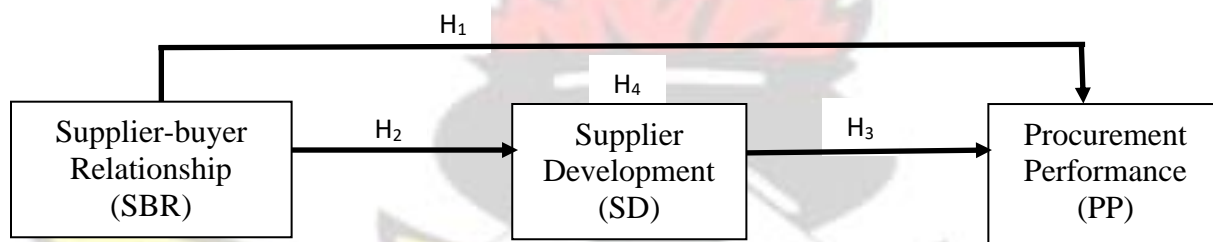
Figure 2.1: Conceptual framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section presents and justifies the research design and the methodology used in testing the hypothesis stated in the preceding chapter. The tools, methods, techniques and strategies employed to help achieve the stated objectives of this study are presented in this chapter. It encapsulates the Research Design, Population, Sampling Techniques, Sample Size, Respondents of the study, Analytic Method, Research Instruments, Validity and Organizational Profile. The entire chapter describes the methods and techniques implemented to obtain the right data from the right respondents for quality analysis.

3.1 Research Design

There are many research designs and sub-design types, however, researchers largely emphasize exploratory, descriptive and explanatory research designs (Kapoor et al., 2016). In exploratory studies, the emphasis is on problem formulation, concept clarification, and hypothesis formation (Raaijmakers et al., 2008). Literature search, focus group discussions, or case studies often form the initiating platform for exploratory studies as it is often employed in investigating areas that are grey or received limited research attention. The emphasis of exploratory research is to create hypotheses and theories than test hypotheses and theories. The exploratory design is largely employed in gathering qualitative data. On the other hand, an explanatory design largely explains the occurrence of phenomena and further predicts occurrences in the future (Buck et al., 2009). Explanatory designs are largely employed in testing existing theories and developed hypotheses to identify the relationship between constructs or variables. Another significant requirement in explanatory studies is probability sampling with the emphasis on generalizing the results to the

study population. The data in explanatory studies are largely quantitative and primarily require the establishment of valid relationships using statistical tests. In the case of descriptive design, the emphasis is on situation, product and people description. Descriptive studies are not driven by structured hypotheses of research but usually are guided by one or more research questions. Considering the emphasis of this study on testing existing theories and developed hypotheses. The study therefore further employed an explanatory research design to effect of supplier buyer relationship on public procurement performance, the mediating role of supplier development with evidence from Ghanaian Public Sector.

3.2 Population of the Study

According to Bryman and Bell (2018), population is considered to be the totality of elements through which sampling can be selected. This general population often contains elements or units or individuals whose inclusion would violate the goals, context and/or assumptions of the study as this population is characteristically crude (Asiamah et al., 2017). The two refined research populations defined from the general population are the target and accessible. Target population refers to all individuals or groups of individuals to which researchers are interested in generalizing the conclusions (Asiamah et al., 2017). This is the refined part of the general population. The target population which is also known as the theoretical population normally has varying characteristics. Thus, a refined form of the target population is the accessible population. The accessible population is the population in research to which the researchers can apply their conclusions. This form of the population is defined by excluding all individuals of the target population that are not accessible to the researcher during the period of the study (Bartlett et al., 2001). This population which is termed as study population serves as the source of the study sample. In the context of this

study, the general population constituted members of the tender committee, procurement Officers and selected public institutions in Ghana.

3.3 Sampling Technique and Sample Size

Sampling is mainly about choosing individuals as a subset of a defined population to evaluate the characteristics of the entire population (Collis and Hussey, 2009). It can also be used to designate the process of selecting a section from the entire population (Bryman, 2012). It is very suitable in situations where the researcher cannot reach the whole sample or population due to challenges such as time constraints and cost (Saunders et al., 2007). There are two (2) main techniques used in sampling, they are; probability (random) and non-probability sampling. With probability or random sampling, every participant in the population has an equal chance of selection. However, in the instance of non-probability sampling not all the subjects in the population have the chance of being selected (Bhattacherjee, 2012; Kothari, 2004). The subject of sample size in research remains a dilemma. Different views have been said by different authors. Some authors argue that smaller sample size is well suited for larger populations while others also believe that it should be representative (Krejcie and Morgan, 1970), relatively homogeneous, or heterogeneous in the population. In the view of Gorsuch (1990) and Kline (1979), the sample size should be at least 100. Others also advise that researchers should get the maximum sample size possible (Rummell, 1970; Humphreys et al., 1969; Guertin and Bailey, 1970; Press, 1972). Thus, if the sample size is unsuitable or insufficient it may harm the outcome or findings of the research (Bartlett et al., 2001). To achieve an appreciable statistical test power and avoid the tendency of using few sample cases, which will affect the results, (Habib et al., 1987) the study targeted procurement officers in the public sector organizations in Ghana. The study, therefore, sampled two (2) respondents from each

of the 100 sampled organizations, making a total sample of 200. The study further employed the purposive and convenience sampling techniques to select the participants in the study.

3.4 Data Collection

Primary data refers to the data originated by the research for the first time. Primary data is real-time data and is collected by addressing the problem at hand and it also involves a process. Primary data sources include surveys, observations, experiments, questionnaires, and personal interviews (Saunders et al., 2007). Primary data for this study were through a questionnaire. The questionnaire was well-structured and was designed in line with the posited objectives of the study. The questionnaire will be designed based on existing measures in the literature. To ensure the quality of its design, the researcher employed Saunders et al. (2009), an indication that underscores instrument design. According to Saunders et al. (2009), data obtained from respondents through the use of a questionnaire can be considered stable, constant, and has a uniform measure of variation. It also reduces the researcher's preconceived notion or idea concerning the presentation of study variables. The questionnaire was sourced from studies.

The questionnaire was presented to respondents at their offices considering their position in the organization. Respondents utilized not less than 30 minutes the filling out the questionnaire. The researcher adopted one-on-one data collection administration to make clarifications and explanations when the need arose. The researcher personally collected the questionnaire after it has been filled by the respondents.

There are several methods from which a researcher can adopt to collect data depending on the type of research being conducted (qualitative, quantitative and mixed methods). Saunders et al. (2016) posit that the two main questionnaires are the self-completed and interview completed. Face-to-face and telephone questionnaires, according to Saunders et al. (2016), form part of the interviewer

questionnaire. Zikmund (2013) has given questionnaires, interviews and observation as the main instruments for the methods survey. Data for this research was collected through face-to-face interaction using a questionnaire. The Face-face approach enabled the researcher to obtain timely responses, especially during data collection. Face-to-face data collection helped the researcher build rapport and seek clarification of ambiguous responses, enhancing the data collected (Szolnoki and Hoffmann, 2013).

Studies have shown that face-to-face administered questionnaires work better than posted and phone surveys (Szolnoki and Hoffmann, 2013). However, it can be expensive and requires a lot of time. With an introductory letter obtained from the school, the researcher visited firms selected for the study with a questionnaire. This assisted the researcher to obtain the needed responses for the study. A self-administered questionnaire technique has been adopted because the number of sampling frame are considered high and they are located in different parts of the region.

