UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA

FACULTY OF INTEGRATED MANAGEMENT SCIENCE

DEPARTMENT OF MANAGEMENT STUDIES

IMPACT OF BUYER-SUPPLIER RELATIONSHIP ON PROCUREMENT PERFORMANCE: EVIDENCE FROM GOLDFIELDS GHANA LIMITED, TARKWA

BY

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MASTER OF BUSINESS AND TECHNOLOGY MANAGEMENT

(SUPPLY CHAIN MANAGEMENT)

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A THESIS REPORT ENTITILED

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BY
ALFRED ALLOTEY PAPPOE

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS AND TECHNOLOGY MANAGEMENT (SUPPLY CHAIN MANAGEMENT)

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DECLARATION

I declare that this thesis is my own work. It is being submitted for the degree of Master of Business and Technology Management (Supply Chain Management) in the University of Mines and Technology (UMaT), Tarkwa. This thesis has not been submitted for any degree or examination in any other University.

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ABSTRACT

In the past, buyers never seemed to notice the importance of their relationship with suppliers, they view each other as adversaries and do not consider the overwhelming benefits of working together as a team with shared objectives. However, in modern business, organizations have realized that the competition is no longer between organizations, but among supply chain members. Many forward-looking companies have found it more effective to work collaboratively with their suppliers to serve the ultimate customer. This study therefore sought to find out whether buyer-supplier relationship has the efficacy to impact procurement performance at Goldfields Ghana Limited. The study's objectives were to determine the collaborative activities practiced by Goldfields and their suppliers, to identify the challenges in building collaborative relationships and to examine the impact of buyer-supplier relationship on procurement performance. The study adopted a combination of descriptive and quantitative approaches to research. The study sampled 154 respondents using purposive sampling technique from a targeted population of 250 employees at Goldfields. The results of the study showed that Goldfields has embraced the concept of buyer-supplier relationship by way of practicing collaborative activities such as information sharing, resource sharing, communication, incentive alignment and joint knowledge creation with its upstream suppliers. The results of the regression analysis indicated that, all the collaborative activities had a positive and significant impact on procurement performance. The study identified challenges that hinders the company from forming closer ties with key suppliers and the most prevailing factor was unwillingness to share sensitive information. The study recommends that Goldfields should strive to enhance improvements in all areas of collaboration in other to reap all the benefits that comes through effective collaboration, especially in procurement.

DEDICATION

I dedicate this thesis to my beloved wife, Akuba Famiyeh Pappoe and my son, Jeremy Nii-Akwei Pappoe.

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CHAPTER 1

INTRODUCTION

1.1 Background to the Study

Today's competitive business settings have put pressure on firms to enhance operational effectiveness, efficiency, and responsiveness while simultaneously reducing costs (Gattorna, 2010; Arora *et al*., 2016; Stevens and Johnson, 2016). In response, businesses are continually moving away from individualism toward networking and exchange, exploring ways of harnessing their supply chains and systematically assessing suppliers' role in their operations. (Wang *et al*., 2016; Knemeyer et al., 2003; Whipple *et al*., 2015). Suppliers operate at the heart of every organization's activity and process (Mukandwal, 2020) and are valuable to sustainability.

Buying firms pay greater attention to working with suppliers that help create value by lowering the overall purchasing costs. Strategies for working with suppliers to drag down costs generally fit into one of two categories: adversarial and collaborative relationships (Wilson *et al*., 1990). In an adversarial approach, the buyer relies on many suppliers and uses only short-term contracts to obtain a higher negotiation position than the suppliers. In such circumstances, multiple suppliers compete against one another in the quest to drive down costs. On the other hand, the collaborative strategy aims to lower procurement and operational costs through joint buyer and supplier activities. Collaborative relationships require trust and commitment for long-term cooperation along with a willingness to share risks (Kalwani and Narayandas, 1995)

In the past, buyers never noticed the importance of their relationship with suppliers and tended to treat them with disrespect and contempt. They view each other as adversaries and do not consider the overwhelming benefits of working together as a team with a shared objective. However, there has been an epochal shift in the role of purchasing in many firms over the last two decades. The procurement function has evolved from a mere buying to a strategic function, potentially influencing its financial performance, quality performance, value creation, continuous improvement, and customer responsiveness (Paulraj *et al*., 2008). One tool that purchasing can leverage to enhance its supply-chain performance while improving its competitive position is to develop a collaborative relationship with appropriate suppliers (Kraljic, 1983; Chen *et al*., 2004). The most effective strategy for winning and sustaining a business is for buyers and suppliers to collaborate (Scannell *et al*., 2000). The buyer-supplier chain involves the upstream and downstream flow of products, services, finances, and information from the supply chain partners. A collaborative relationship is now the key element for many successful companies today (Ampe-N'DA, 2020).

Within the supply chain context, collaboration effectively aligns several participants to achieve a common goal (Ramanathan, 2014) and a foundation on which an effective supply chain can be established. It involves joint ownership of decisions and collective responsibility for outcomes (Whipple *et al*., 2010; Stank *et al*., 2001). According to Schrage (1990), collaboration is "an affective, volitional, mutual shared process where two or more supply partners work together, have mutual understanding, have a common vision, share resources, knowledge, assets and achieve collective goals." Collaborative relationships have allowed many buying firms to strengthen their competitive positions by concentrating bilateral efforts on improving areas of mutual concern, such as quality, productivity,

delivery, and customer satisfaction. The cumulative success of such initiatives, as identified by Enz and Lambert, 2015; Huo 2012; Schoenherr and Swink, 2012; Nyaga *et al*., 2010; Anderson and Katz, 1998, is usually the result of mutual efforts focused on (1) improved communication (2) consistent performance (3) clarification of needs and expectations (4) creation of competitive advantage, and (5) elimination of problems and concerns. Therefore, both parties must build a closer and stronger relationship by understanding each other's expectations and constraints and developing a shift from the win-lose ideology (Terpend, 2016; Danese, 2013).

Several researchers have identified the critical role of suppliers in organizational success (Yan *et al*., 2018; Gualandris and Kalchschmidt, 2016) and terms such as supply chain integration (Munir et al., 2020), supply chain collaboration (Alzoubi *et al*., 2020), relational governance mechanism (Zhang *et al*., 2020), and social capital (Gölgeci and Kuivalainen 2020; Carey *et al*., 2011) have been used interchangeably to mean buyer-supplier relationship (BSR). However, the existing literature on collaborative BSR is limited in some respects.

1.2 Problem Statement

In the world of business, no organization can gain and sustain a competitive advantage if it operates in isolation. Every organization is locked into a dynamic network of relationships with its suppliers, clients, and other counterparts (Min *et al*., 2005). The success of every organization is crucial to what happens in these relationships. A core but frequently overlooked aspect of a business is managing a company's relationships and its place in the network (Kleinaltenkamp *et al*., 2015). Suppliers are a critical part of the supply chain for value creation and sustainability. However, studies show that most mining companies have

opted to concentrate solely on meeting the needs of internal departments and the mining communities and continue to struggle with maintaining their relationship with their suppliers. Some mining companies in Ghana have endeavored to collaborate with their suppliers, but have failed to ensure relationship continuity because of the limited impact acknowledged by procurement. They have not entirely accepted the management of supplier relationships (Bow, 2015). This has led to low supplier retention levels, loss of relationship loyalty, customer dissatisfaction, and failure to meet future expectations and intentions. This may have been escalated by lack of information sharing, lack of joint decision-making, and inability to align incentives, leading to low levels of adaptation, trust, and commitment.

This unfortunate background of poor supplier relationship management has derailed the importance of building a stable relationship that has also culminated in late delivery problems, under and over quoting, price variations, ambiguous specification from buyers, wrong sourcing, stock outs in production, and payment delays in many organizations. It has therefore led researchers to develop keen interest in investigating the current buyer-supplier relationship level and how the concept can be managed strategically. These current studies are however carried out in other countries either than Ghana and hence the findings cannot be applied to studies conducted in Ghana due to changes in environment and government policies.

For instance, Butt (2019) examined the antecedents of knowledge hiding in the buyer-supplier relationship. The results unveiled that lack of friendly relationships, reciprocity, fear of negative evaluation, the expectation of outcomes, and senior management restriction compel managers to hide knowledge from each other deliberately.

Also, Pellegrino *et al*., (2020) investigated the role that supply chain risk management has in buyer-supplier relationships for Total Quality Management (TQM), focusing on relationships with those suppliers with whom the purchasing firm has a preferred customer status. The outcome of the research showed that buyer-supplier relationships are affected by myriads of risks. Customer attractiveness and supplier satisfaction were discovered as core drivers for the mitigation strategies built to protect the supplier's relationship rather than the buying firm alone.

Carrim *et al*., (2020) carried out a study on the role of buyer-supplier relationships in enhancing sustainable supply chain management in a logistics service context. The main findings indicate that aligning sustainability goals and values should occur before or very early on in a relationship. Structural capital was missing in participating companies in communications, knowledge exchange, and supplier assessments about sustainable supply chain management.

Past studies by Botes *et al*., (2017) investigated the underlying mechanisms through which buyer-supplier collaboration enables resilience using a single case method. The results indicated that collaboration between buyers and suppliers does not contribute directly to the supply chain's resilience, but rather enables the antecedents to supply chain resilience. The study also identified supply chain flexibility, supply chain velocity, and supply chain visibility as antecedents to achieve supply chain resilience.

Several studies on buyer-supplier relationships have been conducted in Ghana, specifically in the agricultural, health, manufacturing, and construction industries. For instance, Kwatia *et al*., (2019) undertook a study on green buyer-supplier relationship and their role in

supporting cocoa supply chain sustainability in Ghana. Addae, (2015) carried out a study on Supplier Relationship Management practices of Ministries, Department and Agencies (MDA's) in Ghana, with focus on Ghana Highway Authority. Also, Bondinuba, (2016) examined the antecedents of supplier relation quality in the Ghanaian construction supply chain.

While each of these papers has helped shape our understanding of the state of buyer-supplier relationships, they have all failed to analyze such relationships in the Ghanaian mining industry and how it affects the performance of the buying firms. Thus, this paper attempts to remedy these oversights by providing an insight into buyer-supplier relationship at Goldfields Ghana Ltd.

1.3 Objectives of the Study

The study's broad objective was to analyze buyer-supplier relationship and its impact on procurement performance in the mining sector and from which the following specific objectives have been outlined.

1.3.1 Specific Objectives

1. To determine the collaborative activities Goldfields has with its suppliers.
2. To identify the challenges faced by Goldfields in building collaborative relationship with suppliers.
3. To examine the impact of buyer-supplier relationship on procurement performance at Goldfields.

1.4 Research Questions

In line with the above objectives, the research was guided by the following questions.

1. What are the collaborative activities practiced by Goldfields and their key suppliers?
2. What are the challenges faced by Goldfields in building collaborative relationship with suppliers at Goldfields?
3. What is the impact of buyer-supplier relationship on procurement performance at Goldfields?

1.5 Significance of the Study

Despite the significant role of the mining sector in the Ghanaian economy, there is little or no research on how the industry collaborates with its suppliers in the quest for competitive advantage. This study is therefore expected to examine the awareness of buyer-supplier relationship at Goldfields and improve personnel understanding on performance related collaborative activities. Procurement professionals will get to appreciate the significant contributions of suppliers to value creation and superior performance in an organization.

The study will also help curb the persistent stockouts and late delivery of goods by identifying and addressing the mining sector's challenges in developing a long-term collaborative relationship with key suppliers. The results of the study seek to encourage responsible authorities to take necessary actions to address the setbacks in relationship building between buyers and suppliers at Goldfields. The study will as well serve as a secondary data of reference on the subject matter.

Also, the study will enhance the knowledge of practical function as against theoretical aspects. It is always better to achieve a balance between theory and practice for best results.

Hence, the outcome of the research will be practically put into effective use to ensure value creation.

1.6 Scope of the Study

This study focuses on buyer-supplier relationships and how such relationships impact the performance of the buying firm, with Goldfields Ghana Limited, Tarkwa mine, as a study. Located in Tarkwa, Western region, the company serves as a benchmark to other mining companies in Ghana and hence provides enough motivation to be used for the study. Relevant personnel will be explicitly selected from the supply chain department for data solicitation. This was to help ascertain their relationship with the company's suppliers and find out their understanding of the subject area.

1.7 Delimitation of the Study

Ideally, the objective was to capture virtually all mining firms in Ghana. However, this research is limited to the case of Goldfields Ghana Limited. It is important to note that the relationships, which work successfully in one mining environment, must be implemented with caution elsewhere. The generalization of the outcome may also be reduced due to the fact that, the data collection procedure focused primarily on the buying firm's (Goldfields) perspective on relationship management. However, findings can be improved in the near future by including a bigger sample size and including other mining industries for investigation.

1.8 Organization of the Study

The study will be organized into five chapters. The first chapter will look at the introduction, which provides a brief background of the study, the statement of the problem, and the

significance of the study. It will also spell out the study's general and specific objectives and the research questions that the study seeks to address. The second chapter will provide a review of the theories and existing literature about the topic of study. It will discuss and review existing studies and research works on the research topic and their possible implications on the current research underway. Chapter three talks about a comprehensive explanation of the research methodology, which will be used to undertake the study. It expounds extensively on the research approach and design, sample, sampling procedures/techniques, the sources and methods of data collection, and data analysis process. The fourth chapter will provide a detailed analysis, interpretation, and discussion of the study's findings. The research findings will be presented in the form of graphs, tables, and other quantitative computations. The final chapter, (Chapter five) will summarize the significant findings, conclusions and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter aims to present the conceptual background to the topic where keywords and concepts used in the study are defined and explained. The theoretical underpinnings of buyer-supplier relationships are reviewed, bringing to bear the various theories underlining the research. Theories can be a valuable resource for designing and structuring the research process. The chapter then proceeds by addressing the evidential studies conducted by other researchers on the subject matter and the conceptual framework that sought to link together the independent and dependent variables to explain the study's outcome.

2.1 Conceptual Development

2.1.1 Overview of Buyer-Supplier Relationship

Globalization has prompted adopting a more comprehensive strategic approach to supply chain management (Fedi *et al*., 2019; Ukko and Saunila 2020, Weele and Raaij, 2014, Hammervoll 2011). The supply chain is a virtual chain where participants such as suppliers, buyers, shipping brokers, manufacturers, and distributors participate (Anderson *et al*., 2014, Nyaga *et al*., 2010). Supply chain sustainability and value growth require stable relationships, such as those between buyers and suppliers (Kanter, 1994; Hastings *et al*., 2016). Relationships between buyers and suppliers have gained academic and managerial attention in the last two decades (Kim *et al*., 2010, Kohli and Jensen, 2010).

A buyer-supplier relationship is defined as a contractual agreement between two parties, where one party promises to buy, and the other is bound to sell. For a relationship to be

stable, buyers and suppliers must have similar objectives (Jap and Anderson, 2003). Such objectives are not limited to trust, commitments, effective communication, dependency, value creation, and shared values (Yang *et al*., 2016). When collaborating partners' interests are aligned, they see their joint efforts as mutually beneficial (Kruis and Widener 2016; Ramon *et al*., 2017, Naudé and Buttle, 2000), and will be more likely to strengthen the partnership (Wilson and Jantrania, 1994), resulting in commitments to invest in resources to create higher-quality goods and enhance client services, reduce costs, and improve delivery efficiency (Goffin *et al*., 2006).

A study of the literature on buyer-supplier relationships helps us distinguish various models based on the level of interaction, the selection criteria, the roles involved, the degree of dependency, the length of the relationship, and other factors. Although there are various possible buyer-supplier models, there are two very distinct circumstances. On the one hand, we have a short-term model and includes the least amount of knowledge sharing, where selection is based on cost, and neither party is wholly involved. Different words are used to refer to this model, such as free-market negotiation (Landeros and Monczka, 1989), output model (Helper, 1991), traditional focus (Burdett, 1992), spot market (De Toni, 1999), combative relationship (Billington *et al*., 2006) and adversarial competitive (Heide and John, 1990; Noordewier *et al*., 1990; Ganesan, 1994; Kalwani and Narayandas, 1995). For this study, this type of buyer-supplier relationship will be referred to as adversarial competitive. The adversarial competition entails a business arrangement between a buyer and many suppliers based on short-term contracts that detail the terms of each agreement (price, quality, delivery, and profit-sharing). For example, during a competitive bidding process, suppliers are selected based on the price they deliver.

Furthermore, both organizations aspire to be as separate as possible, resulting in limited knowledge sharing. It assumes that there are no differences in suppliers' abilities to provide value-added services, technological advancements, process innovations, and other ways of achieving competitive advantage in such situations, and therefore it does not make direct use of the supplier's total resources and does little to foster long-term collaboration between buyer and supplier (Chen and Fung 2013; He *et al*., 2011). On the other hand, there is a long-term model characterized by continuous knowledge sharing, careful supplier selection that recognizes operational and strategic dimensions, and a high level of engagement by both parties. Even though this model is referred to by a variety of terms, including buyer-supplier association (Shapiro, 1985), cooperative relationship (Landeros and Monczka, 1989), strategic association with suppliers (Ellram, 1990), voice model (Helper, 1991), contractual relationship (De Toni, 1999), and super collaboration (Billington *et al*., 2006), there is general agreement that, it is a collaborative model. The study therefore refer to this type of relationship as a collaborative partnership for this study. Collaboration partnership in a buyer-supplier relationship is a close, long-term partnership between a buyer and a small group of suppliers based on trust, mutual dependency, and continuous knowledge exchange. In the early stages of component and product design, both parties collaborate and share resources, staff, and services. Mutual attraction is required to develop this relationship, which includes expected benefit, trust, and dependence (Hald *et al*., 2009).

Table 2.1 Comparison of Adversarial and Collaborative Relationships

No.	Relationship Factor	Adversarial Competitive	Collaborative Partnership
1	Nature of competition in supply market	Price based, competitive	Collaborative, technology-based
2	Basis for sourcing decision	Competitive bidding (price-based)	Long-term performance history
3	Role of information transfer and management	One-way; closed	Transparency of costs in each direction
4	Attitude to capacity planning	Independent	Shared problem which is strategically planned
5	Delivery practices	Erratic	JIT, small quantities on an agreed based
6	Dealing with price changes	Traditional price negotiation: win-lose	Collaboration on cost reduction programmes; win-win
7	Product quality	Aggressive goods inward inspection	Joint efforts with aim of zero defects
8	Role of R & D	Assembler designs and supplier makes to specification	Supplier involved early in R & D process
9	Level of pressure	Low - purchaser will go elsewhere if dissatisfied	High - continuous improvement to identify better methods and materials leading to lower costs

Source: Lamming (1993)

Consequently, this partnership is more than just buying the requisite materials from suppliers. It also entails a high level of commitment on both sides. From Table 2.1, collaborative partnership has characteristics such as the number of suppliers, selection requirements, time horizon, knowledge exchange, the extent of dependency, and degree of involvement (Fossas-Olalla *et al*., 2010). According to Narayanan *et al*., (2011), many

companies are moving away from price-based criteria and toward other performance criteria, such as quality and delivery, for assessing purchasing decisions. Morgan and Hunt (1994) noticed a trend among consumers to move away from an arms-length relationship towards closer collaborative partnership.

