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Author(s)

Lord Emmanuel Yamoah
School of finance & Financial Mgt.
Business University of Costa Rica
Email: emmalordy@yahoo.com

Isaac Kofi Yornu

Procurement Department
School of Business
Accra Technical University
Email: ikyornu2000@gmail.com

Correspondence

Lord Emmanuel Yamoah
School of finance & Financial Mgt.
Business University of Costa Rica
Email: emmalordy@yahoo.com

Supplier Selection Criteria used by Goldfields Ghana Limited, Tarkwa Mine

¹Lord Emmanuel Yamoah | ²Isaac Kofi Yornu

Abstract

“The problem statement describes the content for the study and it also identifies the general analysis approach” (Wiersma 1995, p. 404); “A problem might be defined as the issue that exists in the literature, theory, or practice that leads to a need for the study” (Creswell, 1994 p. 50). Frank Pajares states that effective problem statements should answer the question “Why does this research need to be conducted”? (Frank Pajares, 2007). Today, organizations worldwide have to cope with very keen competition and a dynamic environment as market conditions are changing rapidly and customers are demanding better and better products and services (AQCL 1997) in response to the increasingly stringent demands and to maintain or improve the competitive advantage, firms that excel must implement strategies to achieve cost reduction, continual quality improvement, increase customer service, delivery improvement and reduced concept-to-market product cycle time. In addition, many companies currently have come to realize the importance of persistently strengthening and improving themselves to win or survive in the fierce competitive market. The pursuit of competitive advantage requires the development of global processes and strategies that become an integral part of a firm’s supply chain effort. For many, it is clear that pursuing global sourcing strategies and approaches that integrate engineering, purchasing, operations, logistics and even marketing. Global sourcing may well be one of the last untapped areas, which offers the kinds of performance breakthroughs required to maintain successful in highly competitive markets (Trent & Monczka 2003). On the contrary, a successful sourcing activity cannot be carried out unless cooperative buyer-supplier relationships are established. As companies adopt new manufacturing strategies, such as Just-In-time (JIT) it is expedient to consider those factors that influence buyer-supplier relationship. The problem of this study is compelled by the need to empirically examine the impact of strategic sourcing and supplier selection on the operations of Goldfields Ghana Limited, Tarkwa Mine.

Keywords: *Potential Suppliers, Selection Process, Supply Chain Management*

1.0 INTRODUCTION

Carr and Smeltzer (1997) defined strategic sourcing as a processes of planning, evaluating, implementing and controlling all sourcing activities undertaken by an organization to achieve its long term goals. The principal objective of strategic sourcing is to effectively handle situations when faced with supply, competitive, and demand uncertainties (Milliken, 1987; Johnson & Johnson, 1991). It is achieved by developing a set of practices through which certain flexibilities could be obtained to face these uncertainties. Strategic Sourcing enables an organization to identify and select suppliers through strategic long term partnerships, by providing benchmarks, laying emphasis on supplier performance and providing feedback to suppliers. Moreover, in today’s business context organizations compete in a global environment and operate in multiple markets and geographical locations. This provides additional dimensions to strategic sourcing.

With the advent of the Internet, new market mechanisms have sprung in the electronic space enabling the buyers and the sellers to locate each other, discover products and prices efficiently and conduct business in a cost effective manner. For example, Alibaba.com, being a global leader in business-to-business (B2B) e-Commerce. It has a user community in excess of 42 million from more than 240 countries and regions (Alibaba, 2009). These users transact a number of trade leads with one another through its portal. Such electronic marketplaces help the buyers and the sellers reduce the transaction costs and the time in the entire procurement process. On account of these

developments, practices such as outsourcing, global sourcing and e-procurement have become key aspects of strategic sourcing. The specific comparative advantages of different locations, countries and regions have led to an emerging trend in global production and sourcing systems. In such a scenario, the procurement and production process is typically organized with multiple country affiliations. A product may be designed in one country, manufactured in another and parts/components sourced in yet another (Pham and Quoc, 2006). This has introduced new dimensions in global sourcing as there are marked differences in performance and procurement practices in different regions of the world (Ruamsook et al. 2007).