3.6 Data Analysis

This study employed two data analysis approaches i.e. descriptive and inferential analysis using multivariate data analyses such as Structural Equation Modelling (SEM) and factor analyses to fulfill set objectives in chapter one. Descriptive analysis was based on information provided by respondents concerning their organization (demographical data), which includes the profile of the organization and the respondents. The essence of the descriptive analysis was to test for normality and this included frequencies, percentages, means, skewness and kurtosis statistics. The motive of this analysis is to ensure that the data gathered are suitable for covariance-based-SEM analysis. It is done to check for missing data, outliers, and data distribution (Hair et al., 2017). Inferential analysis was used to test the hypothesis in the study.

3.6.1 Structural Equation Modeling

Data obtained for this study were analyzed using the structural equation modeling (SEM) technique. SEM is a generally used statistical approach for measuring the relationships among variables that cannot be observed directly i.e. data selected on multiple observed indicators of the unobserved or latent variable of interest. The entire model for the observed variable consists of two parts i.e. the measurement model about the indicators to the relevant variable or elements and the fundamental structural model expressing a relationship among the unobserved variable (Hair et al., 2010). SEM gives methodological support from two disciplines i.e. the factor analysis models from psychometric theory and usually linking it with econometrics (Awang, 2012).

Smart PLS 3 has been rated as one of the statistical data analysis techniques adopted by researchers due to its suitability for any sample size i.e. can be used with smaller and unlimited sample sizes as well as an unlimited number of formative indicators (Hair et al., 2013). This research has adopted Smart PLS 3 because it uses model estimation to deliver an empirical measure of the relationship between the indicators and the constructs (measurement model) and between the constructs (structural model) as well as determine the fitness of the data used. Again, results from PLS-SEM will be reviewed and evaluated using a systematic process. It can help to increase the explained variance (R^2 value) of the endogenous latent construct. Based on the above explanation, the evaluation of the model will focus on both measurement and structural predictive capabilities. The relationship between responded items and their causal latent variable will be demonstrated using the measurement model and will be considered for uni-dimensionality, validity, and reliability before conducting the structural model.

3.6.1.1 Measurement Model

3.6.1.1 Reliability

Internal consistency reliability is defined as the extent to which a particular group of items on the test truly measure the same construct or idea (Hair et al., 2006). To measure internal consistency reliability, the studies make use of the Cronbach alpha and composite reliability. Composite reliability (pc) will be used as a reliable substitute measure of internal consistency reliability i.e. Joreskog's rho. It measures the reliability of a set of indicators and the threshold and interpretation same as the Cronbach Alpha. It takes account of different outer loadings of individual variables. Composite reliability is calculated based on equation 1 (Hair et al., 2014). PLS-SEM algorithm's iterative procedure will be used based on a selected value of 500 for the maximum number based on iterations to obtain final results.

3.6.1.2 Validity

To determine the convergent validity in this study, the outer loading of indicators and the AVE will be used. The outer loadings should be greater than 0.78 i.e. the latent variables can explain at least 50% of its indicators variance. Loading of 0.4, 0.5, 0.6, and 0.7 can be accepted if it will lead to AVE that is larger than 0.5. AVE compare the proportion of variance explained in the factor analysis. The value for AVE ranges from 0-1. It should exceed 0.5 to show adequate convergent validity (Bagozzi, 1988; Fornell and Larcker, 1981).

Discriminate validity measures the extent to which a variable is truly distinct from other variables. It shows that a variable is unique. Cross loading and Fornell and Larcker criterion, can be used to evaluate discriminant validity (Hair et al., 2014) and Hetero trait-Mono trait (HTMT), which will be developed to arrest the insensitivity of the Fornell and Larcker and cross loading criterion of ratio (Henseler et al., 2015). This study will used HTMT, which considered the correlation between

variable, based on the average of hetero trait-heteromethod correlation (Henseler et al., 2015). The ratio of the HTMT is expected to be lower than 0.90 at 95% confidence interval, HTMT > 0.9 will indicate that there is a lack of discriminate validity.

3.6.2   Structural Model

The structural model also known as inner model enable researchers to determine the model's capability and to anticipate one or more target construct. Based the confidence of the measurement model, the study will further test the both the mediating and moderating model using the bootstrapping 5000 with the replacement and the standard error (Hair et al., 2014) Under the structural model, this study will consider measures such as collinearity, f-value, p-value, path coefficient, coefficients of determination (R^2) f^2 effect size, and q^2 effect size. Collinearity arises when two indicators are highly correlated. The study will use a variance inflated factor to assess collinearity among latent variance. The threshold value will include VIF $\geq$ 5 to depict a potential collinearity problem (Hair et al., 2011). The path coefficient will be assessed using +1 to show the positive strong relationship in the structural model. In a situation where the path coefficient is significantly dependent on its standard error through bootstrapping, the study will use a p-value and t-value for the structural path coefficient. The t-value was estimated at 1.96 at the 0.05% level of significance.

3.7 Ethical Consideration

A consent form was presented to the authorities of all respondents to inform them of all benefits and risks involved in the participation and further sought their consent for their inclusion in the study. Selected farmers had the right to decline their participation in the study. The researcher indicated in the consent form that all forms of anonymity and confidentiality would be observed. Privacy of farmers in terms of freedom to define the time, extent and the conditions of sharing

information was also observed. The researcher avoided any form of action in their relation with participants that amounts to deception. All forms of plagiarism and falsification of data were also avoided by the researcher.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

4.0 Introduction

The fourth chapter conducts an analysis on the data presented in the third chapter. This chapter is broken up into four parts. The findings of the exploratory data analysis are presented in the first chapter, while information on the demographics is presented in the second chapter. Both descriptive and correlational aspects of the study were taken into consideration. The third component contains both the Confirmatory Factor Analysis as well as the Model Fit Index. The hypotheses of the investigation are tested using a structural model. The discussion will conclude with the key outcomes.

4.1 Exploratory Data Analysis

The nature of the first investigation of the data was exploratory. Early on, the data quality was evaluated using exploratory factor analysis. The most important tool was SPSS. Response rate, non-response bias, and typical method bias or variance are the subsections that are included in this section. Detailed explanations of the early data quality assessment tests and interpretation may be found in the sections that follow.

4.1.1 Response Rate

Response rates to surveys are often provided in the form of a percentage. To arrive at this figure, just divide the total number of questionnaires that were sent in by the final count of respondents who filled them out. Response rates in surveys that are higher than 50 percent are unusual. The dates were from October 5th to December 22nd, 2022 for the data collection. The research therefore surveyed 200 participants. After determining whether or not each questionnaire is valid,

an acceptable response rate for analysis is determined to be 100.0%, as seen in the table below.

This results in 200 questionnaires that may be used.

Table 4.1: Data Response Rate

Distributed	Collected	Percentage of Usable
Response	200	100.0
Non-Response	0	0.0
Total	**200**	**100.0**

Source: Field Survey (2023)

4.1.2 Test for Common Method Bias and Sampling Adequacy

In the field of survey research, testing for CMB is essential because problems with CMB may lead the connection between predictors and the dependent variable to be distorted due to reliance on a single respondent (Podsakoff and Organ, 1986; Bahrami et al., 2022). As a consequence, incorrect judgments are made. Podsakoff et al. (2003) state that the origin of CMB may be traced back to either consistency or social desirability. Because CMB has the potential to affect data production, a variety of techniques may be used to reduce its effects. The results of the Exploratory Component analysis showed that the maximum amount of variation that could be attributed to a single factor was less than fifty percent, which provided support for Harman's strategy of focusing on a single factor. By utilizing principal component analysis, the study found that the variables accounted for 40.3% of the variance.