2.1.2 Necessity of Supply Chain Collaboration

While businesses cultivate various relationships with their customers and suppliers, recent studies on buyer-supplier relationships have emphasised collaboration (Zhang and Cao, 2018; Scholten and Schilder, 2015; Soosay and Hyland, 2015, Hudnurkar *et al*., 2014). The concept has also received much attention in recent years (Chen *et al*., 2017; Fawcett *et al*., 2015; Liao *et al*., 2017; Ramanathan and Gunasekaran, 2014; Soosay and Hyland, 2015), especially in sociology (Powell *et al*., 2005), psychology (Stern and Hicks, 2000; Konczak, 2001), marketing (Gadde *et al*., 2003; Perks, 2000), management (Cross *et al*., 2002; Sawhney, 2002; Singh and Mitchell, 2005), and supply chain management (Holweg *et al*., 2005; Tuominen, 2004).

The fundamental rationale for collaboration is that a single firm cannot compete successfully on its own. Customers are becoming more demanding, and competition is increasing. As a result, many firms strive to coordinate cross-firm activities and collaborate reciprocally over time to achieve superior performance (Anderson and Narus, 1990; Stern and Reeve, 1980). Firms form interfirm collaboration agreements to share risks and rewards. The goal is to achieve higher performance than would be possible if each firm operated independently (Lambert *et al*., 1999). Supply chain integration offers potentials for competitive advantage through collaborative efforts between supply chain partners (Petersen, Ragatz, and Monczka, 2005). Collaborative relationships are expected to offer more benefits than

transactional relationships (Ramanathan and Gunasekaran, 2014). Initially, collaboration adaptation was primarily focused on North America, followed by Europe, Germany, Austria, Switzerland, and other parts of the world. In supply chain management, collaborative partners reap numerous benefits in efficiency and responsiveness, lower costs, less inventory, shorter cycle times, lowest forecasting error than non-collaborative adopter organizations (Singh *et al*., 2018).

For example, Wal-Mart has embraced collaboration and reaped substantial benefits by sharing its point-of-sale (POS) data with upstream supply chain partners to improve collaboration. The firm collaborated with Procter and Gamble (P&G) to forecast operations to address demand and supply uncertainty and add value to the supply chain through a collaborative approach (Mithas *et al*., 2005, Lee, 2000). Walmart, on the other hand, offers its customers the best prices on the market. The company can do so because it works with over 3000 different vendors and expands its network (Plambeck *et al*., 2012). Dell assembles PCs after getting a customer order and sells them directly to them. It collaborates with customers and suppliers through the Internet. Dell manages its inventory and global supply chain by exchanging demand data through collaboration. It also reduces delivery time to less than five days and minimizes the bullwhip effect. As a result of their collaboration, the organization has a significant lead in the computer market (Attaran, 2007a). Herlitz AG, Europe's leading manufacturer of office supplies, wished to be part of collaborative practice. Through a collaborative approach, the company could share demand and supply in real-time with other collaborating partners and seasonal research fluctuations in sales. As a result, customer service improved, and the company saw a 50% reduction in shelf stock-outs, a 15% increase in inventory turns, and a 15% reduction in stockholding costs (Attaran, 2007b).

The shipping time for Heineken was ten to twelve weeks. In 1995, the company decided to implement a collaborative approach to minimize its time to deliver the finished product from ten to six weeks. It also helps to form the private network connection, which connects supply chain partners. With its partners, the firm used real-time forecasts, ordering, and replenishment. Distributors can view sales forecasts online and make changes to their orders as needed. It cuts the order cycle time in half, from three months to four weeks. It also reduces procurement costs, inventory and ensures that customers receive fresh products (Attaran, 2004). Coca-Cola FEMSA (KOF) is a Latin American bottler and distributor of Coca-Cola products, with 63 distribution centers and eight manufacturing facilities. The company needs to eliminate stock-outs and inventory while also improving customer satisfaction. KOF has improved demand planning accuracy to 93 per cent and reduced stock-outs to less than one per cent by implementing a collaboration approach. In addition, supply chain collaboration has increased productivity and customer satisfaction (Attaran, 2007b).

In 1995, Colgate-Palmolive set out to improve its operations to increase productivity. The company has collaborated its information access, projections, production schedule, and inventory to the upside and downside supply chain by using the collaborative approach. The company's global supply chain performance improved because of the collaboration. It also makes logistical data more visible. The company saw an 18% increase in orders, a 10% decrease in inventory, and a 95% rise in customer order fulfilment rates (Attaran, 2004). Collaboration within the supply chain addresses risk-sharing and obligation and profit gains from a common goal while also increasing administrative flexibility (Soosay and Hyland, 2015). Collaboration has resulted in a supply-demand balance and increased profit for the entire supply chain (Christopher 2005).

This study summarizes the literature and describes the buyer-supplier collaboration as having five interrelated activities: information sharing, incentive alignment, resource sharing, collaborative communication, and joint knowledge creation. These five activities should be interconnected and covary with one another. They improve procurement by lowering costs and response times, optimizing resources, and increasing innovation.

2.1.3 Components of Buyer-Supplier Relationship (Collaborative Activities)

2.1.3.1 Information Sharing

In the context of a supply chain, information sharing refers to the extent to which a firm shares a variety of relevant, accurate, complete, and confidential information promptly with its supply chain partners (Vanpoucke *et al*., 2014, Angeles and Nath, 2001; Cagliano *et al*., 2003; Sheu *et al*., 2006). Tactical (e.g., acquisition, operations scheduling, logistics) or strategic information can be shared (Velez *et al*., 2015) (e.g., long-term corporate objectives, marketing, and customer information). Previous studies on the value of formal and informal information sharing between trading partners have shown that successful information sharing improves visibility and decreases uncertainty (Ribbink and Grimm, 2014, Brennan and Turnbull, 1999; Handfield and Bechtel, 2002). Information sharing is described as the "heart" (Lamming, 1996), "lifeblood" (Stuart and McCutcheon, 1996), "nerve center" (Chopra and Meindl, 2001), "essential ingredient" (Min *et al*., 2005), "key requirement" (Sheu *et al*., 2006), and "foundation" (Lee and Whang, 1999) of supply chain collaboration. The Global Logistics Research Team at Michigan State University (1995), defines information sharing as "the willingness to make strategic and tactical data such as inventory levels, forecasts, sales promotion, strategies, and marketing strategies available to firms forming supply chain nodes". Firms should focus on improving the quality of shared information, including accuracy and completeness, in addition to sharing a wide range of

information with partners (Gosain *et al*., 2004, Simatupang and Sridharan 2005a). According to Uzzi (1997), information exchange in the supply chain is more confidential, tacit, and all-inclusive than data exchanged in arm-length relationships. Supply chain parties should access information online and in real-time with minimal effort (Lee and Whang 1999). Such transparency is an effective way to minimize uncertainty and combat the well-known "bullwhip effect" of demand information distortion in a supply chain (Angeles and Nath 2001). Failure to share information may result in disadvantages such as allegations of unfair supplier treatment and perceptions that profit and value are not shared equitably, and that systems are unsustainable (Jack *et al*., 2018).

2.1.3.2 Resource Sharing

Resource sharing is the process of exploiting capabilities and assets while also investing in capabilities and assets with supply chain partners. Manufacturing equipment, facilities, and technology are examples of physical resources (Cao and Zhang, 2011, Harland *et al*., 2004). One example of the significance of this phenomenon is the vast body of literature on industry clusters and regional networks (e.g., Dyer, 2000). Vendor managed inventory (VMI) allows suppliers to assess stock-level data through Electronic Data Interchange (EDI) and take the necessary replenishment action in the retail sector (Lamming, 1996). Significant mutual resource investments must back up collaborations that are meant to last. Time, money, training, technology updates, and other resources, as well as financial and non-financial investments, are required. In a successful partnership, financial investment is typically reciprocal (Lambert *et al*., 1999). It is important not to underestimate how much time and effort it takes to build collaborative relationships (Min *et al*., 2005).

2.1.3.3 Collaborative Communication

In terms of frequency, direction, mode, and impact strategy, collaborative communication is the process of contact and message transmission among supply chain partners (Jean *et al*., 2010, Goffin *et al*., 2006; Tuten and Urban, 2001). Mohr and Nevin (1990) investigated the pattern of communication from the viewpoint of mechanistic communication theory. They coined the phrase "collaborative communication strategy," which refers to crucial communication characteristics such as frequency, bidirectional flow extent, informal modes, and indirect content. The amount of contact between partners is referred to as frequency. The movement of communication up and down the supply chain is referred to as direction (Mohr and Nevin 1990, Prahinski and Benton 2004). The method of transmitting data is referred to as mode. Informal mode refers to the degree to which communication among supply chain partners is established in a spontaneous and non-regularized manner. In contrast, formal mode refers to communication established through structured rules and fixed procedures. The content of communication contains elements of influence. A company tries to change behavior through direct influence by requiring specific actions from its partners through recommendations, pledges, and legal obligations. Without explicit commands or veiled threats, indirect influence is used to alter supply chain partners' beliefs and attitudes about expected behavior's desirability (Mohr and Nevin 1990).

2.1.3.4 Incentive Alignment

Incentive alignment entails partners sharing costs, risks, and benefits through clearly defined mechanisms (Simatupang and Sridharan, 2005a). The sharing, however, is not always evenly distributed among partners. It entails calculating costs, risks, and benefits, as well as developing incentive plans. For a successful supply chain partnership, each participant must share gains and losses equitably, and the collaboration's outcomes must be quantifiably

beneficial to all (Manthou *et al*., 2004). Incentive alignment necessitates the careful definition of mechanisms that equitably distribute gains, that is, gains that are proportional to investment and risk (Lee and Whang, 1999). Some manufacturers see working with a familiar supplier to maintain a balanced incentive structure that may already exist if there are no significant disadvantages. They see forming a new partnership as a risk that could upset the balance. A collaborative initiative for incentive alignment supports long-standing relationships that benefit both parties. The alignment could be influenced by unspoken social pressures to adhere to specific common values and norms (Heide and John, 1992). Members are motivated to act consistently with the overall goals, such as revealing sensitive and relevant information (Simatupang and Sridharan 2005a). It ensures adequate cooperation and commitment while minimizing harmful routines such as opportunistic behavior (Harland *et al*., 2004).

2.1.3.5 Joint Knowledge Creation

The extent to which supply chain partners collaborate to better understand and respond to the market and competitive environment is referred to as joint knowledge creation (Malhotra *et al*., 2005). Knowledge exploration (i.e., searching for and acquiring new and relevant knowledge) and knowledge exploitation (i.e., assimilate and apply relevant knowledge) are two types of knowledge creation activities (Bhatt and Grover, 2005). Knowledge capturing, exchanging, and assimilation between supply chain partners enables innovation and the supply chain's long-term competitiveness (Harland *et al*., 2004). Supply chain partners should create a knowledge base and, more pressingly, interpret that knowledge, enabling companies to create value by developing new products, enhancing their brand image, and responding to customer needs (Kaufman *et al*., 2000). Joint learning facilitates cost reduction and innovation, both of which are critical components of gaining a competitive

advantage. Trading partners' actions to establish, use, and share supply chain knowledge are referred to as collaborative knowledge management practices in supply chain (Li *et al*., 2012). These collective activities create difficult-to-replicate trading knowledge barriers, and it takes time for competitors to develop similar expertise and talent. As a result, a supply chain can perform better than its competitors (Wagner *et al*., 2002). According to Sobrero and Roberts (2001), the value of supply chain collaboration extends beyond efficiency gains to strategic benefits that help the value chain respond to competition and satisfy customers. Firms can reduce response time by obtaining information to streamline order fulfilment through partnerships (Verwaal and Hesselmans 2004).

2.1.4 Dimensions of Buyer-Supplier Relationship

Partnerships with supply chain members have been shown to improve a company's competitiveness, not only in academics but also in businesses like Wal-Mart, which successfully reduced its logistics costs by partnering with companies like Procter and Gamble and 7-Eleven in Japan (Lee, 2000). The five dimensions of the buyer-supplier relationship as suggested by Wagner *et al*., 2011, Chen and Paulraj 2004, Mentzer *et al*., 2000, Olsen and Ellram 1997 are trust, frequency of communication, commitment, cooperation and interdependence and power. In high-value strategic partnerships, both the buyer and the supplier must see the benefits they are getting from the ongoing partnership.

2.1.4.1 Trust in the Buyer-Supplier Relationship

In exchange relationships, trust is the most significant mediator. According to Wagner *et al*., (2011), a buyer-supplier relationship that does not priorities trust "simply does not capture the phenomenon adequately." The willingness to recognizes vulnerability based on optimistic assumptions of the other's motives or behavior in a specific context, such as in

interdependent or risky circumstances, is the most common definition of Trust (Bstieler, 2006). According to Stuart *et al*., (2012), trust can be defined as "one party's belief that the other party in the relationship will not act opportunistically and not exploit its vulnerabilities even when such exploitation would not be detected". In terms of competition, Stuart *et al*., (2012) argues that a supply chain lacking mutual trust between companies would be unable to compete with one that does. Mutual trust is critical and required to establish competitive inter-organizational alliances such as strategic partnerships. In business relationships, trust has been described as a significant predictor of positive procurement performance. Establishing and fostering trust among the participating organizations is a vital source of excellent procurement efficiency. Where there is widespread trust in the supply chain, concepts, information, goods, and services can freely flow to assist in the design, implementation, and management of value-creating processes and activities. According to Stuart *et al*., (2012), trust can lead to several advantages for businesses: First, by introducing Vendor Managed Inventory (VMI), trust will help lower transaction costs. Second, by reducing the need for lengthy contracts, safeguarding costs may be minimized. Third, trust decreases opportunistic actions and facilitates more efficient knowledge flows and sharing.

Most researchers in Supply Chain Management say that the two latter benefits can be accomplished by increasing transparency between organizations. Trust can be reduced to two factors, according to van Weele *et al*., (2014); competence and trustworthiness. Competence in the form of professional and qualified workers can lead to increased trust in a company. Trustworthiness can be achieved by adhering to strict ethical rules and procedures clearly and effectively within the organization. As a result, businesses must have consistent corporate ethics and honesty policies to build credibility with their suppliers and customers. Both buyers and suppliers must participate in trust-building exercises to develop

a long-term partnership. As previously stated, if suppliers are handled well by buyers, they can comply in the form of a willingness to invest in the buyer's particular specifications, even if there is no written contract.

2.1.4.2 Commitment in the Buyer-Supplier Relationship

Commitment is critical in building effective buyer-supplier relationships (Morgan and Hunt, 1994) and achieving shared objectives in supply chains (Anderson and Weitz,1992; Gundlach *et al*., 1995; Hofenk *et al*., 2011). Firms benefit from commitment because it allows them to save money, be more flexible, and share risk (Cox *et al*., 2001; Lorenzoni and Lipparini,1999; Morgan and Hunt, 1994). It also has a substantial effect on the outcomes of the cooperation, such as the production and commercialization of new products and technologies (Mazzola *et al*., 2015; Partanen *et al*., 2014), as well as the formation of new sources of value and growth (Brady *et al*., 2005; Moran and Ghoshal, 1999; Mouzas, 2006). As a result, commitment is a crucial relational connection that contributes to long-term buyer-supplier relationships (Anderson and Narus, 1990; Cullen *et al*., 1995; Gundlach *et al*., 1995). Business actors demonstrate their intention to build long-term relationships with other actors by making a commitment, which is expressed as a willingness to make short-term compromises in return for long-term benefits and gains associated with a continuing partnership.

In buyer-seller relationship studies, the most common dependent variable is commitment (Anderson and Weitz, 1992; Dwyer *et al*., 1987; Jap and Ganesan, 2000; Morgan and Hunt, 1994; Uzzi, 1996). Commitment is a significant factor in separating "stayers" from "leavers" (Uzzi, 1987). It is the urge to keep the relationship going and work to keep it going. Commitment is an "implicit or explicit promise of relational continuity between exchange

partners", Dwyer *et al*., (1987) described. The degree of commitment is influenced by three factors, according to Giannakis (2007). These are effort, loyalty, and the duration of the supplier relationship. Loyalty refers to the attachment to and frequency of contact with the trading partner, while effort refers to the associate's desire to keep the business relationship going. The duration of the supplier partnership, on the other hand, relates to the duration of the supplier's contract. If there is shared commitment, it may lead to knowledge exchange, collaborative problem solving, and a greater willingness to meet a partner's needs (La Rocca *et al*., 2012). Commitment has been shown to minimize relational disputes and opportunistic behavior in addition to maintaining a steady flow of resources. As a result, it is argued that long-term collaboration and the achievement of long-term benefits need commitment (Wu and Cavusgil, 2006).

2.1.4.3 Frequency of Communication in the Buyer-Supplier Relationship

Communication is defined as the formal and informal exchanging of relevant information between partners, focusing on the nature of the information exchanged rather than the quantity of communication, which represents the overall importance of this process to the partner relationship (Anderson and Narus, 1984, 1990; Arnold *et al*., 2010; Lancastre and Lages, 2006; Morgan and Hunt, 1994, Paulraj *et al*., 2008). Communication is critical in improving the buyer-supplier relationship, according to both transaction cost and social exchange theories (Ambrose *et al*., 2010). It is cited as a significant precursor for confidence in any buyer-supplier relationship in many disciplines, including supply chain management and relationship marketing literature (Vijver *et al*., 2011). For better knowledge exchange and a good partnership, a close buyer-supplier relationship generally requires a high level of trust (Chen and Paulraj, 2004), commitment (Ambrose *et al*., 2010), and more frequent and effective communication (Chen and Paulraj 2004). Frequency of communication is

defined as the degree of contact and interaction between buyers and suppliers in an inter-organizational relationship. According to Kotabe *et al*., (2003), the level of contact and interaction between buyers and suppliers is determined by the perceived value they see in the partnership. Frequent exchange of information on strategic and operational matters can promote greater confidence, build cooperation, and trust, and reduce dysfunctional conflict and generate relational benefits (Anderson and Narus, 1990; Anderson and Weitz, 1992). Inter-organizational contact can also contribute to more behavioral openness and minor knowledge asymmetry (Heide and Miner, 1992), hence, lowering transaction costs and improving transaction value (Dyer, 1997; Zajac and Olsen, 1993). According to Cousins and Menguc (2006), more intimate and transparent contact will improve and increase the "prosperity" of the communication itself. They say that increased engagement and communication improve the supplier-buyer relationship, leading to better results.