Strategic sourcing requires certain planning and operational changes in the manner the procurement and supply management functions are managed. Internally in an organization, the status of purchasing within the organization and the nature of internal coordination required undergoes significant changes. Further there is a greater need for information sharing with the suppliers (Kocabasoglu and Suresh, 2006). The short-term objective of SCM is to increase productivity and reduce inventory and cycle time, while the long-term strategic goal is to increase customer satisfaction, market share and profits for all members of the virtual organization (Tan, 2002; Wisner and Tan, 2000). To realize these objectives, all strategic partners must recognize that the purchasing function, with its boundary-spanning activities, is a crucial link between the sources of supply and the organization itself (Wisner and Tan, 2000). Purchasing/sourcing connects suppliers and buyers closely, which are two of the driving forces of competitiveness in an industry (Porter, 1980). In view of these developments in the sourcing landscape we are motivated to examine the impact of strategic sourcing and supplier selection on the operations of Goldfields Ghana Limited, Tarkwa mines.

2.0 METHODOLOGY

Previous chapters have given an extensive idea about relevant literature review and state of strategic sourcing and supplier selection on operations of Goldfields Ghana Limited, Tarkwa Mine. This chapter presents the methodological concerns used in conducting this research. It presents a series of steps which include research perspectives, research purpose, research approach, research strategy, sample selection and data collection. Finally, structured questionnaire, pilot testing and administration, response rate, access strategies and credibility of the research were discussed.

2.1 Research Perspectives

Elabi et al (2002 cited in Opoku & Naeem, 2004) maintain that conducting any type of research, should be governed by a well-defined research methodology based on scientific principles. Hence, research methodology defines the systematic scientific procedures used to arrive at the results and findings for a study against which claims for knowledge are evaluated (Nachamias et al., 1996; Saunders et al., 2007). Having defined our research objectives, we had to decide about three main issues dealing with research methodology: the research purpose, the research approach and the research strategy.

2.1.1 Research Purpose

The research purpose is a broad statement of what the researcher intends to achieve. Research can be carried out in different ways depending on the research problem before the investigation is started. According to authors like (Sanders et al., 2000, 2007; Cooper & Schindler 2006; and Yin, 1994) a research could be broadly split into exploratory, descriptive and explanatory: Exploratory research is valuable means of finding out “what is happening”, seeks new insights; ask questions and to assess phenomena in a new light” (Robson, 2002). Exploratory approach is helpful when the researcher wants to clarify the understanding of a problem if the researcher is unsure of the precise nature of the problem. There are three principal ways of conducting exploratory research: a search of literature, interviewing experts in the subject, and conducting focus group interviews (Saunders et al., 2003). Exploratory research can be linked to the activities of the traveller or explorer (Adams and Schvaneveldt, 1991). Its great advantage is the flexibility and adaptability to change. According to Adams & Schvaneveldt (1991), the flexibility inherent in exploratory research entails that the focus is initially broad and becomes progressively narrower and more specific as the research progresses.

Descriptive research is to “portray an accurate profile of persons, events or situations” (Robson, 2002). Besides, Saunders et al., (2000) also expatiated that a descriptive research can be seen as an extension of exploratory research. According to Dane (1990), descriptive research means either defining a phenomenon or differentiating it from the other phenomenon. With a descriptive research the researcher also needs to have a clear picture of the phenomena he/she will further investigate. It is often used to study the difference between the old and new outcomes. Descriptive research covers the whole subject and depth of the case. It is mostly used when there is no need to investigate cause and effect relationship and when the problem is well structured (Yin, 1994). Explanatory research is a study that seeks to establish relationship that exists between variables. It is often termed as a causal study which is

normally used when the purpose of the study is to answer “why” in a given context. The goal of the explanatory research is to examine the cause and effect relationship among two or more phenomena. The purpose is to identify how one variable affects the other, and also seeks to provide an explanation to the causes and effects of one or more variables (Saunders et al 2000, 2007; Cooper & Schindler 2006; Malhotra and Birks, 2007). It is often conducted to determine whether the cause and effect relationship is valid or not (Dane, 1990). Anderson & Svensson, (1994) suggested that a research starts with exploratory phase to find what the study is about and persists to describe and explain depending on the objective of the study. This research is mainly exploratory. In fact, we need to explore how strategic sourcing and supplier selection on the operations of Goldfields Ghana Limited, Tarkwa Mine is being carried out.