Table 4.2: Test for Common Method Variance (CMV)

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.470	40.335	40.335	8.470	40.335	40.335
2	3.498	16.657	56.992	3.498	16.657	56.992
3	1.470	7.001	63.993	1.470	7.001	63.993
4	1.424	6.783	70.776	1.424	6.783	70.776
5	.996	4.742	75.518			
6	.830	3.953	79.472			
7	.661	3.148	82.619			
8	.528	2.516	85.135			
9	.442	2.105	87.240			
10	.418	1.993	89.233			
11	.407	1.938	91.171			
12	.336	1.599	92.770			
13	.261	1.242	94.011			
14	.228	1.087	95.099			
15	.219	1.041	96.140			
16	.210	.998	97.138			
17	.174	.830	97.968			
18	.147	.701	98.670			
19	.116	.552	99.221			
20	.095	.454	99.676			
21	.068	.324	100.000			

Extraction Method: PCA.

Source: Field Survey (2023)

The accuracy of the samples was further evaluated using the Bartlett sphericity test and the Kaiser-Meyer-Olkin (KMO) test. Based on the information in Table 4.3, the Kaiser-Meyer-Olkin Sampling Adequacy score was 91.7%, and Bartlett's test demonstrated statistical significance ($\chi^2 = 7450.902$, df: 120, $p < 0.000$). This provides proof that correct sampling procedures were followed.

Table 4.3: Bartlett's Test of Sphericity and KMO Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.934
Bartlett's Test of Sphericity	Approx. Chi-Square	6341.552
	df	210
	Sig.	.000

Source: Field Survey (2023)

4.1.3 Non-Response Bias

Non-response bias was investigated. Non-response bias occurs when a survey has fewer responders than the population. Low survey response rates induce non-response bias, which may undermine sample reliability and study generalizability. In this study, early and late responders were compared to reduce non-response bias. Oppenheim (2001) specified that "early responders" and "late respondents" should not differ in any model input variables. This demonstrates that non-response bias is not a concern and that the samples accurately represent the population. Early answers were 100 and late responses were 100. T-tests checked for non-response bias. The t-test showed no difference (see Table 4.4). The study shows that construct data from the first and last months are identical.

Table 4.4 Results of Independent-Samples t-Test for Non-Response Bias

	Levene's Test for Equality of Variances

	Group	Mean	F		Sig.	t
Supplier-Buyer Relationship	1	44.24	0.128		0.721	-2.084
	2	47.93				-2.084
Supplier Development	1	18.72	0.148		0.701	-2.113
	2	20.24				-2.113
Procurement Performance	1	14.57	0.102		0.749	-1.946
	2	15.8				-1.946

Source: Field Survey (2023)

4.2 Respondent's Profile

This section provides background information and context for the study by detailing the demographics of the sample population. Respondents' demographic information, such as their age, gender, and education level, is crucial.

Table 4.5: Respondent's Profile

Variables	Categories	Frequency	Percent
Gender	Female	83	41.5
	Male	117	58.5
Age	18-30 years	20	10.0
	31-40 years	105	52.5
	41-50 years	60	30.0
	Above 50 years	15	7.5
Level of Education	Bachelor Degree	88	44.0
	Diploma	22	11.0
	Graduate Studies (Master / Ph.D.)	90	45.0
Your Position in the Firm	In Charge	26	13.0

	Head of Procurement	107	53.5
	Head Of Unit	11	5.5
	Warehouse Manager	56	28.0
How many years have you been working in your firm?	1-5 Years	52	26.0
	11-15 Years	45	22.5
	16 Years and Above	36	18.0
	6-10 Years	67	33.5
How many years have your firm been in operation?	1 - 5 years	31	15.5
	11 – 15 years	59	29.5
	16 years and above	12	6.0
	6 - 10 years	98	49.0
How many employees are in the firm?	30 – 99 employees	61	30.5
	5 – 29 employees	30	15.0
	More than 100	109	54.5
Total		**200**	**100.0**

Source: Field Survey (2023)

From Table 4.5, only 41.8% of the acceptable responses came from females, whereas 58.5% came from males. Evidence suggests that more males than females participated in the research. 10% were between the ages of 18 and 30, 52.5% were between the ages of 31 and 40, 30.0% were between the ages of 41 and 50, and 7.5% were beyond the age of 50. Those between the ages of 31 and 40 made up the largest demographic of responders. Only 45.0% had completed post-graduate education (Master's or Ph.D.) after earning a bachelor's degree (44.0%), whereas 11.00% had a diploma. Most respondents have either a Master's or Doctorate, as shown by the findings. 13.0% indicated in charge, 53.5% indicated head of procurement, 5.5% indicated head of unit, and

28.0 indicated warehouse managers. Most of the respondents were head of procurement. 26.0 percent said 1–5 years, 22.5 said 11–15 years, 18.0 said more than 16 years, and 33.5 said 6–10 years. The majority of the respondents have 6–10 years of experience. 15.5% of the 200 businesses have been in operation for 1–5 years, 29.5 percent for 11–15 years, 6.0 percent for more than 16 years, and 49.0 percent for 6–10 years. The data suggest that most firms are 6–10 years old. Finally, 30.5 percent of the 200 chosen firms had 30–99 staffs, 15.0% had 5–29 staffs, and 54.5 percent had more than 100 staffs. Most firms have above 100 staffs.

4.3 Correlation Analysis

The data shown in Table 4.6 reveals that there are very significant correlations between the three variables of procurement performance, supplier-buyer relationship, and supplier development ($r = 0.883$, $P < 0.05$; $r = 0.893$, $P < 0.05$; and $r = 0.964$, $P < 0.05$, respectively). For instance, a correlation value of 0.0 indicates that there is absolutely no link, 0.30 indicates that there is just a moderate correlation, and 0.70-0.90 indicates that there is a considerable association. There is a considerable relationship between all of the different factors.

Table 4.6: Descriptive and Correlation Analysis

Construct	1	2	3
Procurement Performance	1.000		
Supplier Buyer Relationship	0.883	1.000	
Supplier Development	0.893	0.964	1.000

Source: Field Data, 2023

4.4 Confirmatory Factor Analysis

It is essential to do validity analysis on study model. The authors of the research used Cronbach's alpha in conjunction with the Composite reliability test in order to examine the consistency of the model. The study used AVE and indicator loadings so that we could evaluate the model's degree of dependability. A value of 0.7 was determined to represent Cronbach's alpha, and a composite reliability score was used in order to investigate the extent to which the many different constructs investigated in this study were consistent with one another. Cronbach's alpha and the composite dependability index both have values that are more than.80, as seen in Table 4.7. (Hair, et al., 2016). These findings provide strong evidence in favour of the features of the measurement model. There was not a single sign that had a loading of less than 0.7. It is possible to demonstrate convergent validity. Convergent validity was demonstrated for AVE values that were greater than 0.5. (Here's everything you need to know about Table 4.7.) According to the results shown in Table 4.7, the T test determined that all of the variables had a statistically significant relationship with one another at the 1.96-percentile level and Sig. 0.05. Table 4.7 provides descriptive statistics. Taking into account: (Mean and Standard Deviation). The values in the table range from 3.56 to 4.07 for the average. 1.006–1.392 was the range that the standard deviations covered.