2.1.4.4 Cooperation in the Buyer-Supplier Relationship

Cooperation is characterized as "similar or complementary organized behavior taken by firms in interdependent relationships to achieve reciprocal or singular outcomes with the expectation of reciprocation over time." (Anderson and Narus 1990). Morgan and Hunt (1994) tend to endorse the above concept of cooperation. However, they go on to extend it by stressing the positive nature of cooperation rather than being compelled to cooperate. Cooperative behavior is the product of the interaction of cooperation and commitment, allowing the partnership to function and ensuring that all parties profit from the relationship. According to De Toni *et al*., (1994), the type of cooperation that describes the partnership model of buyer-supplier relationships does not certainly imply harmonious collaboration and absolute confidence in each partner. They believe that the lean supply model's focus on practical and consistent supplier assessment and control systems with contractual

responsibilities on the supplier's part to lower costs over time, which is evidence of a tightly regulated competitive discipline within an exchange relationship. The exchange parties' cooperation represents their hopes of working together to achieve mutual and individual goals (Cannon and Perreault 1999). Personal trust between business partners is the foundation of a cooperative inter-business partnership. According to most businesspeople, the most reliable sources of information are close relationships within and among business organizations. Buyers and suppliers who do not have a close relationship are reluctant to share information and less likely to cooperate.

2.1.4.5 Interdependence and Power in the Buyer-Supplier Relationship

Interdependence and power imbalance are important relationship variables. Relationships also have a component of power/dependence. Power is a function of how reliant two members of a channel are on each other to achieve their objectives and the relative sources/bases of each channel member's power (El-Ansary and Stern, 1972). Dependence refers to a company's need to sustain an exchange relationship to meet its objectives (Frazier and Rody, 1991). In exchange relationships, both parties may be reliant on one another to some extent (Gundlach and Cadotte, 1994). It means that no party has every reason to back out at any point in the future. Buyers and suppliers are motivated to form long-term relationships characterized by stability, cooperation, and mutual benefit by interdependence. It represents how dependent each organization is on the other, without which neither organization will miss out on opportunities, business, or sales.

2.1.5 Challenges in Implementing Buyer-Supplier Relationship

Despite the obvious organizational benefits of collaborative activities, only a tiny percentage of collaboration projects are moderately competitive if they are not entirely

developed (Ramanathan and Gunasekaran, 2014). The following barriers to supply chain collaboration have been identified:

1. Difficulty aligning internal processes with those of suppliers (Kampstra *et al*., 2006; Whipple and Russell, 2007).
2. Inadequate data communication; flaws in knowledge sharing and connectivity under traditional IT infrastructure, preventing smooth integration (Ramanathan, 2014; Ramesh *et al*., 2010).
3. Cultural consequences, such as a lack of confidence between organizations making sharing of any kind of data detrimental to an organization's strategic position (Ramesh *et al*., 2010).
4. Conventional organizational design, in which roles are divided into 'silos,' preventing the need for collaborative efforts between companies (Fawcett, 2012).
5. Unwillingness to share risks and rewards among supply chain participants (Ramesh *et al*., 2010).
6. Financial management focuses on a short-term view of business activities, making long-term agreements such as cooperation more difficult to achieve.

The barriers to successful collaboration appears to be the result of organizations' lack of commitment due to high associated costs and organizational factors (Barratt, 2004). The costs are primarily related to technology investments that promote knowledge sharing (Hall *et al*., 2012). Furthermore, the traditional inter-firm rivalry is linked to a lack of trust between organizations, a refusal to share risks, and process alignment (Fawcett *et al*., 2008). Lastly, internal organizational orientation in functional silos and an emphasis on financial management are internal obstacles that obstruct the required organizational integration of mutual buyer-supplier relationships (Whipple and Russell, 2007).

2.1.6 Procurement Performance

According to the supply chain management literature, the value creation process extends beyond the firm's borders and includes integrated business processes among various supply chain participants, such as suppliers, manufacturers, and customers (Stevens, 1989; Tan *et al*., 1998). It is assumed that the collaboration of these various organizations would result in superior results. Individual companies must invest in processes that promote supply chain alignment, collaboration, and teamwork to achieve this (Sanders, 2008). Procurement as a significant function of a supply chain is undoubtedly an inevitable part of every business. It is the process of acquiring goods or services and ensuring an organization's smooth operation (Weele, 2010).

On the other hand, performance refers to the effectiveness with which the organization's goals and objectives are met. It can be achieved by getting the lowest possible operating costs while retaining efficiency (Cecere, 2014). Procurement performance conception can be traced as far back as the 1930s. It is the degree to which supply chain members contribute to achieving their financial and non-financial objectives (Um and Kim, 2019; Whipple *et al*., 2015). The concept has been defined as a product of efficiency and effectiveness (Hofmann *et al*., 2014; Shao *et al*., 2012; van Weele, 1994, Expert Group Meeting, 2001). Effectiveness refers to the degree to which predicted outcomes (cost, quality, and logistics goals) are achieved. In contrast, efficiency refers to how a company's resources are used through appropriate procedures and practices without causing a loss. The former category refers to the performance characteristics that are unique to the suppliers chosen by the procurement function and the contractual terms that have been agreed upon. As a result, they can be easily calculated using various metrics such as delivery consistency, delivery lead times, scrap rates, unit cost, and cost savings versus a budget for purchased products

and services. The latter group is generally defined by metrics used as indicators for efficient procurement resource usage, such as the number of structured procedures or the function's budget (Hofmann *et al*., 2014). The procurement sector must build an atmosphere in which (1) resources are accessed from a shared "resource pool," (2) losses and risks are shared among participants, and (3) joint decision-making is exercised (Lecoeuvre, 2016). Collaboration, in which buyer's and key suppliers' business processes are integrated as a whole, is a primary driver of firm success (Chen *et al*., 2013; Flynn *et al*., 2010). We conceptualize the creation of firm performance around four order fulfilment process priorities: cost, quality, speed, and flexibility (Chen *et al*., 2013; Hult *et al*., 2006). The degree to which supply chain members participate in supply chain processes directly links with their outcomes (Vickery *et al*., 2003). The efficiency of a purchasing firm can be influenced by governance modes (Cao and Lumineau, 2015), as well as the level of collaboration (Chen *et al*., 2013) and cooperation (Cai and Yang, 2008). Supply chain collaborations seek to meet potential demand, satisfy customers' needs, and minimize costs (Roehrich *et al*., 2019, Chopra and Meindl, 2001).

The relationship between collaboration and procurement performance has been supported by previous research (Caldwell *et al*., 2017, Cao and Zhang, 2011; Chen *et al*., 2013; Simatupang and Sridharan, 2005b). Supply chain members can boost their ability to meet a customer's needs, minimize operating costs and delivery time, and increase resilience and responsiveness to consumer demand and volatility by exchanging resources and information (Simatupang and Sridharan, 2005b). Goal congruence encourages suppliers to achieve supply chain goals rather than following their interests. Decision synchronization allows idiosyncratic resources and relevant information outside firms' borders to be efficiently exploited (Simatupang and Sridharan, 2005b). A technique that enables a purchasing firm

and its suppliers to constantly coordinate in the complex chain outside and across organizational boundaries is supply chain collaboration. The supply chain's agility and responsiveness can be improved by interactive and effective collaboration, resulting in better order fulfilment processes in terms of cost, quality, speed, and flexibility.

2.2 Theoretical Review

The relationship built with suppliers has become increasingly important in recent years because of its effect on its performance. As a result of the significance of such relationships, studies have been undertaken to understand buyer-supplier relationships from a theoretical perspective. However, no single theory can describe the dynamics of this form of relationship on its own. Instead, since each theory focuses on a different aspect of the buyer-supplier relationship, none seems superior to the others.

Transaction cost theory, resource dependency theory, and social exchange theory are appropriate lenses through which research on buyer-supplier relationships can be investigated (Touboulic and Walker 2015).

2.2.1 Transaction Cost Economics

Transaction Cost Economics (TCE) is one of the most extensively referenced organizational theory explaining supply chain collaboration, and its potential in informing future research is also recognized (Anand and Gray 2017). TCE provides a necessary theoretical background for deciding whether a company's value chain activities should be kept in-house or outsourced in a contractual relationship (Soosay and Hyland, 2015; Williamson, 2008). The theory was initially proposed by Coase (1937). According to Coase (1937), the most effective governance process for an exchange interaction is determined by limiting the

amount of production and transactions costs. Transaction costs in TCE refer to the costs of finding a suitable trading partner, negotiating, and drafting contracts, resolving disputes, and revising current agreements as circumstances change (Williamson, 1985). These costs can be decomposed into ex-ante and ex-post based on when a partnership starts (Barthélemy and Quélin, 2006; Grover and Malhotra, 2003; Pilling *et al*.,1994). Ex-ante transaction costs arise from the quest for a suitable supplier and the preparation of a contract at the start of a relationship.

The costs of locating and engaging a qualified partner in the supply chain process and negotiating and writing a mutual agreement are referred to as search and contracting costs. Ex-post transaction costs, such as monitoring and enforcement costs, are borne as the relationship progresses. Monitoring and enforcement costs are incurred by keeping a close eye on each party's conduct and then taking the required steps to ensure that they fulfil their contractual obligations. This research focuses primarily on ex-post transaction costs and encompasses three aspects of ex-post transaction costs: tracking, solving, and detecting (Grover and Malhotra, 2003; Pilling *et al*., 1994). Suppose a buyer is assured that a supplier is trustworthy and less likely to behave against the buyer, the buyer may avoid the costs of tracking the supplier's obligations and identifying the supplier's opportunistic behaviors in the supply chain relationship (Rindfleisch and Heide, 1997). Problem-solving cost can be minimized through standard solutions that are already defined in a mutually agreeable contract. A well-written contract that defines the locus of obligation and problem-solving methods will reduce the likelihood of renegotiating for recurring transactions (Grover and Malhotra, 2003). As a result, a buyer will benefit from lower transaction costs when dealing with a supplier. When a buyer wants to reduce transaction costs while still improving performance through a partnership, it is essential to look at transaction costs as a significant

consequence of collaboration and performance. The theory believes that both external and internal considerations should be weighed before engaging in any transaction. As a result, the various risks bound to emerge due to the transactions are analyzed, and potential solutions are formulated (McIvor, 2000).

2.2.2 Resource Dependency Theory

Resource Dependency Theory (RDT) is also a primary theoretical viewpoint to understand a partnership and other inter-organizational relationships, e.g., strategic alliances, research consortia, joint-marketing agreements, buyer-supplier relationships (Barringer and Harrison, 2000; Oliver, 1990). The RDT approach to inter-organizational relationships investigates how their development aids an entity in gaining resources and reducing interdependence (Auster, 1994; Harrigan and Newman, 1990; Pfeffer and Salancik, 1978). The resource-dependence theory notes that companies rely on others in their environment to secure the necessary resources and support they need to stay competitive (Singh *et al*., 2011, Pfeffer and Salancik, 1978). Firms will develop closer relationships in an unpredictable environment where dependencies grow to strengthen information sharing, commitment, credibility, and exchange stability (Fink *et al*., 2006). As a result, one of the primary concerns addressed by the resource-dependence theory is the exchange of resources among trading partners to manage environmental uncertainty. According to Chong and Ooi (2008), firms that lack vital resources would aim to create relationships with other organizations to obtain the required resources. Firms will respond to the demands of firms whose resources they are heavily reliant on, and this has resulted in firms with greater partner power being able to request that their trading partner follow e-business standards. The resource-dependence theory has been applied to the analysis of buyer-supplier relationships, and characteristics such as the number of suppliers/buyers in the industry, the

number of competitions, and the dependence on buyers/suppliers have all been investigated. Due to dynamic market structures and total information visibility, supply chains and supply chain information systems are characterized by high uncertainty (Golicic *et al*., 2002). As a result, applying the resource-dependence theory to managing inter-organizational relationships between buyers and suppliers is appropriate.

2.2.3 Social Exchange Theory

Social Exchange Theory (SET) is based on one of the most ancient theories of social behavior, in which every contact between people is regarded as an exchange of resources (Homans, 1958). Blau (1964) was the first to coin the term "theory of social exchange" to explain social interactions in which participants assume they will gain financial or social benefits from their behavior. Supply chain relationships include economic elements outlined in a contract and social exchange elements (Rousseau, 1998; Johnston *et al*., 2004). The commitments of exchange partners are often unspecified, and the criteria for calculating each partner's contributions are uncertain (Masterson *et al*., 2000). In supply chain management research, the Social Exchange Theory (SET), initially developed to study employee-organization relationships, has been expanded to include inter-organizational relationships. The most crucial SET contribution to the business literature is its understanding of the consequences of trading partner dependency. Thus, interdependence is essential to maintaining a successful social exchange relationship (Lambe *et al*., 2001). The social exchange theory viewpoint is part of a community of "relational governance theories" (Kembro *et al*., 2014) that focuses on how supply chain partners communicate to adapt their processes and create relational outcomes such as trust over time through exchange processes (Halldorsson *et al*., 2007; Skjoett-Larsen, 1999). SET implies that building social-relational capital (e.g., trust, loyalty, happiness, relationship, obligations) can drive both tangible and

intangible benefits in buyer-supplier relationships, in contrast to historically emphasized economic theories that mainly concentrate on reasonable or coercive behavior (e.g., investments, asset specifics, contracts) of players. The norm of reciprocity (NOR) is a tenet of SET that governs exchanges between individuals and organizations (and those who act on their behalf) (Gouldner, 1960) so that if one party does not reciprocate, an imbalance is established between the two parties' contributions (Cropanzano and Mitchell, 2005), and the relationship eventually dissolves and disappears.

In supply chain management, SET discusses reciprocity between organizations that are part of a network (Halldorsson *et al*., 2007), where a supplier contributes to its buyer through collaboration policies and expects a return of the contribution from its partners later (Wu *et al*., 2014; Narasimhan and Talluri, 2009; Yang *et al*., 2008). The partner firm that receives a valuable contribution feels obligated to respond with acceptable behavioral (performance) or attitudinal (trust and satisfaction) responses (Griffith *et al*., 2006). There have been recent attempts to use SET in the SCM domain. These studies look at a variety of exchanges, from economic (pricing, cost-sharing, investment) to behavioral (psychological contracts, justice policies, commitment, information sharing) to structural (logistics information integration, process flexibility), with relational outcomes including trust, collaboration, dependence, commitment, power, and satisfaction (Zhang and Cheng, 2015; Pomponi *et al*., 2015; Delbufalo, 2012; Narasimhan *et al*., 2009). Given the growing emphasis in supply chain management literature on analyzing buyer-supplier relationships, the use of SET provides the requisite structure, complexity, and theoretical context to these motivation variables, well beyond what traditional theories can capture (Zaheer and Trkman, 2017).

2.3 Empirical Review

Butt *et al*., (2021) explored how knowledge hiding affects buyer-supplier relationship performance in the supply chain. A multiple case study technique was used in the research. In total, 26 semi-structured interviews (13 dyadic interviews) were conducted with managers of purchasing and supplying firms (who had been victims of knowledge hiding). The findings of thorough data analysis identified three variables that negatively impact the buyer-supplier relationship's performance (lack of trust, lack of cooperation, and lack of commitment). Furthermore, the findings show that such factors harmed the company's business efficiency by causing low-quality goods, longer lead times, and higher costs. The study suggests that businesses (both purchasing and supplying) will suffer severe consequences if a knowledge-hiding culture prevails within their organizations. Employees who are not efficient and innovative may negatively affect a buyer-supplier relationship (Butt, 2019).

Wang *et al*., (2021) used a knowledge-based approach to examine the relationships between buyer-supplier interactions, ambidextrous innovation, and business performance. Ordinary least squares regression was used to test the hypothesis. Data was gathered from 182 Hong Kong manufacturing companies for the study. The study results revealed that ambidextrous innovation, such as exploitative and exploratory innovation, is facilitated by buyer-supplier interaction. Exploitative innovation, on the other hand, improves business efficiency, while exploratory innovation has no impact. The effect of buyer-supplier interaction on ambidextrous innovation strengthens as competitive intensity increases while dysfunctional competition weakens. The study recommended that firms should participate in buyer-supplier interactions to gain and utilize supplier expertise. Meanwhile, firms must keep an eye on the business landscape to capitalize on opportunities and escape risks.

Olsson and Ustav (2020) conducted a study to examine the relationships between buyers and suppliers in the EU and British market under the effect of Brexit. The study focused on EU buyers and British suppliers, which illustrated the adaptations and changes companies in the EU face regarding their relationships. The research was a quantitative study that followed a case study frame of logic. Data was collected through semi-structured interviews with a sample of three individuals with a procurement background. The empirical results were analyzed using the Bensaou (1999) buyer-supplier relationships portfolio model as an analysis tool and a logic of thematic analysis. According to the findings, there has been no improvement in the existing buyer-supplier relationship characteristics due to Brexit. Participants hoped to have some potential control on their costs, which may affect their product category. Aside from that, EU customers have not changed their minds about their UK suppliers due to Brexit and are continuing their business as usual for the time being.

Agarwal and Narayana (2020) investigated the effect of relational communication on buyer's trust and relationship satisfaction in a buyer-supplier relationship, as measured by information exchange, quality, and frequency of information. The study also explored the mediating and moderating roles of trust and relationship engagement in relational communication and satisfaction. The study's data was gathered through a questionnaire survey of 321 managers from various companies directly or indirectly involved in procurement or purchasing decisions and were familiar with the company's supplier relationships. Relational communication was positively linked to relationship satisfaction, with trust acting as a partial mediator. Furthermore, relationship commitment moderated the effect of relational communication on relational satisfaction, so the positive effect of relational communication on relational satisfaction was accentuated when the buyer had a higher relationship commitment to the supplier. The study's findings highlight the

importance of addressing inter-organizational communication from a relational perspective rather than a transactional perspective of material, financial, and knowledge exchange.

Patrucco (2019) undertook research that sought to shed light on the dynamics of buyer-supplier industrial relationships and the role of customer attractiveness, a requisite to achieve best efforts from suppliers involved in collaborative initiatives. The paper developed a framework evaluated through an international survey with a structured equation modelling approach. The findings show that consumer attractiveness has a positive impact on both supplier innovation and cost performance. Furthermore, many direct and indirect antecedents of customer attractiveness have been established, including procurement department characteristics (i.e., procurement knowledge and procurement status) and supply chain relationship characteristics of the purchasing company (i.e., proficiency of supplier collaboration and visibility). The study recommends that if managers want to capture the interest of future valuable supply chain partners, they should advocate for investing in collaborative and long-term collaboration. This commitment will be rewarded with higher innovation outcomes and cost savings resulting from the buyer-supplier relationship. This trigger can only be pulled if specific criteria such as a willingness to manage collaborative relationships and share information across the supply chain are met.