2.1.2 Research Approach

According to Guba & Lincoln (1994); Denzin & Lincoln (1994a) there are two methods or approaches of research – qualitative and quantitative. The objective of a quantitative research is to discover the association between independent and dependent variables in a population. In most cases, quantitative methods used are contained by natural science and the plan is to explicate causal relationships and to make possible generalization and also to forecast the future. Conversely, qualitative research is a formless, exploratory research method based on small samples planned to provide insight and understanding of the dilemma situation (Mahotra & Peterson, 2006). It is predominantly used for any data collection such as interview or data analysis procedures that generates or uses non-numerical data. According to Leavy (1994), in the qualitative approach the aim is to explain rather than to predict phenomena and understanding things rather than to measure. Creswell, (2003) summarizes the distinction between quantitative and qualitative approaches as shown in table below.

Table 3.1 Distinction between Quantitative and Qualitative Approach: Creswell (2003)

Qualitative	Quantitative
Objective is to discover and encapsulate meanings once the researcher becomes immersed of the data	Objective is to test hypotheses that the researcher Generates
Concepts tend to be in the form of themes, motifs, generalizations, and taxonomies. However, the objective is still to generate concepts.	Concepts are in the form of distinct variables
Measurers are more specific and may be specific to the individual setting or researcher; e.g. a specific scheme or values.	Measures are systematically created before data collection and are standardized as far as possible; e.g. factors of supplier selection.
Data are in the form of words, from documents, observations, and transcripts. However, quantification is still used in qualitative research.	Data are in the form of numbers from precise measurement
Theory can be casual or non-casual and is often inductive	Theory is largely casual and is deductive
Research procedures are particular and replication is difficult	Procedures are standard and replication is assumed
Analysis proceeds by extracting themes or generalizations from evidence or organizing data to present a coherent, consistent picture. These generalizations can be used to generate hypotheses.	Analysis proceeds by using statistics, tables or charts and discussing how they relate to hypotheses

Our research study seeks to gain insight, and to examine the impact of strategic sourcing and supplier selection on the operations of Goldfields Ghana Limited, Tarkwa Mine. Therefore, this research confines itself to the qualitative approach where in-depth interview through semi-structured interview guide is conducted to get the needed information on the topic under study.

2.1.3 Research Design/Strategy

Research strategy refers to the plan that a researcher will pursue to execute an investigation to address the research questions. It specifies sources of data and constraints that may hamper the research and how they will be addressed (Saunders et al., 2007). Yin, (1994) emphasized that the research strategy explains how the researcher collects and analyses data gathered. The type of research strategy to be used by a researcher depends largely on the

research purpose (descriptive, explanatory or exploratory). Several authors like (Saunders et al., 2000, 2007; Cooper & Schindler 2006; Malhotra & Birks 2007) stated that the main research strategies are: experiment, survey, grounded theory, action research, case study, ethnographic study, and archival research. According to Yin, (1994,) there are five (5) primary research strategies in social sciences. Namely: experiment, survey, archival analysis, history and case study. As portrayed in Table 3.2, the use of any of these strategies depends on the following three conditions:

- 1) The type of question posed
- 2) The extent of control an investigator has over the actual behavioural events
- 3) The degree of focus on contemporary events as opposed to historical.

Table 3.2: Relevant Research Strategies

Research strategy	Form of research Question	Control over behavioural events?	Focuses on contemporary events?
Experiment	How, Why	Yes	<i>Yes</i>
<i>Survey</i>	Who, What, Where, How Many, How Much	<i>No</i>	<i>Yes</i>
Archival Analysis	Who, What, Where, How Many, How Much	No	<i>Yes/No</i>
<i>History</i>	How, Why	No	<i>No</i>
<i>Case study</i>	How, Why	No	<i>Yes</i>

Source: Yin (1994)

In this study, the survey strategy is the most appropriate strategy because it requires the opinion of a population about a particular discipline and data will also be gathered from a sample of Management and suppliers who are into purchasing and supplies of materials through the means of a questionnaire been designed. Again, due to the purpose of the study and formulation of research questions, we deployed a survey strategy; this provides the opportunity of gaining in-depth information from a wider number of respondents having to do with strategic sourcing and supplier selection.