Table 4.7: Confirmatory Factor Analysis

Scales	Codes	Outer Loadings	Mean	Std. Dev.	Skewness	T statistics (|O/STDEV|)	P values
Procurement Performance (CA = 0.923; CR = 0.945; AVE = 0.813)	PP1	0.891	3.875	1.174	-0.856	58.724	0.000
	PP2	0.906	3.8	1.217	-0.752	60.604	0.000
	PP3	0.937	3.76	1.305	-0.717	104.654	0.000
	PP4	0.871	3.75	1.284	-0.695	36.309	0.000
Supplier Buyer Relationship (CA = 0.972; CR = 0.975; AVE = 0.768)	SBR1	0.888	3.535	1.392	-0.392	49.481	0.000
	SBR10	0.875	4.005	1.098	-0.947	48.153	0.000
	SBR11	0.861	3.93	1.134	-0.65	36.530	0.000
	SBR12	0.894	3.915	1.085	-0.681	58.074	0.000
	SBR2	0.900	3.56	1.351	-0.41	67.157	0.000
	SBR3	0.916	3.58	1.361	-0.511	81.902	0.000
	SBR4	0.744	4.015	1.275	-1.298	22.678	0.000
	SBR5	0.882	3.695	1.262	-0.567	47.089	0.000
	SBR6	0.857	3.92	1.146	-1.027	38.689	0.000
	SBR7	0.876	4.065	1.073	-0.938	43.287	0.000
	SBR8	0.896	3.945	1.006	-0.691	49.382	0.000

	SBR9	0.913	3.92	1.197	-0.725	61.995	0.000
Supplier Development (CA = 0.955; CR = 0.965; AVE = 0.847)	SD1	0.930	3.925	1.153	-0.878	97.438	0.000
	SD2	0.953	3.88	1.138	-0.664	135.546	0.000
	SD3	0.912	3.865	1.08	-0.64	34.075	0.000
	SD4	0.904	3.815	1.114	-0.612	50.234	0.000
	SD5	0.901	3.995	1.075	-0.696	49.147	0.000

Source: Field Data, 2023

4.3.1 Discriminant Validity

The variations between different constructs were also investigated in this research (Hair et al., 2010; Henseler et al., 2016). When determining the validity of the discriminant, it is necessary that the square root of the AVE (diagonal value) for each latent variable be greater than the highest correlation of the construct. The discriminant validity is shown in Table 4.8. Once again, there is no evidence of multicollinearity (Byrne, 2013). As can be seen in Table 4.8, discriminant validity has been established due to the fact that all of the HTMT values fall outside of the range of 0.90 to 0.85. Using HTMT Table 4.8. The HTMT as well as the criteria developed by Fornell and Larcker demonstrated discriminant validity. According to Table 4.8, the procurement performance is 0.902 with itself, 0.883 with the supplier-buyer relationship, and 0.0.893 with supplier development. The score for supplier-buyer relationship by itself was 0.876, and with supplier development it was 0.964. The correlation between supplier development was 0.920.

Table 4.8: Fornell-Larcker criterion

Construct	1	2	3
Procurement Performance	0.902		
Supplier Buyer Relationship	0.883	0.876	
Supplier Development	0.893	0.964	0.920

Source: Field Data, 2023

4.3.2 Model fitness indices

Extracted-Index Fitness, SRMR, Root Mean Square of Approximation, and Chi-Square all have values that are acceptable for their respective measures (Table 4.9). The extracted and rare indices are both much lower than the 0.9 mark that indicates acceptance as a standard. The fact that the square of the residual is not very near to zero suggests that the residual is unsatisfactory, as may be seen by examining its root. The Total Residual Value and the Root Mean Square Approximation

are both unsuitable in this case. These figures are much higher than 0.1 and 3. This hints that future study has to take into consideration each component that is pertinent to the topic at hand. Table 4.9 revealed an SRMR of 0.052, which is within the range of values that are acceptable according to the findings of this study. Chi square was calculated to be 1539.498, while the normed fit index was calculated to be 0.767.

Table 4.9: Model fitness indices

Model fitness indices	Estimated model
SRMR	0.052
d_ULS	0.616
d_G	1.657
Chi-square	1539.498
NFI	0.767

Source: Field Data, 2023

4.3.3 Predictive Relevance (R^2 and Q^2)

According to the results of studies using the coefficient of determination, the independent variables do in fact account for some of the variation in the dependant variable (R2). The degree to which the outcome could have been anticipated using the independent variables may be determined by calculating R2. Falk and Miller established the threshold for predictive significance as an R2 value of 0.10 or above (1992). The results presented in Table 4.10 demonstrate that both procurement performance and supplier development have extremely high levels of prediction accuracy (R2). Using Q2 is a second strategy that may be used to validate PLS models (Hair et al., 2020). This statistic is produced by deleting a data point at random, then determining the model's phase after replacing the point with a suitable value (Zhang, 2022). Q2 makes advantage of the explanatory capacity of the model as well as the sample data predictions (Hair et al., 2020). This rough number

provides the blind approach with some assistance in making sense of the output data. The accuracy of the projections improves when the results of Q2 are better than predicted and when the predictions are close to the baseline (Zhang, 2022). In order for endogenous estimates to be considered reliable, Q2 has to be positive and bigger than zero. The PLS path model gives low, medium, and low predictions when Q2 is larger than 0, 0.25, and 0.50, respectively. (Zhang, 2022). The research obtained ratings of 0.775 and 0.928, respectively, for procurement performance and supplier development during the second quarter (Table 4.10). All Q-square values that are more than 0.5 suggest that the model fits the data very well.

Table 4.10: Predictive Relevance (R^2 and Q^2)

Construct	R-square	Q²predict
Procurement Performance	0.805	0.775
Supplier Development	0.929	0.928