Martins *et al*., (2018) carried out research to investigate, in Information Technology Outsourcing (ITO), how the buyer-supplier relationship type strengthens buyer performance from consultants' perspective. At least two IT consultants were surveyed, and analysis was performed considering the aggregated values of variables that characterize buyer-supplier relationships adjusted to IT outsourcing. According to the findings, strategic relationships are associated with higher supplier investment in relational management than transactional

relationships. Similarly, higher levels of confidence in this type of relationship are associated with identifying more interactions between the parties involved than transactional relationships. Improvements in buyer-supplier production have also been found to improve buyer efficiency. The study recommends that buyers should foster a relationship with suppliers that encourages reciprocity/ mutual investments.

From the perspective of the purchasing firms, Yang and Zhang (2017) presented an empirical analysis on the multidimensional relationships between sustainable supplier management (SSM) practices and buyer-supplier performance. The authors examined the effects of four SSM activities, namely, sustainable supplier selection, sustainable supplier monitoring, sustainable supplier development and sustainable supplier collaboration, on three buyer-supplier performance measures, namely, supplier performance, buyer-supplier relationship, and buyer competitive advantage. Based on data obtained from 256 manufacturers in Greater China from various geographical areas and industrial divisions, a conceptual model was proposed and tested using structural equation modelling with SmartPLS 3.0. The results revealed that sustainable supplier development and sustainable supplier collaboration have positive relationships with supplier performance. In contrast, sustainable supplier selection, sustainable supplier monitoring and sustainable supplier collaboration positively influence the buyer-supplier relationship and buyer competitive advantage. The findings suggest that a significant framework for ultimately leveraging sustainability-based SM activities to boost buyer-supplier performance exists. Also, the relative value and contributions of the various measures were determined.

Botes *et al*., (2017) investigated the mechanisms that allow buyer-supplier collaboration to be resilient. The researchers used a single case study approach to investigate a crucial case

in the petrochemical industry. Semi-structured interviews were used to gather information. The rationale for undertaking buyers and suppliers in the focal firm is based on Kraljic's procurement matrix, which accounts for the underlying risks of supply disruptions inherent in the resilience discourse. Collaboration between buyers and suppliers, according to the results, does not explicitly contribute to supply chain resilience but instead allows the antecedents to supply chain resilience. The research uncovered the basic mechanisms by which the antecedents of resilience in the petrochemical industry are activated.

Contracts are often incomplete in complex buyer-supplier relationships (BSRs), and many of the exchanges are non-contractual. Non-contractual exchanges can be asymmetrical because they occur over a long period and have unspecified obligations. Tanskanen (2015) conducted a study in BSR to identify the mechanisms that lead to asymmetry in exchanges. The author conducts an analysis, based on social exchange theory (SET), of six buyer-supplier dyads using the primary SET constructs. From this multiple-case analysis, the author developed a set of propositions explaining the exchange asymmetry in complex buyer-supplier relations. The findings suggest that self-awareness about the determinants of attractiveness, the use of power-balancing mechanisms, and primacy can all be used to clarify the exchange asymmetry in BSRs. The study also indicated that developing alternative supply sources affects exchange asymmetry by increasing buyer's structural power with the supplier. The buyer's structural power affects the supplier without any intentional power use. This finding is consistent with the power-dependency theory (Emerson, 1962) and the study of Narasimhan *et al*., (2009), which found that the buyer gets substantial benefits by investing in alternative sources of supply to get out from a "lock-in" situation.

Gichuru *et al*., (2015) investigated the impact of collaborative supply chain practices on food and beverage company performance: a case study of Del Monte Kenya Ltd. The study's overall goal was to look at Del Monte Kenya Ltd.'s collaborative supply chain activities and how they affected its results. The research used a descriptive case study style. Stratified random sampling was used in this analysis. The researchers used questionnaires to gather information from respondents. The study discovered that sharing information and resources has a positive impact on the company's performance.

The supply chain collaboration index, an instrument to calculate the depth of collaboration, benchmarking in Iran manufacturing firms, was studied by Kumar and Banerjee (2012). Institutional theory, resource-based theory, selection theory, and stakeholders' theory, all of which have their origins in procurement and supply chain management collaboration, guided the study. The unit of observation was sampled using convenience sampling in this analysis. The characteristics of the variables were captured using descriptive statistics such as frequencies, ratios, means, and standard deviations. The study's results revealed that procurement expertise, technical innovation, procurement ethics, and top management support positively impact the Public Procurement Legal Structure application.

Wagner *et al*., (2011) were motivated by the interest in looking beyond the must-have tangible performance factors of buyer-supplier relationships to understand the role of intangible factors that affect buyer-supplier relationship continuity and future collaboration. The impact of suppliers' credibility on the future of buyer-supplier relationships is empirically evaluated using three sequential structural equation models that combine relationship theory, signaling theory, and social exchange theory. This multi-theoretical approach demonstrates that a buyer's initial reputation directly impacts their future

collaboration plans with suppliers. The impact of reputation is partially mediated when outcome fairness (an economic factor) is included in the model. When trust (a social factor) is applied to the model during project collaboration, the effects of credibility and outcome fairness are fully mediated. These results support that trust during the project collaboration has a more substantial influence on the future of buyer-supplier relationships than fair economic rewards or reputation.

Cao and Zhang (2011) probed to uncover the nature of supply chain collaboration and explored its impact on firm performance based on a paradigm of collaborative advantage. A Web survey of U.S. manufacturing companies in different industries was used to gather data. Confirmatory factor analysis and structural equation modelling are two of the statistical approaches used. The findings show that supply chain collaboration enhances collaborative advantage and has a bottom-line impact on firm performance, with collaborative advantage serving as an intermediate variable that allows supply chain partners to achieve synergies and superior performance. A closer look at the firm size moderation effect shows that collaborative advantage fully mediates the relationship between supply chain collaboration and firm performance for small businesses, but only marginally for medium and large businesses.

Wiengarten (2010) explored the importance of information quality for the efficacy of collaborative supply chain practices. A questionnaire was sent to procurement managers in the German automotive industry's supply chain. Regression studies showed how collaborative activities worked differently in high and low knowledge quality scenarios. The study shows that the effect of collaborative supply chain activities (such as information sharing, incentive alignment, and joint decision-making) on performance is highly

dependent on the quality of information shared across the supply chain. Although information sharing enhances operational performance when both low- and high-quality data is shared, incentive alignment and joint decision-making only enhance operational performance when the data is of high quality.

2.4 Conceptual Framework

A conceptual framework is a collection of ideas that have been scientifically assembled to provide a focus, a tool, and a rationale for explaining and integrating knowledge either in narrative or graphically, with the essential elements being variables, concepts, and the assumed relationships among them (Jackson *et al*.,2016). It comprises a set of broad theories and ideas that can assist a researcher to adequately define the issue, frame research questions, and locate relevant literature (Mamad and Chahdi, 2013). The conceptual framework in the study explains the relationship between the dependent and independent variables.

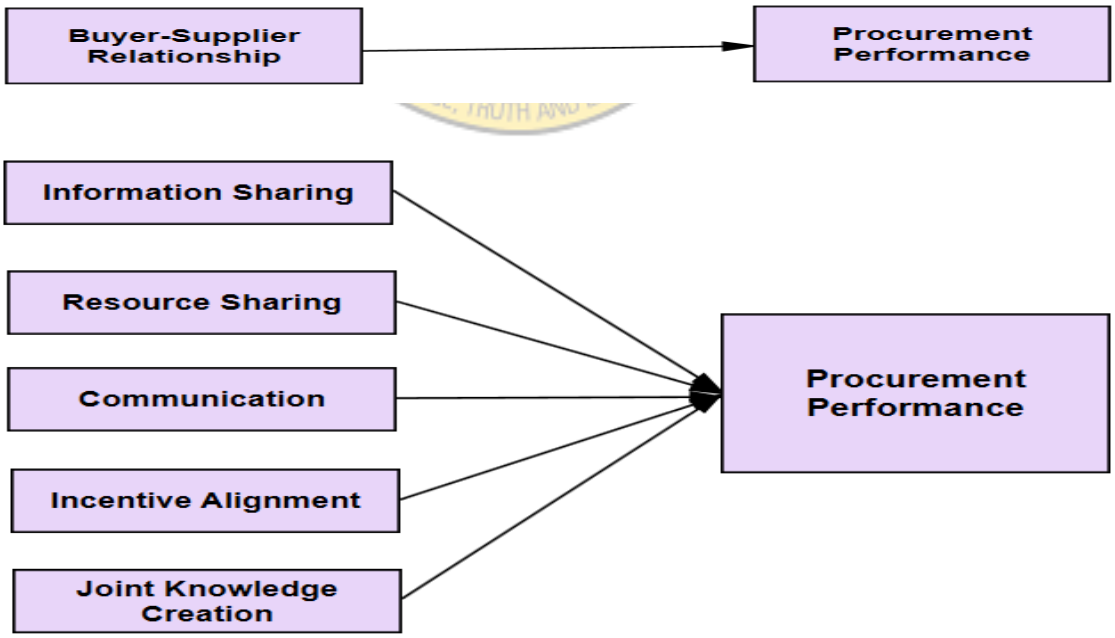

Figure 2.1 Procurement Performance Relationship Model

Source: Author's Construct

Figure 2.1 illustrates the performance relationship model of the study. The independent variable is buyer-supplier relationship whiles the dependent variable is procurement performance. The former was looked at from five perspectives; information sharing, resource sharing, communication, incentive alignment and joint knowledge creation. The dependent variable was also measured under cost reduction, product quality, speed and flexibility. In this study, the performance of the procurement function is affected by the independent variables.

2.5 Chapter Summary

Many researchers have investigated the dynamics of buyer-supplier relationships and have concluded that long-term, cooperative relationships are essential. To date, research examining buyer-supplier relationship variables have tended to look at each factor separately. However, understanding the characteristics and interrelationships of buyer-supplier relationship variables is critical for supply chain management when formulating strategies for building buyer-supplier relationships. This increased focus reflects an increasing understanding of the connection between effective relationship management and firm performance. Several factors determine the effectiveness of the buyer-supplier relationship. First and foremost, a purchasing company must maximize its supply base in terms of both quantity and consistency of suppliers. Secondly, tasks related to controlling a buying company's portfolio of suppliers should be prioritized. Thirdly, buying companies need to determine to what extent suppliers have to be integrated into their processes.

CHAPTER 3

METHODOLOGY

3.0 Introduction

A research methodology is a method for systematically solving a research problem. It can be thought of as a science that studies how scientific research is carried out. It looks at the different steps that a researcher takes to investigate his research dilemma and the reasoning behind them (Kothari, 2004). This study aimed to examine the effect of buyer-supplier relationships on procurement performance. The chapter consists of the following: research design and strategy, population, sampling and sampling techniques, data collection technique, validity and reliability, data analysis technique, and concludes with a chapter summary. All of these were enlisted to assist in the attainment of the study's goals.

3.1 Research Design and Strategy

A research design is an arrangement of conditions for data collection and analysis that seeks to combine relevance to the research purpose with the procedural economy. The research design is the conceptual framework for conducting research; it constitutes the blueprint for data collection, calculation, and analysis (Selltiz *et al*., 1962). The design includes an outline of what the researcher intends to do to answer the research questions and solve the research problems logically.

Research design is vital because it helps the various research activities run smoothly, resulting in as efficient research as possible, providing complete information with the least effort, time, and money. Just as we need a blueprint carefully thought out and prepared by an experienced architect for better, more cost-effective, and beautiful house construction,

we also need a research design or plan in advance of data gathering and analysis for our research project.

3.1.1 Adopted Research Design

A case study approach was used to accurately explain the relationship between variables, reducing bias while increasing data reliability (Kothari, 2004). As a result, Goldfields Ghana Limited in Tarkwa was chosen for this research.

The case study approach is a comprehensive request for information on any aspect of a topic with similar features to the entire subject under investigation to gain a thoughtful understanding of the entire subject. In design analysis, case studies investigate a phenomenon, develop hypotheses, and validate a method (Gerring, 2004). Case studies are often interpreted as using qualitative and quantitative research methods and a combination of both (Bromley 1990). A case study was employed to gain concrete, contextual, in-depth knowledge about the relationship between Goldfields Ghana and its suppliers and keep the research focused and manageable due to time and resource constraint to undertake large-scale research. The advantages of using a case study method include gaining a deeper understanding of the subject under study, elucidating the inter-relationships between policy measures, groups, processes, and other issues that the study may focus on adaptability to various research goals. The case study method allows for a quick grasp of challenging topics, laying the groundwork for more research into problems using other research methods. A case study is also known for its adaptability, or ability to be used for various research objectives.

Case studies, on the other hand, are not representative. As a result, it is argued that what happened in one case cannot be applied to all cases, making it difficult to generalize the findings of a case study. A literature review was conducted to mitigate this flaw, with references made where necessary, to ensure the study's findings were viewed from a broader perspective.

3.1.2 Adopted Research Strategy

According to Saunders *et al*., (2007), a research strategy is a plan that researchers use to respond during the data collection process. According to Kothari (2004), the primary reason is to allow researchers to obtain relevant responses with the least effort, resources, and time. Baiden (2006) went on to say that research strategy is determined by the research pattern and the information available. Quantitative, qualitative, and mixed research strategies are the three types of research strategies.

The quantitative analysis technique was used in this report. Quantitative research focuses on objective calculation via mathematical or numerical analysis of data collected through polls, questionnaires, surveys, or most likely through manipulation of pre-existing data using computational techniques. According to Bryman (2004), the quantitative research approach is a data collection and analysis strategy that emphasizes calculation and quantification. Quantitative analysis strategy, according to Polit and Hungler (1985), deals with numerical data.

3.2 Population

A population is a group of people with similar characteristics. In other words, it is a set of all the measurements that the researcher is interested in and wants to generalize the result

of the study (Heide and Stump, 1995). Amabile *et al*., (2016) backed up the claim that a population does not simply refer to any number of individuals, elements, or units but rather to the total quantity of a specific category of people, units, or cases relevant to an investigator's topic.

The study population was 250 employees at Goldfields Ghana Ltd., Tarkwa mine, who have knowledge and experience in procurement activities. It consisted of staff from the procurement department, logistics department, stores section and the contract department. The target population was considered appropriate since they were conversant with the concept of buyer-supplier relationship matters due to their professional qualifications in their respective positions.

Table 3.1 Accessible Population

Employees	**Accessible Population**
Procurement Staff	74
Logistics Staff	45
Inventory Staff	20
Contract staff	24
Main Stores Staff	87
Total	**250**

Source: Fieldwork, (2021)

3.3 Sampling and Sampling Techniques

A sample is a subset of a population chosen to represent all units in a population of interest. Since it is a count of a portion of the population, it is a partial enumeration (Brewerton and

Millward, 2011; Collis and Hussey, 2014). A census or a complete enumeration of all the values in the population is typically impractical due to the population's size. Therefore, samples are collected, and statistics calculated from the samples to make inferences or extrapolations from the population.

Sampling is the method of selecting several individual cases from a wider population. The first step is to identify the elements of the research. An element is an individual, a party, group or a non-living object that a researcher is interested in (Leavy, 2017). The study elements were employees from the procurement department, logistics department, stores section, and contract department at Goldfields Ghana Ltd.

A purposive sampling method was used for the study. According to Sharma, (2017), purposive sampling is a form of non-probability sampling in which the researcher chooses the respondents to be included in the survey based on a variety of factors such as willingness to participate in the analysis, operational scope, specialist understanding of the problem under study, and capacity to be a part of the sample. In a nutshell, the researcher determines what needs to be addressed and then seeks out people who can and are willing to provide the information based on their expertise or knowledge (Kothari, 2004). The procurement staff were all selected due to their operational scope and working relationship with suppliers. Staff from the Main stores, logistics, and contract were as well purposefully sampled based on availability and readiness to answer the questionnaire. To ensure that each section is well represented, the study adopted Slovin's formula of determining adequate sample size.

The formula is $n = \frac{N}{1+Ne^2}$ 3.1

Where **n** denotes the sample size, **N** denotes the total accessible population, and **e** denotes the precision level. As a result, the study's sample size was as follows:

$$n = \frac{250}{1 + 250\ (0.025)} = 154\ Respondents$$

Table 3.2 Sample Size

Employees	Accessible Population	Sample Size
Procurement Staff	74	74
Logistics Staff	45	31
Inventory Staff	20	9
Contract staff	24	22
Main Stores Staff	87	18
Total	**250**	**154**

Source: Fieldwork, (2021)

3.3.1 The Case Study Organization

Gold Fields is a global gold producer with nine mines in Australia, Peru, South Africa, West Africa (including the Asanko JV), and Chile. Gold Fields Ghana Limited (GFGL) was established in 1993 as the Tarkwa concession's mining rights legal entity. The Tarkwa mine, the Damang mine, and the Asanko JV are all operated by the company in Ghana. Gold Fields South Africa acquires the then-underground Tarkwa mine in Ghana for $3 million in 1993, followed by the Damang mine in Ghana in 2001. Tarkwa has now fully converted to contractor mining and is well-positioned to generate long-term profitability, while Damang's best long-term potential to generate future cash flow has been realized by launching the

Damang Reinvestment project. The study focuses on the Tarkwa mine. Tarkwa is located at the southern end of the Tarkwa Basin, approximately 300km west of Accra, Ghana's capital. The Tarkwa mine is governed by mining leases that cover a total area of about 20,800 hectares. The Tarkwa mine is 4km west of Tarkwa, and it has good access roads and facilities. As previously mentioned, the study population includes Goldfields Ghana Limited employees who are active in procurement activities.

3.4 Data Collection Technique

Data collection collects and evaluates the information on variables of interest in a systematic manner that allows researchers to address research questions and assess outcomes.

The study adopted the use of questionnaire for data collection. A questionnaire is a study method in which respondents are asked to respond to a series of questions printed on a form in a specific order (Gray, 2004). Questionnaires may be used to determine what a person knows (knowledge information), what a person likes or dislikes (values and preferences), and what a person thinks (attitudes and beliefs). The questionnaire was developed to gather data using questions adapted from the researcher's related study and individual questions. The questionnaire was structured to ensure that objective data was collected to describe phenomena and draw conclusions about the target population. The closed-ended questions allowed respondents to provide more precise details with ease, and its analysis was simple and straightforward. The questionnaire was administered through google form platform. A questionnaire was chosen because they provide quick answers and are flexible, allowing for collecting data from many people.