Source: Field Data, 2023
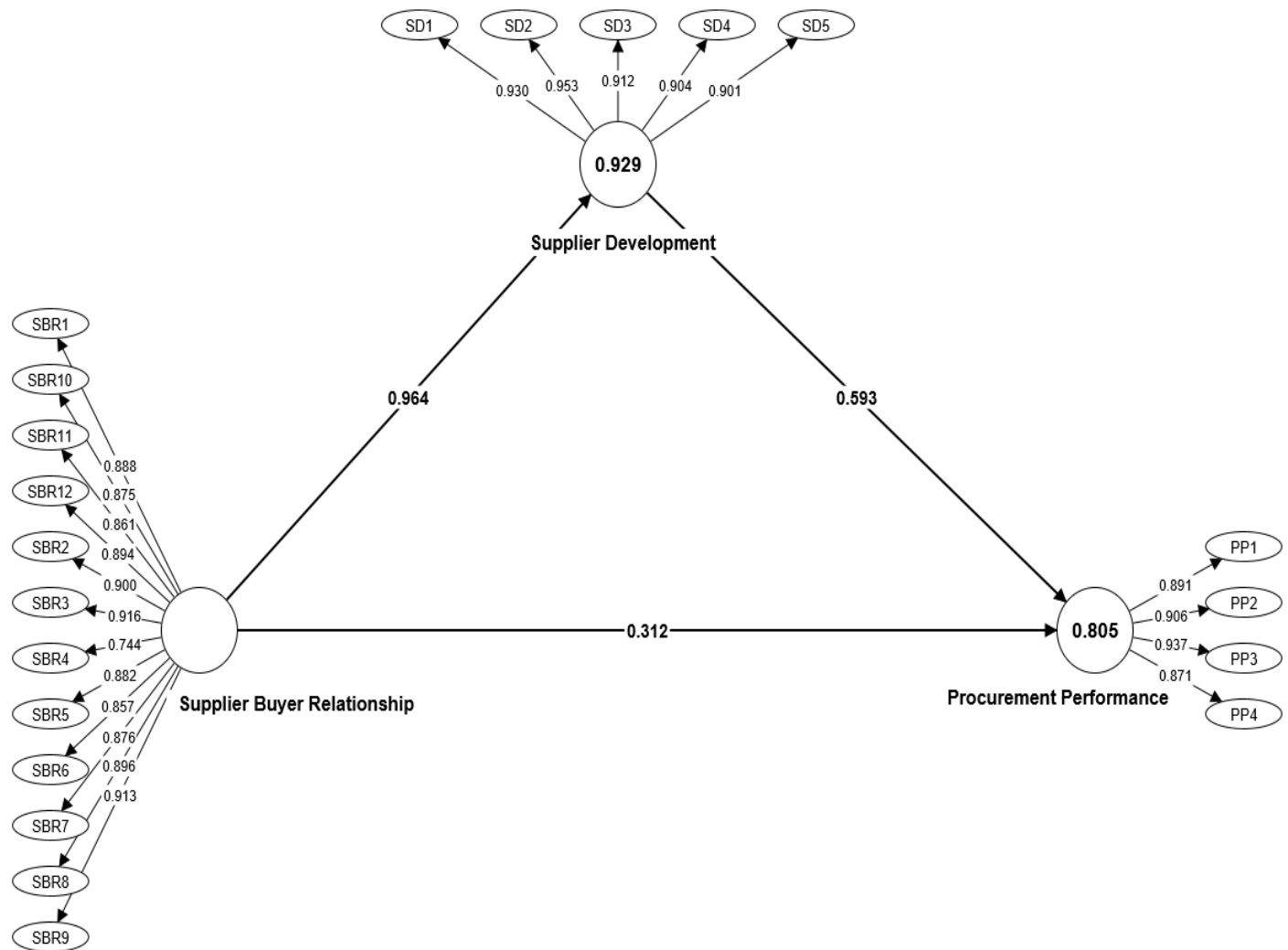
Figure 4.1: Measurement Model Assessment

4.5 Hypotheses for Direct and Indirect Relationship

Figure 4.2 depicts the second phase of the study, which focuses on the assessment of the structural model. This part of the analysis deals with the interpretation of the data. Table 4.11 and Figure 4.2 both provide the findings that were obtained from the examination of the structural model. The relevance of the model's four (4) different paths was evaluated using PLS bootstrapping, which was performed with 5,000 different data. In this work, the study investigate how the impact of supplier-buyer relationship on procurement performance is influenced by the mediating effect of

supplier development. Within this part, the analyses of the direct and indirect links that are shown in Table 4.11 and Figure 4.2 will be discussed.

Table 4.11: Hypotheses for Direct and Indirect Relationship

Path	Path Coefficient	T statistics (|O/STDEV|)	P values	Hypothesis Validation
Supplier Buyer Relationship -> Procurement Performance	0.312	2.045	0.041	Accepted
Supplier Buyer Relationship -> Supplier Development	0.964	173.347	0.000	Accepted
Supplier Development -> Procurement Performance	0.593	3.936	0.000	Accepted
Supplier Buyer Relationship -> Supplier Development -> Procurement Performance	0.571	3.912	0.000	Accepted

Source: Field Data, 2023

Table 4.11 reveals that supplier-buyer relationship and procurement performance are significant (B = 0.312, t = 2.045, P = 0.041, and Sig < 0.05). Supplier-buyer relationship positively influenced procurement performance since the p-value for H1 was less than 0.05 and the path coefficient was positive. Supplier-buyer relationship enhances procurement performance. Procurement performance is predicted to improve by 31.2% when supplier-buyer relationship goes up by one unit.

Supplier-buyer relationship impacts supplier development (B = 0.964; t = 173.347; P = 0.000; Sig < 0.05). Supplier-buyer relationship positively influenced supplier development, since the path coefficient was positive and the p-value for H2 was less than 0.05. With supplier-buyer relationship, supplier development improves. Supplier development is predicted to improve by 96.4% when supplier-buyer relationship goes up by one unit.

Supplier development influenced procurement performance (B = 0.593; t = 3.936; P = 0.000; Sig < 0.05). Supplier development positively influenced procurement performance, corroborating the third hypothesis (H3). With supplier development, procurement performance improves. Procurement performance is predicted to improve by 59.3% when supplier development goes up by one unit.

Supplier development indirectly influenced supplier-buyer relationship and procurement performance (B = 0.571; t = 3.912; P = 0.000; Sig < 0.05). Since the p value for H4 was smaller than 0.05 and the path coefficient was positive, supplier development positively and partially mediates supplier-buyer relationship and procurement performance. Supplier development mediates 57.1% of SBR-PP link.
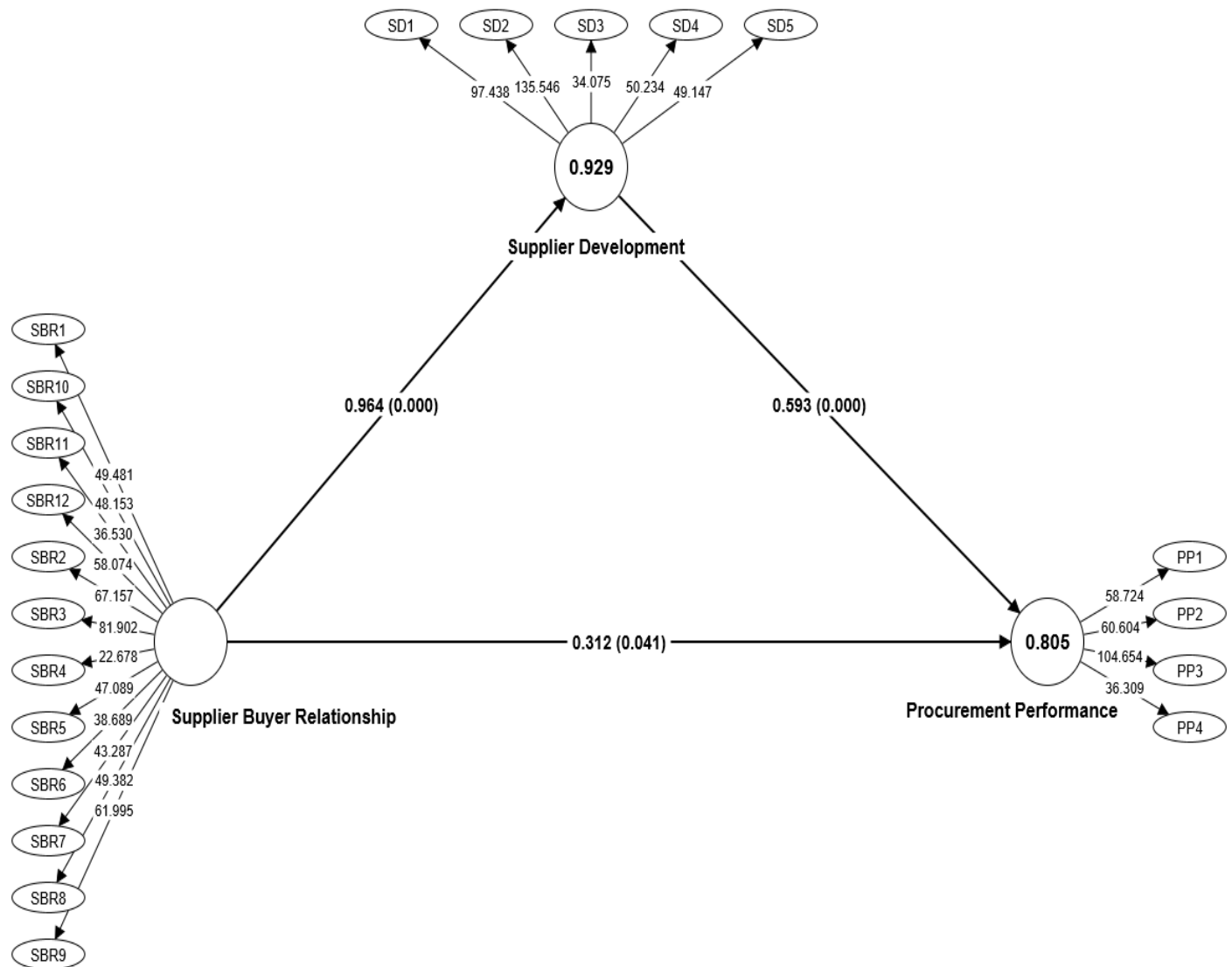
Figure 4.2: Structure Model Evaluation