Furthermore, a questionnaire typically covers all aspects of a subject, making them reliable (Creswel, 2013). A Likert scale questionnaire was administered in this study. A Likert scale is a 1 to 5-point scale that tests the degree of agreement about a statement. It typically has five options: strongly disagree, disagree, neutral, agree, and strongly agree (Robinson, 2014). The questionnaire was divided into four sections. The first section (Section A) focused on the demographic and socio-economic data of the respondents and consisted of questions regarding the respondent's eligibility to contribute to the study. Section B, C and D were questions geared towards achieving the first, second, and third objectives. Section B of the questionnaire had to do with finding the collaborative activities Goldfields has with its suppliers. Section C was to solicit for factors that hinder the company from establishing closer ties with its suppliers. The final part, Section D, sought respondents' opinion on the impacts of effective buyer-supplier relationship on the performance of the procurement department.

3.5 Data Validity and Reliability

Reliability test is a crucial component of accurate data measurement. If the findings of a measuring instrument are consistent, it is considered reliable. A reliable measuring instrument does contribute to validity, but a reliable instrument need not be a valid instrument (Jackson, 2015). A scale that regularly overweighs items by five kilograms, for example, is reliable, but it does not give a valid measure of weight. However, the opposite is not true; that is, a valid instrument is always reliable. A measure is reliable when it measures the same way every time it is applied. Therefore, each time a person uses the measuring device, they should get a similar result. Data reliability can be accomplished by piloting (or pre-testing) the data collection instrument (questionnaire) before distributing it

to actual respondents. As a result, the researcher may reduce the likelihood of errors such as data bias.

On the other hand, validity is the most critical criterion that shows how well an instrument measures what it claims to measure (Jackson, 2015). Validity refers to the degree to which differences detected by a measuring instrument represent actual differences among those being measured. That is, whether a measure is truthful or genuine. To accomplish this, the researcher designed the questionnaire to provide a wide range of questions answered by staff who deal directly with suppliers at Goldfields Ghana Ltd, in line with the study's goal of determining the impact of buyer-supplier relationships on procurement performance. In general, validity is determined by asking a series of questions and frequently looking for solutions in other people's research (Nyasatu, 2012). Knowledge obtained from the literature reviewed was used to create the substance of the questions. Materials that the study deemed incorrect or that the study thought infringed on the respondents' confidentiality were changed or removed under the supervision of the supervisors. This aided in the validity of the information gathered from the respondents.

Cronbach Alpha test and Analysis of variance test (ANOVA) was also used to determine the data's reliability and validity, respectively. They are also used to check the internal accuracy of a questionnaire survey with many Likert-type scales and products. An alpha score of 0.70 or higher indicates that the instrument is reliable (Saunders *et al*., 2007; Plummer and Tanis, 2015). The scales used in this study were derived from existing scales and adjusted to represent the buyer's perspective. The information-sharing scale was adapted from Raskovic and Morec (2013), communication frequency scale was adapted from Damperat and Jolibert (2009).

3.6 Data Analysis Technique

According to Kothari (2004), analysis entails the computation of specific indices or measures and searching for patterns of relations among data groups. The information gathered was first cleansed. Data cleaning means distinguishing incorrectly answered questionnaires from correctly answered ones by testing the correct answers. The incorrectly answered questionnaires were discarded. The cleansed data was then coded and entered into a computer for review, with any data entry errors being reviewed. The documents that were examined yielded no errors. The data collected was quantitative.

To analyze the data, tobit regression estimator and Pearson correlation approaches were utilized. Descriptive statistical measures, such as sum, mean, standard deviation, minimum and maximum of the study were calculated using STATA software version 13.0 and SPSS v25, while the Tobit regression technique was used to determine the impact of the independent variables on the procurement function's performance. For each of the questionnaire elements, frequency counts were given and recorded as percentages. The data were then summarized and illustrated using charts, graphs, frequency tables, and various indicators of central tendency.

3.6.1 Correlation Analysis

Correlation analysis measures the strength of association/relationship between variables and then the direction of the relationship. With the strength of relationship, the correlation coefficient varies between +1 and -1, where a value of ± 1 indicates a perfect association between the two variables. As the correlation coefficient value goes towards 0, the relationship between the two variables become weaker. The direction of the relationship is indicated by the sign of the coefficient. In this case, a positive (+) sign indicates a perfect

positive correlation and a negative (–) sign indicates a perfect negative correlation between the two variables. When *r* equals zero (0), it indicates no correlation at all between the variables under investigation. However, the closer the value of *r* is to 1, the higher the positive impact. If less than 0 then closer to -1, then the greater the negative impact. Usually, four (4) types of correlations: Pearson correlation, Kendall rank correlation, Spearman correlation, and the Point-Biserial correlation are measured in statistical analysis, and calculated with the formula below:

$$r = \frac{n\sum x_y - \sum x \sum y}{\sqrt{(n\sum x^2 - (\sum x)^2 (n\sum y^2 - (\sum x)^2)}} \qquad 3.2$$

Where *x* and *y* are values of variables, and *n* is the sample size.

3.6.2 Tobit Regression

The Tobit regression model, also known as a censored regression model, is used to account for left- and/or right-censoring in the dependent variable, also known as censoring from below and above, respectively. Censoring from above takes place when cases with a value at or above some threshold, all take on the value of that threshold, so that the true value might be equal to the threshold, but it might also be higher. In the case of censoring from below, values that fall at or below some thresholds are censored. This study adopted the Tobit regression model because the dependent variable is continuous, and varies between zero and 4. Thus, the study observed the rate at which aspects of collaboration strategy is used within the population of study. The Tobit model is also employed to describe the discontinuous distribution and to explain the conditional distribution of the dependent variable. The structural equation in the Tobit model is:

$$y_i^* = X_i\beta + \epsilon_i \qquad 3.3$$

£iN (0, σ2) y* is a latent variable that is observed for values greater than τ and censored otherwise. The observed y is defined by the following measurement equation:

$$y = \begin{cases} y * if\ y * > \tau \\ \tau_y\ if\ y * < \tau \end{cases} \qquad 3.4$$

In a typical Tobit model, we assume that τ=0, that is, the data are censored at zero (0), as is the case in this study. Thus, we have

$$y = \begin{cases} y * if\ y * > 0 \\ \tau_y\ if\ y * < 0 \end{cases} \qquad 3.5$$

The likelihood function for the censored normal distribution is:

$$L = \prod_{i}^{N} [\frac{1}{\sigma} \emptyset \left(\frac{y-\mu}{\sigma}\right)]^{di} \left[1 - \Phi \left(\frac{\mu - \pi}{\sigma}\right)\right]^{1-di} \qquad 3.6$$

Where τ is the censoring point. In the traditional Tobit model, we set τ=0 and the parametrize μ as Xi β. This gives the Likelihood function for the Tobit model as:

$$L = \prod_{i}^{N} [\frac{1}{\sigma} \emptyset (\frac{y - Xi\beta}{\sigma})]^{di} \left[1 - \Phi \left(\frac{Xi\beta}{\sigma}\right)\right]^{1-di} \qquad 3.7$$

The Log-likelihood function for the Tobit model becomes:

$$InL = \sum_{i-1}^{N} \{d_i(-In\sigma + In\emptyset(\frac{y - Xi\beta}{\sigma})) + (1 - d_i) In\ (1 - \emptyset \left(\frac{Xi\beta}{\sigma}\right))\} \qquad 3.8$$

Notice must be made that the general likelihood is comprised of two sections. The first segment corresponds to the initial regression for uncensored observations, while the subsequent part relates to the important probabilities that the observation is censored. It should be noticed that Tobit regression coefficients are interpreted comparatively to the OLS regression coefficient. However, the linear impact is on the uncensored dormant variable, and not the observed outcome.

3.6.3 Model Specification

$$PP_i=\beta_0+\beta_1 IS_i+\beta_2 RS_i+\beta_3 CM_i+\beta_4 IA_i+\beta_5 JC_i+\beta_6 A_i+\beta_7 G_i+\beta_8 EL_i+\beta_9 WP_i+\beta_{10} WE_i+\varepsilon_i \quad (3.9)$$

Where, *PP* is Procurement Performance; β_0 is the Constant term; β_1 to β_{10} are the coefficients of the variables, IS_i is Information sharing; RS_i is Resource sharing; CM_i is Communication; IA_i is Incentive alignment; JC_i is Joint knowledge creation; A_i is Age; G_i is Gender; EL_i is educational level; WP_i is Work position; WE_i is Work experience; and ε_i is the error term.

3.6.4 Definition of Variables

The definition of variables presents brief description of the variables used for this study. It specifically shows the dependent, procurement performance as well as the independent variables, and indicates their scales of measurement, as shown in the Table 3.3.

Table 3.3 Definition and Measurement of Variables

Variable Name	Definition
Procurement Performance (PP) (Dependent Variable)	This variable sought to measure the performance of the study population, based on a scale of 1-5, using Likert Scale as follows: Strongly disagree is 1; Disagree is 2; Somewhat agree is 3; Agree is 4; and Strongly agree is 5.This was however recoded as "1" becomes 0, "2" becomes 1, "3" becomes 2; "4"becomes 3; and "5" becomes 4.
Collaborative Activities (Independent Variables)	The drivers of collaboration, which made up the independent variables, contained five (5) main sub-variables, which were measured using a 5-point Likert Scale.
Information sharing (IS)	Four (4) questions were used to measure information sharing for this study. The measurement was based on a 5-poing Likert scale, where 1=Strongly disagree, 2=Disagree, 3=Somewhat agree, 4=Agree, and 5=Strongly agree
Resource Sharing (RS)	Four (4) questions were used to measure Resource Sharing for this study. The measurement was based on a

	5-poing Likert scale, where 1=Strongly disagree, 2=Disagree, 3=Somewhat agree, 4=Agree, and 5=Strongly agree
Communication (CM)	Four (4) questions were used to measure Communication for this study. The measurement was based on a 5-poing Likert scale, where 1=Strongly disagree, 2=Disagree, 3=Somewhat agree, 4=Agree, and 5=Strongly agree
Incentive alignment (IA)	Four (4) questions were used to measure Incentive Alignment for this study. The measurement was based on a 5-poing Likert scale, where 1=Strongly disagree, 2=Disagree, 3=Somewhat agree, 4=Agree, and 5=Strongly agree
Joint knowledge Creation (JC)	Four (4) questions were used to measure Joint Knowledge for this study. The measurement was based on a 5-poing Likert scale, where 1=Strongly disagree, 2=Disagree, 3=Somewhat agree, 4=Agree, and 5=Strongly agree
Age (A)	The age of the respondents was measured to find the age ranges of the respondents for this study. Using values of 1 to 6, where 1 indicated ages less than 20 years, 2 for ages 21-30 years, 3 for ages 31-40 years, 4 for ages 41-50 years, 5 for ages 51-60 years, and 6 for ages 60 and above years
Gender (G)	Gender measured on the scale of 1-2, where 1 represents Male and 2 is Female. Recoded as a dummy of "1"[Male] if the score is 1 and "0"[Female] if otherwise
Educational level (EL)	The main educational levels used in this study were JHS, SHS, Diploma, Bachelor's degree, Master's degree, and PHD. This meant to find the qualifications of the respondents for this study. For the purpose of the analysis, JHS was 1, SHS was 2, Diploma was 3, Bachelor's degree was 4, Master's degree was 5, and PHD was 6.
Work Position (WP)	The job position sought to find the positions that respondents held in the study population. For this study, there were 6 work tasks/positions, which were valued for this study as follows: 1=Supply Chain Manager, 2=Procurement Officer, 3=Logistics Officer, 4=Contract Administrator, 5=Inventory Officer, and 6=Storekeeper.
Work experience (WE)	For the work experience, 1 represented respondent who have worked for less than 5 years, 2 for those who have worked for between 5-10 years, 3 for those who have worked for between 11-20 years, and 4 for those who have worked for more than 20 years.

3.7 Chapter Summary

This chapter focused on the methods and methodologies used to arrive at the study's objective. The study adopted the case study research design and a quantitative research strategy to understand the relationships between Goldfields Ghana Ltd. and its suppliers. The study's population was 250 drawn from various sections in the supply chain department. A sample of 154 respondents was chosen based on Slovin's formulae of determining an adequate sample size through a purposive sampling technique. A questionnaire was employed in soliciting information from the sampled respondents in line with the study's objectives. The data was cleansed and analyzed to determine the effect of buyer-supplier relationships on the performance of the procurement function. In a nutshell, this chapter provided the road map for the research findings and discussions.

CHAPTER 4

FINDINGS AND DISCUSSIONS

4.0 Introduction

Data analysis, according to Grosshans (1992), is more than just number crunching; it is an activity that pervades all stages of a study (Saunders *et al*., 2007). This chapter analyzes and discusses the responses received from respondents during the field investigation. Each response has been graphically presented in accordance with the questionnaire. The respondents' professional backgrounds and experience in procurement activities, particularly in the mining business, were the key reliability uniqueness. The findings have been summarized into four sections: Section A: Analysis and social profile of respondents. Section B: Analysis of key collaborative activities between Goldfields and its key suppliers. Section C: Challenges in establishing collaborative relationship with suppliers. Section D: The impact of buyer-supplier relationship on procurement performance. The final part was a discussion of the findings to make reading easier for users of this research work.

4.1 Response Rate

Out of a total of 154 questionnaire distributed, 148 were duly completed and returned, reflecting a response rate of 96%. This was a high response rate and was deemed suitable for the purposes of analysis. The manner of questionnaire delivery, which in this case was researcher administered, accounted for the high response rate. (See Table 4.1).

Table 4.1: Response Rate

Details	Number of Questionnaire	Percentage Represented
Questionnaire distributed	154	100%
Questionnaire Returned	148	96%
Questionnaire Not Returned	6	4%

Source: Author, 2021

4.2 Demographic Characteristics

This section presents the gender of respondents, their age bracket, level of education, position in the Supply Chain department as well as the number of years they have spent in the company. Table 4.2 depicts the demographic characteristics of respondents who participated in the study. Looking at the gender split, out of a total of 148 valid respondents, 101 representing 68.2% were males while 47 constituting 31.8% were females. Comparatively, the greater proportion of the females were from the procurement unit. Women are more needed on organizational teams than men because of their preference for coordination (Zoogah *et al*., 2011).

The study with regards to the age distribution revealed that, the highest respondents were those between the ages of 31 to 40 years with a frequency of 89 and an associated percentage of 60.1%. This was followed by the age group 21 to 30 years with a head count of 29 respondents representing 19.6%. Twenty-four (16.2%) and six (4.1%) of the respondents had their ages ranging from 41 to 50 years and 51 to 60 years respectively. It is evidenced from Table 4.2 that, none of the respondents indicated they were aged below 20 years and above 60 years. There was a considerable representation in most of the age groups. It can therefore be deduced from the above analysis that, most of the respondents who participated

in the study were in their middle and youthful age primarily due to the nature of work specified.

Table 4.2 Demographic Data of Respondents

Demographic	Variable	Frequency	Percentage
Gender	Male	101	68.2
	Female	47	31.8
Age	Below 20 years	0	0
	21-30	29	19.6
	31-40	89	60.1
	41-50	24	16.2
	51-60	6	4.1
	Above 60 years	0	0
Level of Education	JHS	12	8.1
	SHS	18	12.2
	Diploma	29	19.6
	Bachelor's Degree	77	52
	Masters Degree	12	8.1
	PhD	0	0
Position in the Supply Chain department	Supply Chain Manager	0	0
	Procurement Officer	74	50
	Logistics Officer	25	16.9
	Inventory Officer	9	6
	Contarct Administrator	22	14.9
	Storekeeper	18	12.2
Years of working experience	Less than 5 years	18	12.2
	5-10 years	80	54.1
	11-20 years	40	27
	Above 20 years	10	6.7

Source: Fieldwork, 2021

According to the respondents' educational backgrounds, all of those who took part in the study had acquired some level of education one way or another. In any organization, the

level of education has an impact on how employees work and think (Nyasatu, 2012). From Table 4.2, 77 (52%) of the respondents were bachelor's degree holders which recorded the highest number of respondents. This was followed by 29 respondents holding diploma certificates and represented 19.6%. The total number of respondents who were SHS graduates were 18, representing 12.2% of the total valid respondents. JHS and master's degree holders recorded a response rate of 8.1% each with 12 responses. None of the respondents had a PhD qualification. This means that the Supply team at Goldfields have personnel who are adequately qualified, knowledgeable, and capable of providing professional opinion on issues of buyer-supplier relationship and ways it impacts the performance of the procurement unit.

The validity and reliability of the outcome of this research are also influenced by the respondent's position within the supply chain department at Goldfields. From Table 4.2, the greater portion of respondents were procurement officers and constituted 50% of the total valid response with a head count of 74. This was followed by logistics and contract officers representing 25 and 22 respondents with response rate of 16.9% and 14.9% respectively. Eighteen (18) respondents were storekeepers representing 12.2%. The least number of respondents, 9, were inventory officers and constituted 6% of the total respondents. None of the respondents held the position of a Supply chain manager. The analysis on the position of respondents is a clear indication that, the highest number of people who responded to the questionnaire were procurement officers, followed by logistics and contract administrators. The reliability of the results is assured, as most of the respondents were directly involved in the field of procurement.

The respondents' level of experience indicates the amount of information they have gained throughout the course of their careers. As a result, respondents were asked to specify their years of experience in their field, which helped determine their degree of knowledge. With reference to Table 4.2, 80 respondents representing 54.1% indicated they have 5 to 10 years of working experience. Forty (40) respondents with a response of 27% had 11 to 20 years of experience. Eighteen (12.2%) and ten (6.7%) respondents have had less than 5 years and above 20 years working experience, respectively. This is a clear indication that, the respondents are experienced enough in their respective fields to give valid and reliable responses to the issue under consideration.

4.3 Buyer-Supplier Collaborative Activities

The research explored on buyer-supplier relationship on five main collaborative activities with four questions under each variable. For the purposes of this study, all questions under each variable were combined to give one indicator using an average. That is, if the mean score is greater than or equal to three (3), then generally there is an agreement in respect of the variable under consideration. However, if the aggregate mean score of a variable fall below three (3), it would be interpreted as a disagreement to the variable under study.

The collaborative activities identified in the literature are information sharing, resource sharing, communication, incentive alignment and joint knowledge creation. These activities are said to be the major motivation that drives the adoption of BSR. Each question was scored using the 5-Point Likert scale: 1 - strongly disagree, 2 - disagree, 3 - somewhat agree, 4 - agree, 5 - strongly agree. The distribution of the respondent’s knowledge on the five key variables are illustrated below.

4.3.1 Information Sharing in Buyer-Supplier Relationship

Respondents were asked to state whether they agree or disagree to the practice of sharing information with key suppliers. There were four questions asked under information sharing. Their responses are shown in Table 4.3 below.

Results from Table 4.3 indicate that most respondents ticked strongly agree with a frequency of 106 representing 71.62% as against 42 (28.38%) respondents who also agree to the fact that Goldfields' procurement unit share proprietary information with their key suppliers. None of the respondents opposed to this practice, and the mean value was 4.716

The questionnaire also sought respondents view on whether the company shares strategic information with its key suppliers. Out of a total of 148 valid responses, 105 (70.95%) strongly agree to sharing such information whiles 43 respondents constituting 29.05% also agree to this assertion. The mean score derived was 4.709. This finding is consistent with Janda *et al*., (2002), who argue that by treating suppliers as allies and sharing strategic information with them, firms can achieve better lead times and quality, increase operating flexibility, and establish long-term cost reductions, all of which could help these firms enhance value for the ultimate customer.

The study further explored whether Goldfields share inventory level with its key suppliers and vice versa. The results from Table 4.3 portrays a clear picture of the degree of agreement to that effect. Ninety-nine of the respondents representing 66.89% strongly agreed to inventory level information sharing and 49 (33.11%) respondents also sharing similar opinion, bringing the mean value to 4.669.

Table 4.3 Information Sharing in Buyer-Supplier Relationship

Question	Response	Frequency	Percentage	Mean
1. Goldfields share business proprietary informaation with key suppliers	Strongly disagree	0	0	
	Disagree	0	0	
	Somewhat agree	0	0	
	Agree	42	28.38	
	Strongly agree	106	71.62	**4.716**
2. Goldfields and its key suppliers share strategic information	Strongly disagree	0	0	
	Disagree	0	0	
	Somewhat agree	0	0	
	Agree	43	29.05	
	Strongly agree	105	70.95	**4.709**
3. Inventory level information are shared with key supplier to avoid stock out	Strongly disagree	0	0	
	Disagree	0	0	
	Somewhat agree	0	0	
	Agree	49	33.11	
	Strongly agree	99	66.89	**4.669**
4. Your company informs its critical suppliers in advance of changing operation needs	Strongly disagree	2	1.35	
	Disagree	5	3.38	
	Somewhat agree	15	10.14	
	Agree	46	31.08	
	Strongly agree	80	54.05	**4.331**

Source: Fieldwork, 2021

Table 4.3 above also looked at whether prior information is given with regards to changing operational needs from both the buyer and supplier side. Majority of the respondents with a frequency and percentage of 80 and 54.05% respectively strongly agree to the issue under consideration. This was followed by 46 (31.06%) respondents who also agreed to the act of giving prior information in case there are changes in operational needs. Surprisingly, 15 respondents representing 10.14% were not too sure whether the act was in practice and ticked somewhat agree. On the contrary, 5 (3.38%) and 2 (1.35%) respondents disagreed and strongly disagreed to this practice, respectively.

From the above analysis, a mean score for all the questions were generated to make a generalization on the information sharing variable. The figures under the "mean" section is best regarded as the aggregate mean score for each question asked on the degree of compliance with the associated variable. On a scale of 1 to 5, the mean score of sharing proprietary information is 4.716 out of a total of 5. Strategic information, inventory level information and sharing information had mean scores of 4.709, 4.669, and 4.331, respectively. The aggregate mean score for the four measures of information sharing is 4.606 which is greater than 3, hence there is a consensus agreement of information sharing as a collaborative activity practiced at Goldfields.

4.3.2 Resource Sharing in Buyer-Supplier Relationship

According to the survey data, the responses relating to resource sharing in buyer-supplier relationship has been presented in Table 4.4. The table depicts a summary of the responses with their cumulative mean scores.

Table 4.4 Descriptive Statistics of Resource Sharing in Buyer-Supplier Relationship

Variable	Obs	Mean	Std. Dev.
Training of Staff	148	**4.351**	0.932
Technology Invest	148	**4.277**	0.848
Financial Invest	148	**4.345**	1.041
VMI	148	**2.534**	1.291

Source: Fieldwork, 2021

Considering the mean values in Table 4.4, training of staff on the use and handling of hazardous substance has the highest mean value of approximately 4.351. This means

majority of respondents agreed that Goldfields and its supplier have an exchange training program designed to equip employees with the needed skills to perform a task.

From Table 4.4, investing in technology as a collaborative activity has gotten a lot of attention at Goldfields. Most respondents agreed to the fact that the concept is in practice in the company. This is evidenced with a mean value of 4.277.

Financial investment is a major determinant of a successful supply collaboration. This practice received the second highest mean score of 4.345. Based on this mean score, it is of no doubt that most of the responses were in acceptance of the question.

Respondents were asked their degree of agreement of Vendor Managed Inventory which permits suppliers to use Electronic Data Interchange (EDI) to assess stock levels and take the appropriate replenishment activity. The concept received the lowest mean value of 2.534 which falls below a mean mark of 3, hence respondents disagreed to that practice.

Overall, the aggregate mean value for all the individual questions is 3.876 which falls in the accepted range of practice. By this, respondents concur to resource sharing as a procurement practice.

4.3.3 Communication in Buyer-Supplier Relationship

The study further examined how Goldfields communicate with its key suppliers. There were four questions asked under communication. Table 4.5 displays their responses. With reference to Table 4.5 below, majority of respondents with frequency of 116 representing 78.38% strongly agreed to being aware of effective communication between Goldfields and

its suppliers. This was followed by 32 respondents, constituting 21.62% of the total valid responses, agreeing to the fact that there is effective communication from both partners. None of the respondents disagreed to this concept and was therefore represented by null frequencies.

Table 4.5 Communication in Buyer-Supplier Relationship

Question	Response	Frequency	Percentage	Mean
1. There is effective communication between your company and its key suppliers	Strongly disagree	0	0	
	Disagree	0	0	
	Somewhat agree	0	0	
	Agree	32	21.62	
	Strongly agree	116	78.38	**4.784**
2. Goldfields and its key suppliers have frequent communication	Strongly disagree	0	0	
	Disagree	0	0	
	Somewhat agree	7	4.73	
	Agree	47	31.76	
	Strongly agree	94	63.51	**4.588**
3. Goldfields maintain good contact with critical suppliers in order for them to understand your strategic goals	Strongly disagree	0	0	
	Disagree	0	0	
	Somewhat agree	0	0	
	Agree	68	45.95	
	Strongly agree	80	54.05	**4.541**
4. Communication between your company and its key suppliers is multilateral	Strongly disagree	0	0	
	Disagree	0	0	
	Somewhat agree	0	0	
	Agree	69	46.62	
	Strongly agree	79	53.38	**4.534**

Source: Fieldwork, 2021

The evaluation of Gold Fields relationship with its upstream continues with respondents being asked to indicate how often or frequent they communicate with suppliers. The vast majority of those who responded, strongly agreed that the communication that exist between Goldfields and their suppliers is frequent. This was demonstrated by a response rate of 63.51%. Forty- seven (47) respondents agreed on the frequency of communication,

accounting for 31.76 percent of the total. However, 7 (4.73%) respondents indicated that, frequent communication is the case but to a limited degree. This result is consistent with Modi and Mabert (2007) and Paulraj *et al*., (2008) who believed that suppliers could achieve gains tied to specific relationship goals by frequently communicating with buyers, allowing them to improve their performance.

Respondents were asked to indicate their level of agreement to whether Goldfields maintain good contact with its critical suppliers for them to understand your strategic goals. Information gathered from the study reveals that, Goldfields maintains good contact with key suppliers. This was attributed to 80 respondents representing 54.05% strongly agreeing to the question. Sixty-eight respondents also agreed to maintain good contact with key suppliers, and this constituted 45.95% of the total response. None of the respondents disagreed to this assertion.

The researcher was particularly interested in learning about the form of communication that exist between Goldfields and their key suppliers. Respondents were asked whether the form of communication is multilateral, that is, both parties are involved in every exchange. Seventy-nine (53.38%) strongly agreed that the form of communication is multilateral while sixty-nine (46.62%) also agreed to this same form of communication. The overall mean value for all the individual questions is 4.611, which is within the acceptable range of practice. Respondents agree that resource sharing is a good procurement practice.

4.3.4 Incentive alignment in Buyer-Supplier Relationship

Another collaborative activity that was investigated into was incentive alignment. Questions were developed around risk sharing, loss sharing, profit sharing and cost sharing.

Respondents were to tick whether they agree to its practice or otherwise. Table 4.6 depicts a summary of the responses with their cumulative mean scores, standard deviation, and total observations.

Taking the averages into account, cost sharing received the highest mean score of 4.331 which signals a positive relationship building strategy. Most of the respondents strongly agree that cost sharing is wholly accepted by Goldfields and their key suppliers. The aim is to achieve a win-win situation in all business transactions.

Table 4.6 Incentive Alignment in Buyer-Supplier Relationship

Variable	Obs	Mean	Std. Dev.
Risk Sharing	148	**3.541**	1.237
Loss Sharing	148	**3.845**	1.287
Profit Sharing	148	**4.291**	0.673
Cost Sharing	148	**4.331**	0.741

Source: Fieldwork, 2021

Next to cost sharing is profit sharing which also had a significant mean value of 4.291. The reason is that most of the valid responses agreed of the profit-sharing concept at Goldfields. This incentive package helps strengthens the relationship by shifting the focus from a self-centered business approach to a more mutually aligned interest.

Loss sharing, on the other hand, scored a solid 3.845 average which lies within the range of accepted values. Respondents agreed to the practice of sharing losses between supply partners which helps minimize the burden on one party. This aids in the development of mutual trust between Goldfields and their critical suppliers.

The question that had the least mean value but still exceeded the accepted limit was on risk sharing in buyer-supplier relationship. The mean score was 3.541 and hence respondents agreed to the question under investigation. One of the most important aspects of supply chain management as identified by Ellram and Zsidisin, (2002) is how buyers and suppliers deal with the risk of unpredictably high costs.

In a nutshell, for any collaborative relationship to succeed, costs, benefits, and risk must be shared for a mutual course, hence the need to solicit information in this regard. The cumulative mean value for all the individual questions under incentive alignment variable is 4.002 which signifies an agreement to all the questions under review.

4.3.5 Joint Knowledge Creation in Buyer-Supplier Relationship

The study also investigated whether Goldfields and its suppliers collaborate to create knowledge for mutual benefit. Respondents were again asked to indicate their level of agreement to questions relating to joint knowledge creation. Table 4.7 tabulates their collective response giving us the average score for each question.

Table 4.7 Joint Knowledge Creation in Buyer-Supplier Relationship

Variable	Obs	Mean	Std. Dev.
Joint decision making	148	**3.878**	1.239406
Knowledge exploration	148	**4.230**	0.8004641
Joint problem solving	148	**3.865**	0.8779122
New product development	148	**3.459**	1.300855

Source: Fieldwork, 2021

Revilla and Villena, (2012), identified joint decision making as necessary for developing knowledge integration in buyer-supplier relationship. It was therefore empirical for respondents to be asked to indicate whether Goldfields undertake joint decision making with key suppliers. The mean value in response to this question was 3.878 which lies within the accepted or agreed region. Hence respondents agreed on the fact that Goldfields has joint decision-making platform that enables suppliers to input their ideas. During this process, the parties test new processes, tasks, and technological characteristics, and then put their combined expertise into action, resulting in improved performance (Bunderson and Sutcliffe, 2002).

Respondents were again asked to answer question on knowledge exploration in a buyer-supplier relationship. Knowledge exploration recorded the highest mean mark of 4.230 which signifies a company's willingness to acquire new knowledge rather than simply learning how to use existing knowledge more effectively (March, 1991). Respondents agreed to the practice of continuous learning between Goldfields and its key suppliers. This helps partners to accumulate vast experience to aid in their scope of work (March, 1991).

Problems in the buyer-supplier relationship are unavoidable. Problem solving is a crucial task in any procurement organization (Giunipero and Pearcy, 2000; Helper, 1991; Killen and Kamauff, 1995). The study therefore sought respondent's opinion on whether Goldfields and its key suppliers have put in place a joint means of solving problem, since most of these operational problems necessitate the participation of actors from both the buying and supplying organization (Van de Ven, 1976). Based on a mean value of 3.865 presented in Table 4.7 above, respondents agree to the question under consideration.

New product development process (NPD) is progressively characterized by close interactions between buyers and suppliers (Sioukas, 1995). Frequently, these encounters take place within the context of collaborative relationships (Gruner and Homburg, 2000). Collaboration between buyers and suppliers is commonly cited as critical to NPD success (Le Dain *et al*., (2020); Scuotto *et al*., 2017). For this reason, the researcher sought to elicit data on the level of involvement of Goldfields and its suppliers on NPD. The mean score from Table 4.7 is 3.459 which gives a positive feedback on whether Goldfields involves its key suppliers on NPD. Hence, respondents agreed to the question. In a nutshell, the overall means value from the accumulation of all the individual questions under joint knowledge creation is 3.858. The implication is that respondents agree joint knowledge creation is a fundamental practice between Goldfields and its key suppliers.

4.4 Challenges in Implementing Buyer-Supplier Relationship

The study's second objective was to explore the challenges faced by Goldfield Ghana Limited in terms of forming closer ties with key suppliers; using the 5-Point Likert scale: 1 - strongly disagree, 2 - disagree, 3 - somewhat agree, 4 - agree, 5 - strongly agree. In accordance with the questionnaire, each response has been graphically depicted.

Figure 4. 1 is a graphical representation of responses in relation to the unwillingness on the part of supply chain partners to share sensitive information. As shown in the diagram, majority of the respondents selected strongly agree with a frequency of 112 as their response to being aware of a partner's unwillingness to divulge sensitive information, as shown by the graphic. The next highest score was those who selected agree with a frequency of 27. Respondents who selected somewhat agree followed with a frequency of 6. The lowest frequency recordings were 2 and 1 for disagree and strongly disagree, respectively. These

replies suggested that majority of respondents are aware of the fact that supply chain partners are hesitant to discuss sensitive business information with their counterparts. Some decision-makers believe that sharing confidential information with other supply chain members will put their company at a disadvantage. They are concerned that other parts of the supply chain may take advantage of sensitive information (Williamson, 1975, 1985). As a result, they hide information about inventory levels, technological roadmaps, and product development that could aid supply chain partners in improving their operations and the relationship's performance (Fawcett and Magnan, 2001). The acceptance rate for this question is 93.9%.

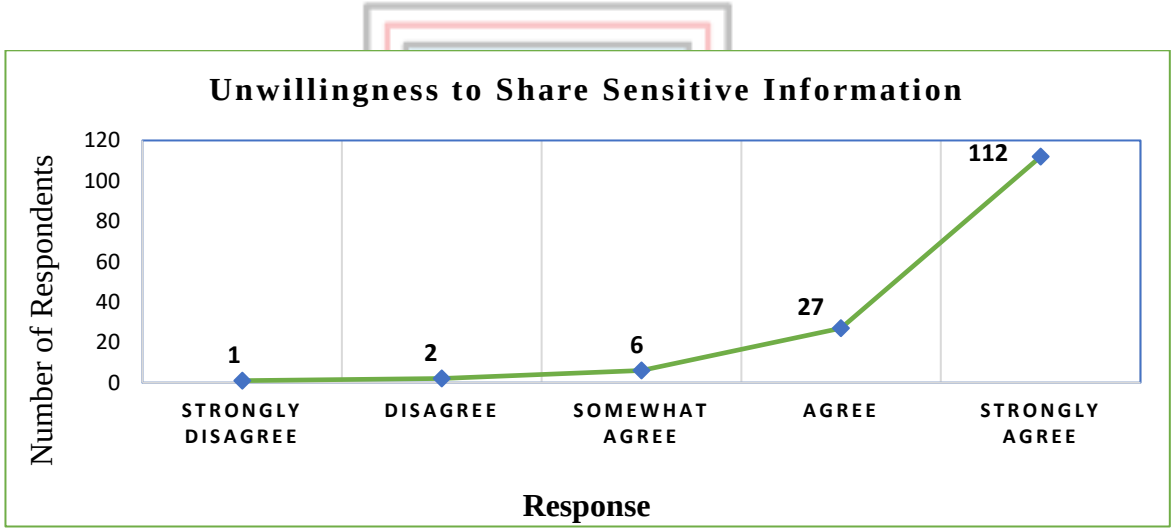

Figure 4.1 Unwillingness to Share Sensitive Information

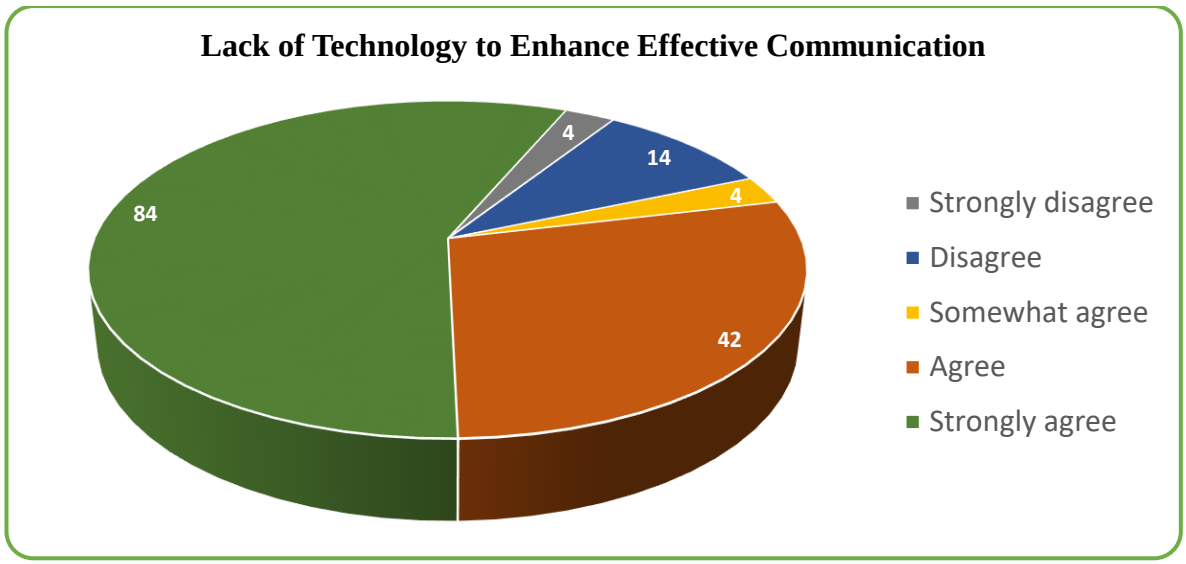

Figure 4.2 Lack of Technology to Enhance Effective Communication

Technology has an impact on communication since it makes it easier, faster, and more efficient. It allows you to keep track of discussions and thus improve customer service. It's also easier to collect buyer/supplier data and improve the overall customer experience. Figure 4.2 above indicates that 84 of the interviewed respondents strongly agree that lack of technology to enhance effective communication is a major challenge hindering the formation of closer ties with suppliers. Forty-two and four respondents also agreed and somewhat agreed respectively to the question under consideration. On the other hand, 14 and 4 respondents refused to classify lack of technology as a challenge in forming a collaborative relationship with suppliers and hence disagreed and strongly disagreed respectively. Undoubtedly, from the chart, lack of technology for effective communication is seen as a challenge to effective collaboration since most of the response agreed to the question with an acceptance rate of 85.1%.