4.6 Discussion of Key Findings

This research examined supplier-buyer relationship and procurement performance through supplier development. This section discussed major results in light of previous ideas and investigations.

4.6.1 Effect of Supplier-Buyer Relationship on Procurement Performance

The first objective of this study examine the effect of supplier-buyer relationship on procurement performance in the Ghanaian Public sector. The finding shows that supplier-buyer relationship positively influenced procurement performance since the p-value for H1 was less than 0.05 and the path coefficient was positive. Supplier-buyer relationship enhances procurement performance. Procurement performance is predicted to improve by 31.2% when supplier-buyer relationship goes up by one unit. The finding concluded that management in the firms should consider supplier-buyer relationship for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the right quantity. According to Gligor and Holcomb (2013) and Gligor and Esmark (2015), the supplier-buyer relationship (SBR) improves organisational outcomes including cost reduction, business performance, and business volume. Mady et al. (2014) compared and analysed Kuwait's two industrial sectors' supplier selection, manufacturer-supplier relationships, and procurement performance. Supplier relationships and selection affect a plant's procurement performance, according to the findings. Ngugi and Kemunto (2014) also examined how strategic supplier-buyer relationships affect Kenyan private sector procurement performance. The research found that strategic buyer-supplier collaborations improve procurement. Korir (2016) examined how buyer-supplier relationships affect Kenyan supermarket buying. The research found that trust, collaboration, communication, and dedication boost procurement success. Mutio (2014) examined how buyer-supplier interactions affects Kenyan pharmaceutical manufacturers' organizational performance. The research found that buyer-supplier interactions strongly influence organizational performance. Relationship stability requires buyer-supplier goal compatibility (Kam and Lai, 2018). When goals

align, cooperative parties view their combined action as mutually beneficial (Naudé and Buttle, 2000; Um and Oh, 2020) and enhance their bond (David and Wilson, 1995), committing to allocate resources to produce higher-quality products, improve client services, reduce costs, and improve delivery reliability (Goffin et al.,2006). Nyaga, Whipple, and Lynch (2010) found that suppliers prioritize collaborative activities like exchanging information, whereas buyers prioritize relationship outcomes like trust and a desire to enhance performance (Agarwal and Narayana, 2020).

4.6.2 Effect of Supplier-Buyer Relationship on Supplier Development

The second objective evaluate the relationship between supplier-buyer relationships on supplier development in the Ghanaian Public sector. The finding shows that supplier-buyer relationship positively influenced supplier development, since the path coefficient was positive and the p-value for H2 was less than 0.05. With supplier-buyer relationship, supplier development improves. Supplier development is predicted to improve by 96.4% when supplier-buyer relationship goes up by one unit. The finding concluded that management in the firms should consider supplier-buyer relationship for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to help design supplier product and build supplier products using technology during product development. Research was conducted by Sarang et al. (2017) with the purpose of gaining a better understanding of the relationships between supplier development practices (SDPs) and supplier-buyer relationship practices (SBRSPs). Specifically, the authors wanted to determine how particular SDPs can influence a buyer's operational performance and SBRSPs. According to the findings, there is a possibility that the adoption of SDPs and SBRSP will be beneficial to the buyer-supplier relationship from the supplier's perspective. Wenli (2010) did study to investigate how

the productivity of the relationship between a buyer and a supplier was impacted by the various methods of supplier development. According to the findings, top-level management, supplier appraisal, and supplier strategic objectives are essential elements to consider when establishing suppliers for particular transactions. Buyer-supplier interactions are improved with the use of supplier evaluation programmes, according to a recent study (Joshi et al., 2018). This study by Chemama et al. (2019) aimed to determine whether nurturing stronger ties with suppliers will positively affect the growth of indirect suppliers. They concluded that supplier development strategies are crucial for fostering growth in procurement efficiency and buyer satisfaction.

4.6.3 Mediating Role of Supplier Development

The last objective of this study explore the mediating role of supplier development in the relationship between supplier-buyer relationships on procurement performance in the Ghanaian Public sector. The finding shows that supplier development positively influenced procurement performance, corroborating the third hypothesis (H3). With supplier development, procurement performance improves. Procurement performance is predicted to improve by 59.3% when supplier development goes up by one unit. The finding concluded that management in the firms should help design supplier product and build supplier products using technology during product development to deliver product at the right time and at the right quantity. The finding also shows that supplier development positively and partially mediates supplier-buyer relationship and procurement performance. Supplier development mediates 57.1% of SBR-PP link. The finding concluded that management in the firms should help design supplier product and build supplier products using technology during product development in order for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the

right quantity. Mwangangi and Oromo (2017) analyzed the example of KenGen to determine the effect of supplier development on the efficiency of public sector procurement in Kenya. Incentives were shown to be one way to keep suppliers committed to a quality improvement approach. Kiminza et al. (2017) investigated the impact of supplier development strategies on the effectiveness of pharmaceutical suppliers to hospitals in Nairobi City County, Kenya. Hospitals in Nairobi City County benefited greatly from supplier training, information sharing, management help, and strategic collaborations, as shown by the study's findings. Kivite (2015) investigated the impact of supplier development on the efficiency of operation for big manufacturing firms in Kenya. Research shows a strong connection between investing in your suppliers and seeing a boost in your bottom line. Glavee-Geo (2019) investigated whether purchasing companies in Norway may use supplier development as a strategy to actively increase supplier satisfaction and, by extension, predict the sustainability of partnerships. Findings showed that supplier development is a critical technique for purchasing firms to utilize to increase supplier satisfaction.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

This section discusses and interprets the results of this research work and presents the conclusion of the study. It summarizes the findings in connection with the objectives for the study, as per the empirical findings in the previous chapter. The main thrust of this chapter is to present the summary of findings and conclusions with regards to the contribution of the study emanating from the research objective which is to determine how supplier-buyer relationship influence procurement performance and further examine how supplier development can influence the relationship. The chapter further talks about the limitations of the research and also provide suggestions for future research directions.

5.1 Summary of Findings

5.1.1 Effect of Supplier-Buyer Relationship on Procurement Performance

The first objective of this study examine the effect of supplier-buyer relationship on procurement performance in the Ghanaian Public sector. The finding shows that supplier-buyer relationship positively influenced procurement performance. Supplier-buyer relationship enhances procurement performance. Procurement performance is predicted to improve by 31.2% when supplier-buyer relationship goes up by one unit. The finding concluded that management in the firms should consider supplier-buyer relationship for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the right quantity.