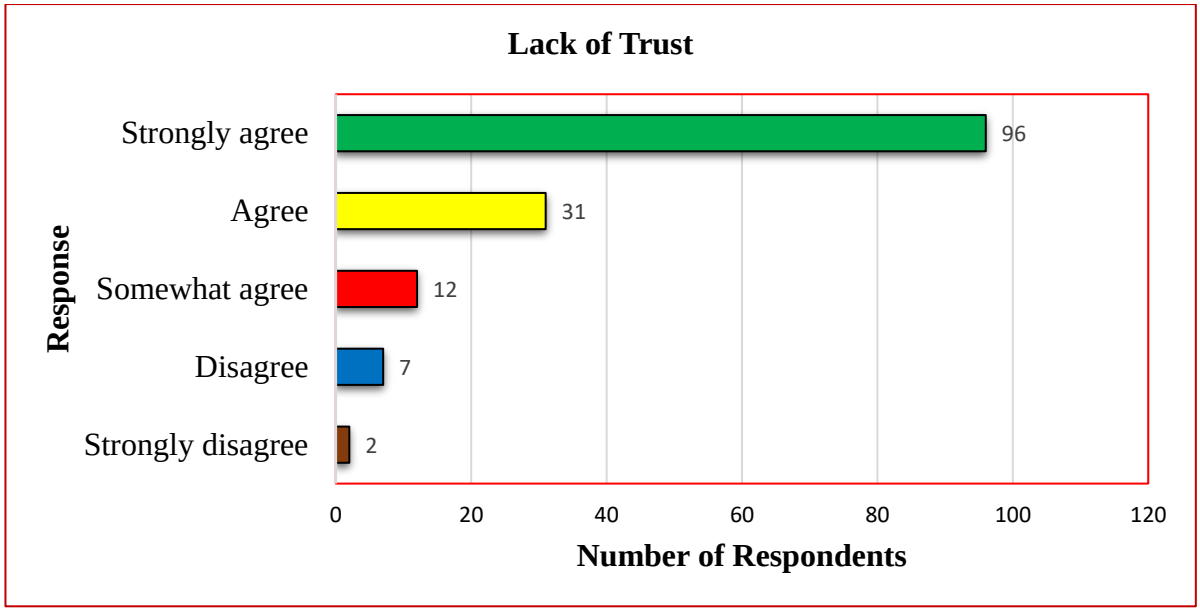

Figure 4.3 Lack of Trust

The strength of every inter-organizational relationship is influenced by trust (Lambe et al. 2001). As a result, trust is seen as a fundamental relational rule in any buyer-supplier interaction (Patnayakuni and Seth 2006). Information was therefore solicited to investigate whether lack of trust hinders supply chain partners to work closely together for a common goal. Based on the diagram above, majority of the respondents with frequency of 96 strongly agreed to lack of trust being a major attribute to relationship discontinuity. Thirty-one respondents also concur to lack of trust as a challenge to building collaborative relationship with suppliers. However, 12 people who responded to this question were not so sure whether trust issues hindered relationship continuity. On the contrary, 7 and 2 respondents respectively disagreed and strongly agreed in respect of the issue under consideration (See Table 4.3). These were people who had less contact with suppliers because of the nature of work they do. The question received 85.8% acceptance rate.

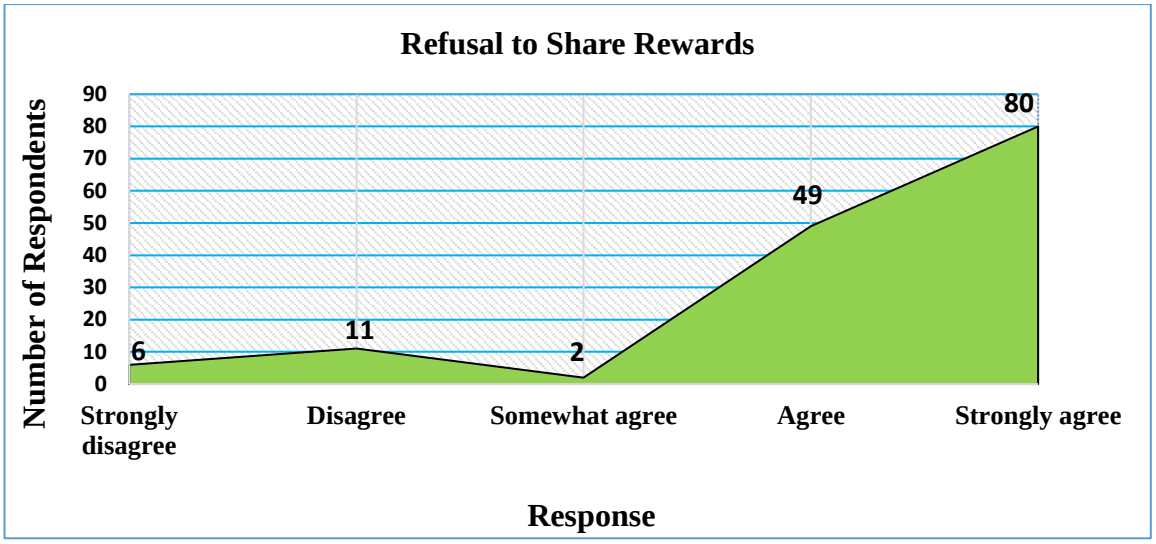

Figure 4.4 Refusal to Share Rewards

One of the major setbacks to working collaboratively with suppliers is how to align interest when it comes to reward/profit sharing. It was therefore necessary to ask respondents view on reward sharing in buyer-supplier relationship. Respondents were asked whether refusal to share rewards forms part of the challenges they face in trying to work closely with each other. Figure 4.4 presents the fieldwork results. Eighty (80) respondents are of a strong view that, refusal to share rewards is a hinderance to effective BSR. This was followed by 49 respondents who agreed to the question. Two (2) of the respondents were indecisive on the subject matter. However, 11 and 6 respondents disagreed and strongly disagreed to refusal to share reward as a challenge is BSR. Collectively, one can say with certainty that 87.2% of the responses received agreed to this challenge.

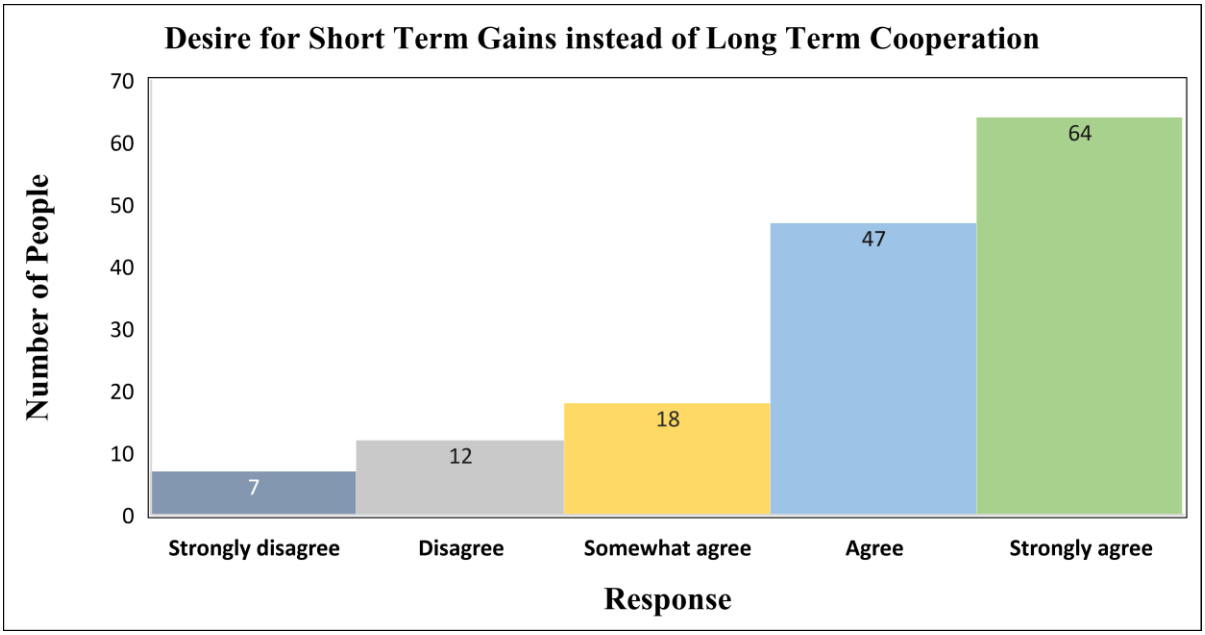

Figure 4.5 Desire for Short Term Gains instead of Long-Term Cooperation

Supply chain partners are often interested in what they hope to achieve in the short term of their contract rather than what they might achieve in the long run. These mostly arise out of self-centered interest. Supply chain partners are to cooperate with each other for mutual benefit either in the short term or long term. This unfortunate background compelled the researcher to find out if Goldfields face similar problem with its key suppliers. The outcome of the field work as illustrated in Figure 4.5 shows that, 64 and 47 respondents strongly agreed and agreed to the desire for short term gains instead of long-term cooperation on the part of some suppliers. Eighteen (18) respondents were uncertain with their response and chose somewhat agree. Twelve (12) respondents disagreed. Respondents who chose strongly disagree recorded the least frequency. This can primarily be due to the scope of work of the respondents which requires less contact with some suppliers. 75% out of 100% respondents agreed to the challenge face in buyer-supplier relationship.

4.5 Procurement Performance Measurement

This part saw questions asked based on the four performance criteria indicated above. Each question was graded on a 5-point Likert scale, with 1 indicating strongly disagree, 2 indicating disagree, 3 indicating somewhat agree, 4 indicating agree, and 5 indicating strongly agree. The primary trend was determined using a mean score based on the responses to the questions. If the mean score is more than or equal to three (3), then the variable under discussion is commonly agreed upon. However, if a variable's aggregate mean score goes below three (3), it is taken as a disagreement with the variable under investigation. Standard deviation was also utilized to determine the degree of variability on variables, as shown in Table 4.8 below. For the purposes of this study, procurement performance was measured around four key variables: cost reduction, improved quality, supply chain speed, and flexibility. Respondents were asked questions coined around these variables to draw conclusions. As depicted in Table 4.8, respondents were asked to rate their agreement with the aforementioned variables.

Table 4.8 Procurement Performance Measurement

Variable	Obs	Mean	Std. Dev.
Cost Reduction	148	4.784	0.645
Improved Quality	148	4.257	0.889
Supply Chain Flexibility	148	4.284	0.904
Supply Chain Speed	148	4.385	0.77

Source: Fieldwork, 2021

Responses to the first question asked on cost reduction, specifically whether the products or services procured by Goldfields' procurement unit are worth the money spent on it. The

mean value to this question was 4.784, which is within the acceptable or agreed-upon range. As a result, respondents believe that Goldfields get value for money on all transactions. This in effects leads to reduced transaction cost. As confirmed by Cecere, (2014), obtaining the lowest feasible operational costs while maintaining efficiency is one way to improve procurement performance.

Respondents' response to the question on improved quality, precisely whether goods purchased by the unit are of good quality and fit for the purpose with which it was intended for. This question received a mean score of 4.257, this value falls within an acceptable or mutually agreed-upon range. Hence, items purchased fits its intended purpose. This result aligns with Tan *et al*., (1999) when posited that quality has a significant impact on growth, return on assets and performance.

The researcher sought respondents view on how their supply chain partners are willing to make changes to accommodate their changing need. The mean rating for this question was 4.284, this is an indication of majority agreeing in totality to the question. The company saves cost through effective collaboration with key suppliers and reaping the benefit of flexibility. Wilson *et al*., (1990) support this idea, and confirms that keeping higher levels of inventories increases a company's costs. A buying organization's slack can be reduced by using flexible suppliers. For example, if a supplier is flexible in responding to an infrequent, unexpected rise in demand from the buying firm, the buying firm may order less frequently or hold less inventory. Flexible suppliers reduce a buyer's costs by absorbing environmental shocks for them.

The last question on performance measurement had to do with the speed with which the activities of the function are executed, specifically the delivery lead time of ordered goods. Majority of respondents agreed to timely delivery of goods which is represented by an aggregated mean mark of 4.385. Delivery lead time is a key factor when buyers make purchasing decisions. According to Lamming (1996), the most crucial performance characteristic for procurement, logistics and distribution systems is lead time. Reducing lead time in a distribution organization can have a significant impact on customer satisfaction in terms of delivery performance, as well as enhancing operational management and lowering the cost of poor quality.

Respondents were again asked to rate the performance of the procurement unit using the 5-Point Likert scale: 1 – Very poor, 2 - Poor, 3 - Average, 4 - Good, 5 – Very good.

Figure 4.6 is a graphical representation of the responses received. Out of a total valid response of 148, 87 respondents believe their procurement performance is very good. Fifty-two also think their performance is good. Five (5) of the respondents rated their performance as that of average. Three (3) respondents rated their performance as being poor. Only one respondent identified their performance as very poor. Performance is relative, however, from the response gathered and as presented in the graph, 93.9% of the respondents believe their procurement performance is something to write home about.

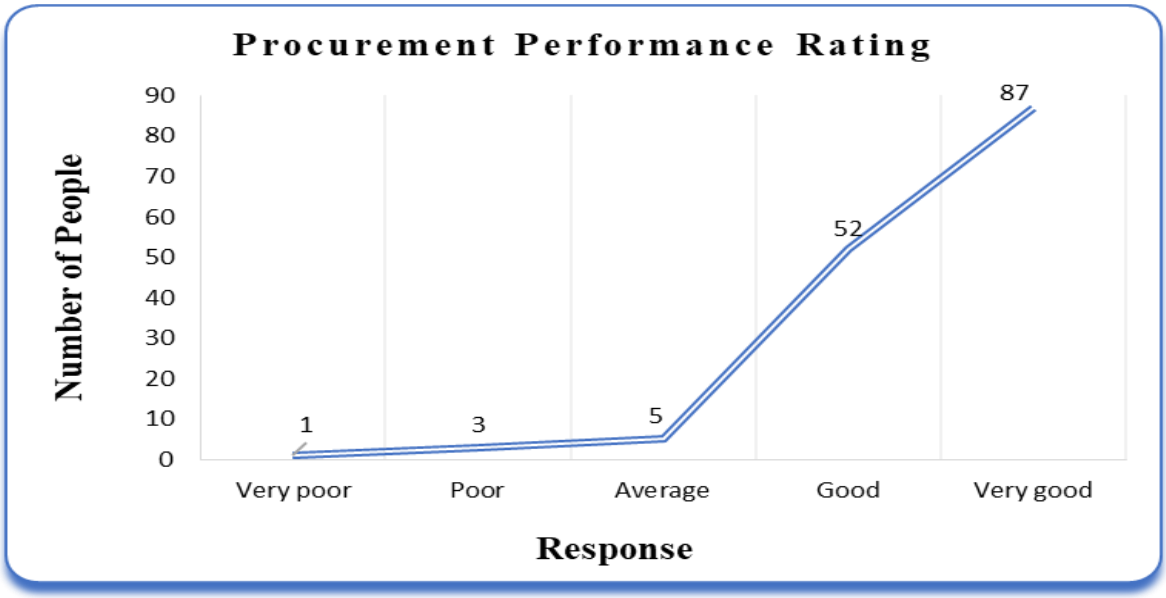

Figure 4.6 Procurement Performance Rating

4.6 The Impact of Buyer-Supplier Relationship on Procurement Performance

4.6.1 Descriptive Statistics

The descriptive statistics presents the average response of the respondents, using the mean for every variable under study. This is to show the level of all variables used for the study; either high or low. As seen from the table, performance has a mean of 4.44 showing that performance is high at 88%. With a mean of 4.606, which is also equivalent to 92%, it can also be seen that information sharing is also high. Thus, information sharing is 92%. It can also be seen that resource sharing is also high, given a mean of 3.8767, which represents a percentage of 77.5. Furthermore, communication is highest at 92.2%, given a mean of 4.611, incentive alignment is high at 80% (4.0017), and finally, joint knowledge is also high at 77.02%, given a mean of 3.8581. These indicate that the variables for this study are high and practiced within the study population (Refer to Table 4.9).

Table 4. 9 Descriptive Statistics of Dependent and Independent variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Performance	148	3.60	5.00	4.4405	0.34599
Information sharing	148	3.75	5.00	4.6064	0.31284
Resource sharing	148	2.25	5.00	3.8767	0.54593
Communication	148	4.00	5.00	4.6115	0.26290
Incentive alignment	148	2.25	5.00	4.0017	0.59297
Joint knowledge	148	2.25	5.00	3.8581	0.54645
Age	148	2	5	3.05	0.722
Gender	148	0	1	0.762	0.467
Educational Level	148	1	5	3.40	1.067
Work Position	148	2	6	3.22	1.488
Working Experience	148	1	4	2.28	0.765

4.6.2 Correlation of the Impact of Buyer-Supplier Relationship on Procurement Performance

Pearson correlation analysis was conducted to find the relationship that exist between buyer-supplier relationship and procurement performance, and the control variables. This was required to discover simple linear relationships and multicollinearity, as well as to serve as a foundation for multiple regression models. Correlation analysis shows the direction of relationship between two variables, from +1 to -1. +1 indicates a perfect positive correlation, -1 indicates perfect negative correlation, and zero (0) indicates no correlation at all. Even though correlation is run between all variables, the focus is to find the direction of relationship between procurement performance, and the independent variables under study, i.e., information sharing, resource sharing, communication, incentive alignment, and joint knowledge creation as presented in the correlation table. (Table 4.10)

Table 4.10 Pearson Correlation Co-Efficient Analysis

	[PP]	[IS]	[RS]	[CM]	[IA]	[JC]	[A]	[G]	[EL]	[WP]	[WE]
Procurement Performance	1										
Information sharing	.084*	1									
Resource sharing	.378*	.242**	1								
Communication	.402*	.232**	0.14	1							
Incentive alignment	.116*	-0.109	0.06	0.05	1						
Joint knowledge	.449*	0.014	-0.14	0.09	-0.014	1					
Age	0	-0.068	-0.16	-0.05	-0.151	0.09	1				
Gender	0.16	-0.093	0.05	0.06	-.162*	0.01	-0	1			
Educational Level	.159*	-0.001	0.05	-0.11	-0.146	0.1	0.09	0.13	1		
Work Position	.006*	-.256**	-0.1	-0.1	0.121	0.08	0.07	-0.01	0.02	1	
Working Experience	.085*	0.079	-0.09	0.03	0.048	.166*	0.03	-0.08	-0.03	0.07	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

It can be seen from Table 4.10 that all the independent variables under study are positively correlated to procurement performance. Thus, information sharing, resource sharing, communication, incentive alignment, and joint knowledge creation, all have positive impact on procurement performance. In this case, any upward movement in these variables, causes a corresponding upward movement in procurement performance, and likewise, any downward movement in any of the drivers of collaboration, causes a corresponding downward movement in procurement performance. However, genders correlation with procurement performance was not significant and there was no correlation between age and procurement performance. Simply put, the drivers of collaboration are positively related to procurement performance.