5.1.2 Effect of Supplier-Buyer Relationship on Supplier Development

The second objective evaluate the relationship between supplier-buyer relationships on supplier development in the Ghanaian Public sector. The finding shows that supplier-buyer relationship positively influenced supplier development. With supplier-buyer relationship, supplier development improves. Supplier development is predicted to improve by 96.4% when supplier-buyer relationship goes up by one unit. The finding concluded that management in the firms should consider supplier-buyer relationship for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to help design supplier product and build supplier products using technology during product development.

5.1.3 Mediating Role of Supplier Development

The last objective of this study explore the mediating role of supplier development in the relationship between supplier-buyer relationships on procurement performance in the Ghanaian Public sector. The finding shows that supplier development positively influenced procurement performance. With supplier development, procurement performance improves. Procurement performance is predicted to improve by 59.3% when supplier development goes up by one unit. The finding concluded that management in the firms should help design supplier product and build supplier products using technology during product development to deliver product at the right time and at the right quantity.

The finding also shows that supplier development positively and partially mediates supplier-buyer relationship and procurement performance. Supplier development mediates 57.1% of SBR-PP link. The finding concluded that management in the firms should help design supplier product and

build supplier products using technology during product development in order for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the right quantity.

5.2 Conclusion

This study was conducted to examine the effect of supplier buyer relationship on public procurement performance, the mediating role of supplier development with evidence from Ghanaian Public Sector. Explanatory research design was used. This survey was quantitative. Convenience and purposive sampling was adopted and selected 200 participants. Data gathering relied on a questionnaire. Statistical study using SPSS v26 and SmartPls v4. Data was analyzed descriptively and inferentially. The finding shows that supplier-buyer relationship positively influenced procurement performance and supplier development. The finding shows that supplier development positively influenced procurement performance. The finding also shows that supplier development positively and partially mediates supplier-buyer relationship and procurement performance. The study therefore concluded that management in the fi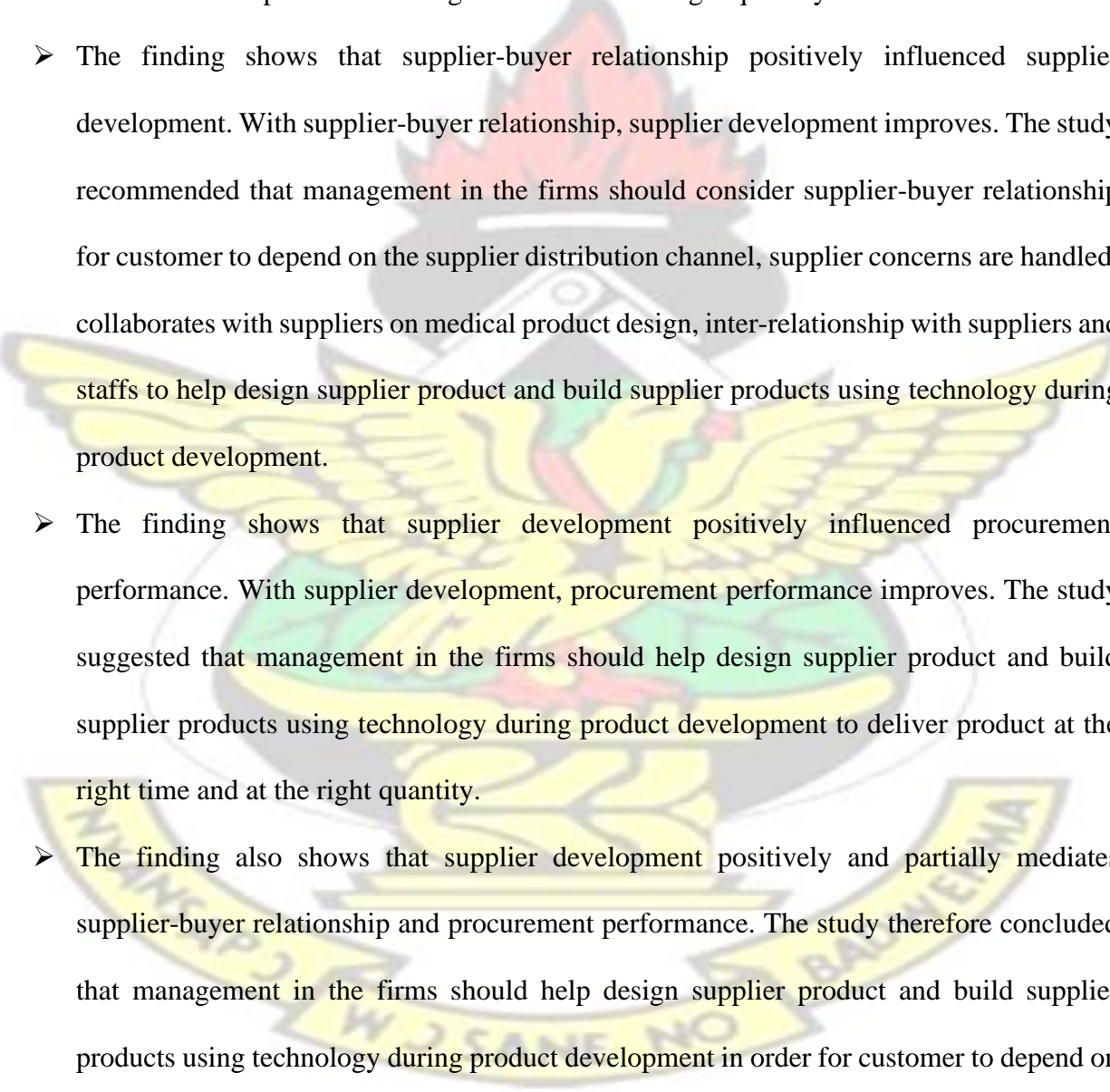rms should help design supplier product and build supplier products using technology during product development in order for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the right quantity.

5.3 Recommendations for Management

This section offers stakeholder suggestions based on study results. These suggestions should be considered by management and academics.

➢ The finding shows that supplier-buyer relationship positively influenced procurement performance. Supplier-buyer relationship enhances procurement performance. The stduy concluded that management in the firms should consider supplier-buyer relationship for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the right quantity.

➢ The finding shows that supplier-buyer relationship positively influenced supplier development. With supplier-buyer relationship, supplier development improves. The study recommended that management in the firms should consider supplier-buyer relationship for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers on medical product design, inter-relationship with suppliers and staffs to help design supplier product and build supplier products using technology during product development.

➢ The finding shows that supplier development positively influenced procurement performance. With supplier development, procurement performance improves. The study suggested that management in the firms should help design supplier product and build supplier products using technology during product development to deliver product at the right time and at the right quantity.

➢ The finding also shows that supplier development positively and partially mediates supplier-buyer relationship and procurement performance. The study therefore concluded that management in the firms should help design supplier product and build supplier products using technology during product development in order for customer to depend on the supplier distribution channel, supplier concerns are handled, collaborates with suppliers

on medical product design, inter-relationship with suppliers and staffs to deliver product at the right time and at the right quantity.