4.6.3 Regression Results of the Impact of Collaborative Activities on Procurement Performance

A regression analysis was run to establish the relationship and magnitude of the relationship that exists between the various factors that affects procurement performance. Results from the regression are shown in Table 4.11.

The coefficients in the regression results above shows that all the tested variables had positive relationship with procurement performance, with all the variables tested being statistically significant with p-values less than 0.05. Hence, information sharing has a positive and significant effect on procurement performance at Goldfields *(β=1.245, P<0.05)*. The findings imply that a change in information sharing (IS), will double the performance of procurement function all other things being equal. It can be argued that, if inventory level information is always shared with key suppliers, the stock out level will reduce, and this would have a direct impact on the performance of the procurement unit. This finding is in line with those of Komora *et al*., (2017), who stated that "if buyer-supplier partnership is developed through sharing information, the organization can improve its procurement performance and obtain a competitive advantage."

Table 4.11 Results of Tobit Regression Analysis

Dependent variable: Procurement Performance

Variable	Coefficient	St. Err	P – Values
Information Sharing	1.245**	0.097	0.014
Resource Sharing	1.038***	0.054	0.001
Communication	2.799***	0.110	0.006
Incentive Alignment	1.207**	0.049	0.029
Joint knowledge	0.209**	0.052	0.035
Age	0.001**	0.040	0.013
Gender	0.019	0.062	0.929
Educational level	0.135***	0.027	0.009
Work Position	0.194**	0.020	0.027
Work Experience	0.020**	0.037	0.033
Observations	148		
Prob (F-Statistic)	2.338		
Constant Term	17.597	0.3387	0.000

Note: **(*****) (**) (*) denote significance level of 1%, 5% and 10% respectively

Resource sharing in buyer-supplier relationship is found to affect procurement performance positively and significantly *(β=1.038, P<0.05)*. This indicates that, if there is an increase in resource sharing by one, procurement performance at Goldfields will increase by more than one. When supply chain partners make a large joint resource investment, such as adopting Vendor Managed Inventory, which allows suppliers to obtain stock level data via electronic data interchange and take necessary steps, it affects the procurement unit's performance by way of increasing the speed of delivery. This finding is consistent with Kovács and Tatham (2009) in his study on humanitarian logistics performance in the light of gender posited that resource sharing has a significant impact on performance outcomes.

Communication with suppliers of Goldfields was considered a valuable practice and as a result it had a positive and significant effect on procurement performance. As illustrated in Table 4.11, a unit change in communication will result in more than twice change in procurement performance. Communication *(β=2.799, P<0.05)* had the strongest impact on procurement performance at Goldfields. Communication allows partners to communicate their aims, work out their differences, and coordinate their efforts to achieve common objectives. Business communication is as important as carbon is to physical existence (Reinsch, 2001). If the material needs of Goldfields are well communicated to suppliers, delivery discrepancies will reduce, goods will be supplied based on specification, hence affecting the quality of inventory held and in a broader scope, impacting three times on procurement performance. Collaborative communication has been linked to improved performance in extant literature (Modi and Mabert, 2007).

Based on the data presented in Table 4.11, incentive alignment had a positive and significant impact on procurement performance *(β=1.207, P<0.05)*. The implication is that an increase

in incentive alignment by one, procurement performance will be doubled. Goldfields should appropriately devise incentives based on the level of responsibility a party owns, supply chain partners will be less likely to make decisions that are limited to their own interest. When suppliers are treated as though they are part of the business through sharing benefits, suppliers will reciprocate the gesture and improve on their product lead time and quality, hence impacting on procurement performance positively. Goldfields, however, sees this collaborative activity as a challenge when it comes to sharing of rewards by partners.

Joint knowledge creation had a positive and significant impact on procurement performance *(β=0.209, P<0.05)*. Hence a change in joint knowledge creation will lead to a corresponding change in procurement performance. When buyers and suppliers come together to make decisions and troubleshoot problems rather than doing so in isolation, it helps improve business performance. This finding has been affirmed by Kaufman *et al*., (2000), that supply chain partners who participate in the creation of a knowledge base and, more importantly, in the interpretation of that knowledge, create value by producing new goods, which enhances their brand image, and improves their performance.

The regression also controlled for certain key variables which can affect the procurement performance, hence the demographic characteristics were included in the results.

Age range as shown in the regression results is positive and significant in affecting the procurement performance at Goldfields. Research normally shows that workers actually become more careful with the way they do their operations when they are aging. The general notion is that, the more older a person becomes, the more calm the person is and this leads

to good interpersonal relationship building with other business partners. It can therefore be argued that, as age range increases, procurement performance is significantly affected.

Gender was also found to positively relate with procurement performance though insignificant. The regression results shows that, gender does not matter as far as buyer-supplier relationship and procurement performance are concerned. Working experience has a positive and significant impoact on procurement performance. This implies that, once you have more working experience, performance on the job is improved.

According to the regression results, educational level has a positive and significant impact on procurement performance. This reveals that, as Goldfields employs people with higher educational level, it tends to have a significant impact on procurement performance. When people are educated in the field of procurement, they have indepth understanding of the procurement processes and procedures, hence having positive returns on procurement.

4.7 Chapter Summary

This chapter presented the analysis of the data collected through the self-administered questionnaires that were distributed to staff. The responses were presented using figures and charts and tables. The results of the study revealed that communication as a collaborative tool has the strongest performance impact at Goldfields procurement unit. Some challenges in building closer ties with key suppliers were identified. The relationships between the dependent and independent variables were as well established, and all the independent variables seem to have a positive bearing on procurement performance.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes the findings of the study and conclusions that were made out of the study findings. It finally ends with recommendations of the study on buyer-supplier relationship at Goldfields to management, stakeholders, and employees.

5.1 Summary of Findings

The summary of findings were organized in line with the three research objectives set out in this study.

The first objective was to determine the collaborative activities practiced by Goldfields and their key suppliers. Results from the data collected indicated that, a significant majority of respondnets were procurement staff who dealt directly with suppliers and therefore had good knowledge on buyer-supplier relationship concept and its associated collaborative activities that are in practice. It was further established that, information sharing, resource sharing, communication, incentive alignment, and joint knowledge creation were the main collaborative activities practiced by Goldfields and its key suppliers. This was evidenced from the descriptive statistics results presented in Table 4.9 with mean value for all the independent variables (collaborative activities) falling within the acceptable range of 3 and above, hence respondents agreed in totality with regards to the practice of these collaborative activities with key suppliers.

However, communication recorded the highest mean value and stands out as the most important collaborative activity practiced and this finding is consistent with Modi and Mabert (2007) and Paulraj *et al*., (2008) who believed that suppliers could achieve gains tied to specific relationship goals by frequently communicating with buyers, allowing them to improve their performance.

The second objective was to identify the challenges in building collaborative relationship with suppliers of Goldfields. The study identified five challenges that hinders supply chain partners from having an effective collaboration. These challenges were, unwillingness to share sensitive information, lack of technology to enhance effective communication, lack of trust among partners, refusal to share rewards, and the desire for short term gains instead of long-term cooperation. However, the most prevalent challenge amongst them was supply chain partners unwillingness to share sensitive information. This challenge was accepted by 93.9% of the total respondents. This finding aligns with Williamson (1985), who posited that sharing sensitive information with supply chain partners can put businesses at a disadvantage.

The third, and last objective of the study was to examine the impact of buyer-supplier relationship on procurement performance. Buyer-supplier relationship was measured by the collalaborative activities the company engages in with key suppliers. Based on the results from the regression analysis conducted, the collaborative activities; information sharing, resource sharing, communication, incentive alignment, and joint knowledge creation all had a positive and significant effect on procurement performance. Hence a unit increase in any of these activities will result in a corresponding increase in procurement performance. Communication however, was found to have the highest impact on procurement

performance while joint knowledge creation also recording the least impact on the performance of the procurement unit.

5.2 Conclusion

Building successful relationships is neither easy nor automatic, but it is necessary. Without a doubt, partnering has shown to be one of the most effective ways to winning and retaining business in today's competitive business environment. Collaborating extends beyond merely working today. It is a process by which buyers and suppliers make concerted efforts to know one another through clear and effective communication, leveraging on each other's resources and making joint decisions that aligns with their collective interest.

The results of the study contributes to our understanding of relationship management and firm performance. Specifically, we examined the impact of buyer-supplier relationship on procurement performance by identifying the collaborative activities that enhances the sustainability of business relationships. This study employed the case study research approach using quantitative data that was acquired through the distribution of one hundred and fifty four (154) questionnaires to employees at Goldfields Ghana Limited by means of a purposive sampling technique.

The study argues that, information sharing, resource sharing, communication, incentive alignment, and joint knowledge creation has a positive and significant bearing on procurement performance. Results of the study provide evidence that the practice of buyer-supplier relationship collaborative activities has not yet achieved its full potential in the procurement field. Firms seem to be maintaining a silo mentality that puts an emphasis on individual firm success rather than supply chain success. A major setback to relationship

building as identified by this study is the unwillingness on the part of supply chain partners to share sensitive information among others.

The research concludes that, buyer-supplier collaborative relationships are significant to a firms performance. Goldfields have adopted the concept of collaborating with key suppliers in order to help reduce their transaction cost, get quality products, maintain flexibility in supply as well reap the benefits of shorter delivery lead times.

5.3 Recommendations

In light of the research findings, the following recommendations are made.

1. Based on the findings, employees at Goldfields Ghana Limited who were purposively sampled for this research had good knowledge on buyer-supplier relationship. However, a significant percentage were neutral on the collaborative activities the company has with its suppliers. Some of the respondents were also in disagreement to the practice of such collaborative activities. Management of supply chain must therefore ensure that the concept of buyer-supplier relationship is fully adopted through immense training so that the benefits that accrue from such collaborative relationships would be known to all stakeholders.
2. The findings showed that all the collaborative activities had positive and significant effect on procurement performance. However, joint knowledge creation received the lowest mean score and subsequently recorded the lowest impact on procurement performance. Goldfields should embrace the concept of exchanging knowledge through knowledge exploration and knowledge exploitation in order for the business to gain and sustain superior performance relative to its competitors in the same industry.

3. For any relationship to be sustainable, the fundamental element is trust. Both parties should build on trust by promoting integrity throughout the collaborative processes to enhance the free flow of any form of information. By so doing, supply chain parties would be willing to share sensitive information.
4. The findings again revealed that communication had a positive and significant effect on procurement performance at Goldfields. As a result, Goldfields' management must implement incentive programs and other methods to motivate and encourage employees' communication with key suppliers of the company. This will in turn help promote the concept of buyer-supplier relationship and organizational performance in general.
5. In terms of communication, businesses must always let their suppliers know what they expect of them and keep them informed of events or developments that may affect them. Firms must also communicate with suppliers on a regular and timely basis, informing them of any unexpected issues.
6. Organizations should become more active in supplier development initiatives to improve supplier performance and gain a competitive advantage.
7. Management should make a habit of holding frequent review briefings with suppliers to enhance relationship management.
8. Finally, unwillingness to share sensitive information, lack of technology to enhance effective communication, lack of trust, refusal to share rewards, and desire for short term gains instead of long-term cooperation were identified as major challenges faced in forming closer ties with suppliers. Management of Goldfields should encourage people to come out openly with vulnerabilities they have faced through forums that are focused on collective learning where people open up and talk about these challenges and the way forward. Additionally, contributions made in forums should not be viewed as a negative

reflection on the organization because the same weaknesses may affect other organizations at any time.

5.4 Suggestions for further Research/Studies

The degree to which the focal firm (buyer) collaborates with its key suppliers is only assessed through data collected from one side of the supply chain. Collaboration is a term that involves at least two supply chain participants, so the results could be skewed. As a result, information from both sides should be collected in order to gain a more thorough perspective on buyer-supplier relationship. This, however, would be extremely difficult to implement because it would require matching pairs of respondents along the supply chain. Future studies may quantify collaboration using data acquired from both parties.

This study does not comprehensively capture all the collaborative practices in buyer-supplier relationship, rather it shows how some collaborative practices affect procurement performance. As a result, future research can do similar tests on other practices that are just as significant as the ones examined in this study, such as trust, commitment, cooperation, and decision synchronization.

Furthermore, it would be interesting to know whether the observed findings hold for other mining companies as well, hence, the need to have more research conducted in this subject area to fully establish the impact of buyer-supplier relationship on procurement performance.

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APPENDIX A

UNIVERSITY OF MINES AND TECHNOLOGY (UMaT), TARKWA

QUESTIONNAIRE

Buyer-Supplier Relationships and Its Impact on Procurement Performance.

(A Case Study of Goldfields Ghana Limited)

Dear Sir/Madam,

This questionnaire is part of a study being conducted at the UMaT, Tarkwa. The aim of the research is to analyze the buyer-supplier relationships and the impact it has on the performance of the procurement function using Goldfields Ghana Limited as a case study. **All information collected will be confidential and used only for academic purposes.** Please, we would be grateful if you could answer this questionnaire to aid this study. Thank you for your time and valid contribution in advance.

Yours faithfully,

……..

Alfred Allotey Pappoe

Instruction: Please kindly respond to the questions by ticking **(√)** the appropriate box for each item. Please, not that all information provided will be strictly confidential.

SECTION A: RESPONDENT PROFILE

1. What is your gender?

   [ ] Male [ ] Female

2. What is your age bracket?

   [ ] Less than 20 years [ ] 21-30 years [ ] 31-40 years [ ] 41-50 years

   [ ] 51-60 years [ ] Above 60 years

3. What is your highest level of education?

   [ ] JHS [ ] SHS [ ] Diploma [ ] Bachelor's Degree

   [ ] Masters degree [ ] PhD

4. What is your position in the Supply Chain department?

   [ ] Supply Chain Manager [ ] Procurement Officer [ ] Logistics Officer

   [ ] Contract Administrator [ ] Inventory Officer [ ] Storekeeper

5. How long have you been working at Goldfields Ghana Limited?

   [ ] Less than 5 years [ ] 5-10 years [ ] 11-20 years [ ] Above 20 years

SECTION B: HOW GOLDFIELDS COLLABORATE WITH THEIR SUPPLIERS (COLLABORATIVE ACTIVIES)

From the available literature review, collaborative activities were identified. Please in your own opinion, indicate the degree of agreement of practice of these collaborative activities with the company's key suppliers by ranking on a Likert scale. **(Kindly tick (√) the appropriate box: 1- strongly disagree, 2- disagree, 3- somewhat agree, 4- agree, 5- strongly agree)**.

6. **Information Sharing in BSR**

No.	Statements	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
		1	2	3	4	5
1	Goldfields shares business units' proprietary information with your key suppliers?					
2	Goldfields is willing to share strategic information with selected suppliers					
3	Goldfields shares inventory level information with key supplier to avoid stock out					
4	Your company informs its critical suppliers in advance of changing operational needs					

7. **Resource Sharing in BSR**

No.	Statements	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
		1	2	3	4	5
1	Key suppliers train your staff on the use and handling of hazardous products.					
2	Goldfields has invested in technology designed to facilitate cross-organisational data exchange					
3	Goldfields invest in its key suppliers financially					
4	Vendor Managed Inventory is well practiced					

8. **Communication in BSR**

No.	Statements	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
		1	2	3	4	5
1	There is effective communication between your company and its key suppliers					
2	Goldfields and its key suppliers have frequent communication					
3	Goldfields maintain good contact with key suppliers in order for them to understand your strategic goals					
4	Communication between your company and its key suppliers is multilateral					

9. **Incentive Alignment in BSR**

No.	Statements	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
		1	2	3	4	5
1	Both parties share risk					
2	Loss acruing from a transaction are equally shared					
3	Profits/rewards are shared					
4	Transaction cost are shared on a win-win basis					

10. **Joint knowledge Creation in BSR**

No.	Statements	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
		1	2	3	4	5
1	There is joint decision making when it comes to matters that affects both parties					
2	There is constant knowledge exploration, that is, searching for and acquiring new and relevant knowledge between partners					
3	Goldfields and its key suppliers work together to troubleshoot problems					
4	Your company is involved when there is a new product development					

SECTION C: CHALLENGES IN ESTABLISHING CLOSER TIES WITH SUPPLIERS

Below are the challenges faced by Goldfields Ghana Ltd. from working collaboratively with suppliers. Based on your experience, indicate the level of significant of these challenges so far as buyer-supplier relationship is concerned by ranking on a Likert scale. Kindly tick (√) the appropriate box: **1- strongly disagree, 2- disagree, 3- somewhat agree, 4- agree, 5- strongly agree.**

11. Kindly tick **(√)** the one that best suit your challenge

No.	Statements	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
		1	2	3	4	5
1	Unwillingness to share sensitive information					
2	Lack of technology to enhance effective communication					
3	Lack of trust					
4	Refusal to share risk and rewards among supply chain partners					
5	Short term gains instead of long term cooperation					

SECTION D: THE IMPACTS OF EFFECTIVE BUYER-SUPPLIER RELATIONSHIP ON PROCUREMENT PERFORMANCE

Kindly rate the performance of the procurement unit using the 5-Point Likert scale: **1 – Very poor, 2 - Poor, 3 - Average, 4 - Good, 5 – Very good.**

12. How do you rate the performance of the procurement unit?

    [ ] Very poor

    [ ] Poor

    [ ] Fair

    [ ] Good

    [ ] Very good

Please indicate your level of agreement to below Procurement Performance measures by ranking on a Likert scale. **Kindly tick (√) the appropriate box: 1- strongly disagree, 2- disagree, 3- somewhat agree, 4- agree, 5- strongly agree**.

13. Your company's supply chain get value for every cedi spent on an item by purchasing at a reduced cost.

    [ ] Strongly disagree

    [ ] Disagree

    [ ] Somewhat agree

    [ ] Agree

    [ ] Strongly agree

14. Goods purchased by Goldfields procurement unit are of good quality and fit for purpose.

    [ ] Strongly disagree

    [ ] Disagree

    [ ] Somewhat agree

    [ ] Agree

    [ ] Strongly agree

15. There is flexibility in your company's supply chain processes.

    [ ] Strongly disagree

    [ ] Disagree

    [ ] Somewhat agree

    [ ] Agree

    [ ] Strongly agree

16. Goldfields supply chain operate at a faster and smarter pace with regards to satisfying end users.

    [ ] Strongly disagree

    [ ] Disagree

    [ ] Somewhat agree

    [ ] Agree

    [ ] Strongly agree

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