5.4 Limitations and Recommendation for Future Research

This study restricts several research opportunities. First, managers from public institutions in Ghana were sampled. A comparable research on employees may provide more generalizable findings. Explanatory research is hard to show causality. Longitudinal and cross-sectional data may be used in future causality studies. Quantitative analysis assessed the mediating role of supplier development on the effect of supplier-buyer relationship on procurement performance. Comparable studies may need qualitative research. This study shows additional statistical analysis approaches may help future research. This study may be repeated in other countries to confirm findings.
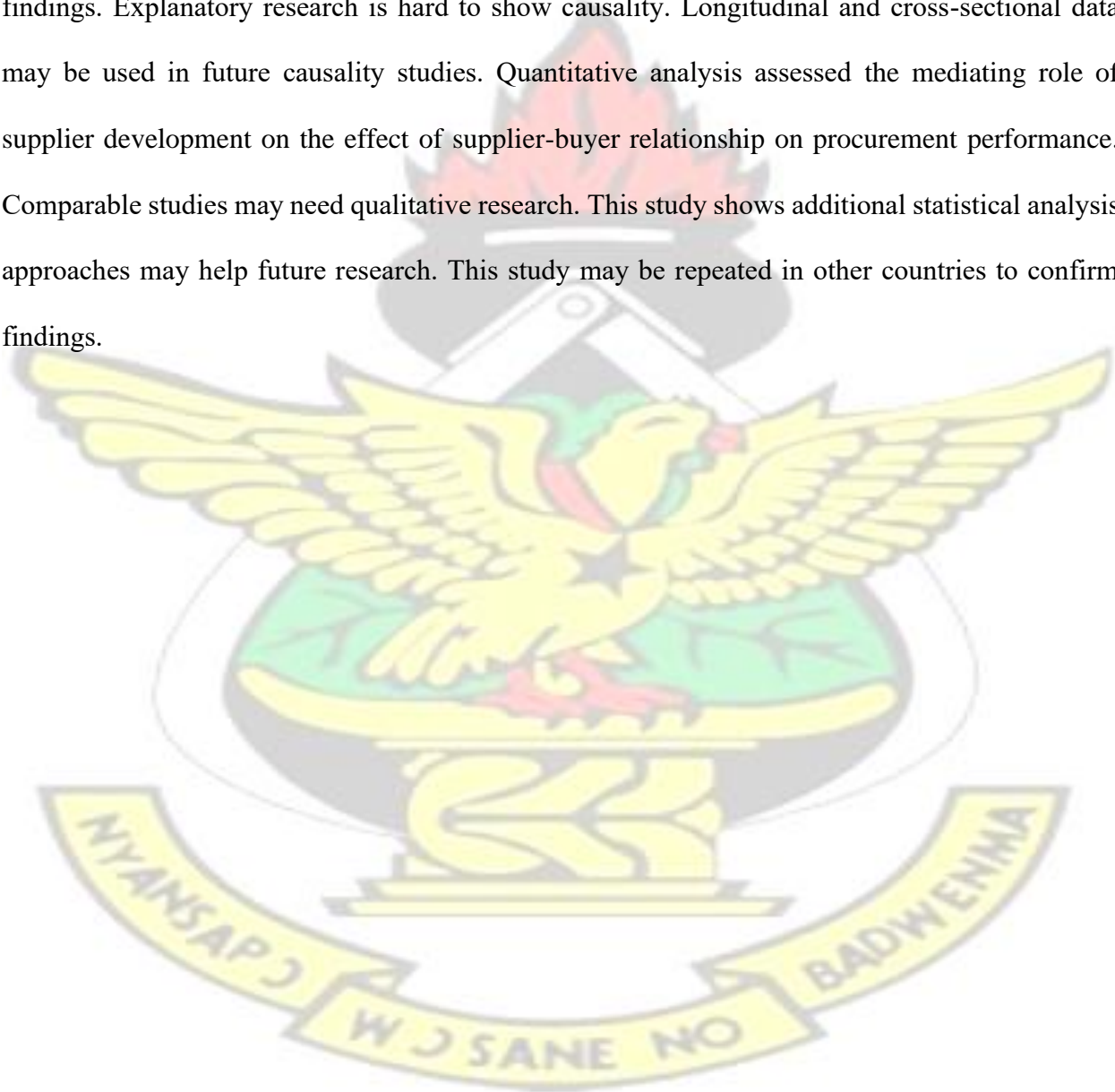
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APPENDIX I: SURVEY QUESTIONNAIRE

Dear Sir/ Madam,

My name is APPIAH RICHARD ASIRIFI, a postgraduate student at the Kwame Nkrumah University of Science and Technology, Kumasi, Department of Supply Chain and Information Systems. This survey instrument has been designed to enable me carry out research on the topic: **"Effect of supplier-buyer relationship on procurement performance: the mediating role of supplier development in the Ghanaian Public Sector"**. Any information provided will be used for academic purposes ONLY. There are no risks associated with your participation, and your responses will remain confidential and anonymous.

SECTION A: RESPONDENT'S BIOGRAPHY AND COMPANY PROFILE

When completing this questionnaire, please tick **[√]** in the applicable box or provide an answer as applicable.

Please answer the following questions:

1. *Gender*: Male ☐ Female ☐
2. *Age*
   18-30 years ☐ 31-40 year's ☐ 41-50 years ☐ Above 50 years ☐

3. *Level of Education*
   Junior High School ☐ Senior High School ☐ Diploma ☐ Bachelor Degree

   ☐ Graduate Studies (Master / Ph.D.) ☐ Others ☐ For Others, please specify……………………
4. *Your Position in the Firm*
Head of Procurement ☐ Head Of Unit ☐ In Charge ☐ Warehouse Manager ☐ Others

5. *How many years have you worked in the organization ?*
   1 - 5 years ☐ 6 - 10 years ☐ 11 – 15 years ☐ 16 years and above ☐

6. *How many years have your firm been in operation?*
   1 - 5 years ☐ 6 - 10 years ☐ 11 – 15 years ☐ 16 years and above ☐

7. *How many employees are in the firm?*
   Less than 5 employees ☐ 5 – 29 employees ☐ 30 – 99 employees ☐   More

   than 100 ☐

SECTION B: Supplier Buyer Relationship

To what extent do the following statements using the scale1 to 5: Not at all – A very great extent

Item	Statement	1	2	3	4	5
SBR1	My organization has built a lasting relationship with suppliers					
SBR2	My organization has suppliers that keep to their promise					
SBR3	My organization has a strong relationship with suppliers					
SBR4	In my organization the buyer role is dependent on the channel of distribution with the supplier					
SBR5	In my organization decisions are controlled and managed with the supplier					
SBR6	In my organization issues on suppliers are taken by management					
SBR7	My organization partner with suppliers for the design of medical product					
SBR8	In my organization suppliers were an integral part of the design effort at the firm					
SBR9	In my organization there is a good relationship between management and suppliers					
SBR10	In my organization there is a cordial relationship between management and employees					
SBR11	In my organization there is a cordial relationship between employees and supplies					
SBR12	My organization operate on mutual terms with suppliers					

SECTION C: Supplier Development

To what extent do the following statements describe your firm's formation of ethical culture?

, using the scale1 to 5: Not at all – A very great extent

Item	Statement	1	2	3	4	5
SD1:	We were directly involved in this supplier's product development activities					
SD2:	We used site visits to this supplier's premises to help improve their product development performance					
SD3:	We aided in the design of production processes for this supplier's new item					
SD4:	We provided project management know-how to this supplier during product development					
SD5:	We provided technological know-how to this supplier during product development					

SECTION D: Procurement Performance

In this section, we are trying to measure the **Procurement Performance**. Please indicate the degree of your agreement with the following statements. Using the Likert scale, where 1=strongly disagree; 2=disagree; 3=neutral; 4=agree; 5=strongly agree

Procurement Performance	1	2	3	4	5
Our organization have delivery at the right time					
Our organization have delivery at the right quantity					
Our organization have delivery at the right price.					
Our organization have delivery at the right quality					

Thank you for participating in the survey.