2.2 Types of Data Collected

2.2.1 Primary Data

Primary data is the set of data that has not been there in that form before the researcher collected it. Therefore, this kind of data is unique and until it is published, no one except the researcher has access to it. The main methods of collecting primary data include questionnaires, interviews, observation, case studies and critical incidents. According to Fowler, (2002), primary data can either be qualitative in nature usually in the form of words or quantitative usually in the form of numbers.

2.2.2 Secondary Data

Secondary data is data that has already been collected by someone else for a specific purpose. So the researcher just “re-uses” what is already available for either getting ideas in the exploratory phase of the research process or in the design phase to define and sample frames as well as to supplement the main research. Difficulties with secondary data can arise from the fact that it has been collected for a different purpose, this might use different definitions and one cannot assess to what extent it was ‘modified’ during the original collection process. Thus, secondary data gives a profound background for the research and is crucial in getting a research project started (Fowler, 2002). In this study, data and relevant information were collected using both primary and secondary data sources.

The secondary data mainly consisted in scientific literature and articles published in selected journals and professional magazines. This information was gathered to get an overview of the topic. The primary data have been collected through interviews (see the interview guide in appendix A) and the distribution of a questionnaire (see appendix B). Interviews were conducted with a number of suppliers and supply chain management staff who are into supplies. Interviewees were located in Tarkwa. The researcher met the respondents on their respective companies. Contacts for the interview were obtained from the Goldfields Ghana Limited, Tarkwa Mine’s website. The rest of the contacts were obtained by utilizing the Facebook network. We adopted face-to-face distribution of the questionnaire

to respondents in all the five companies across the nation and collected them back after respondents had fully answered all the items in the questionnaire.

2.3 Population

The target population for the study encompassed all the 5 companies, constituting 60 staffs in the supply chain management departments.

2.4 Sampling

2.4.1 Sample size

Out of the sample frame of 1000 staffs of the various suppliers from the 4 companies, a sample size of 100 was selected based on our judgment due to the cost and time constraints. Using a large sample in this survey would have required larger financial resources which could not be afforded. Furthermore, the time limit within which the research was to be accomplished did not allow the use of larger sample size. The following are the numbers of questionnaires distributed in each of the five considered companies: Sandvik 35; Mantrac 40; Komatsu 10; AEL 10 and DHL 5

2.4.2 Sampling Technique

Sampling is a major problem for any type of research. We can't study every case of whatever we are interested in, nor should we want to. Every scientific enterprise tries to find out something that will apply to everything of a certain kind by studying a few examples, the results of the study being, as we say, "generalizable". (Becker Howard, 1998). According to Neuman, W. Lawrence (2006), sampling strategies used in research are in two main categories namely probability sampling and nonprobability sampling/non-random samples. Quantitative researchers' use probability sampling and their primary goal is to get a representative sample or a small collection of units from a much larger collection or population, such that the researcher can study the smaller group and produce accurate generalizations about the larger group. Researchers focus on the specific techniques that will yield highly representative samples which are based on theories of probability from mathematics point of view (Neuman, W. Lawrence 2006).

Alternatively, qualitative researchers tend to use nonprobability or nonrandom samples. This means they rarely determine the sample size in advance and have limited knowledge about the larger group or population from which the sample is taken. They select cases gradually, with the specific content of a case determining whether it is chosen. Nonprobability sampling include: haphazard, accident, or convenience sampling; quota sampling; purposive or judgmental sampling; snowball sampling; deviant case sampling; sequential sampling and theoretical sampling (Neuman, W. Lawrence 2006). Table 4.3 shows a variety of nonprobability sampling techniques.

Table 3.3 Nonprobability sampling techniques

Types of Nonprobability samples	
TYPE OF SAMPLE	PRINCIPLE
Haphazard	Get any cases in any manner that is convenient
Quota	Get a present number of cases in each of several predetermined categories that will reflect the diversity of the population, using haphazard methods.
Purposive	Get all possible cases that fit particular criteria, using various methods.
Snowball Get	Get cases using referrals from one or a few cases, and then referrals from those cases, and so forth.
Deviant case	Get cases that substantially differ from the dominant pattern (a special type of purposive sample)
Sequential	Get cases until there is no additional information or new characteristics (often used with other sampling methods).
Theoretical	Get cases that will help reveal features that are theoretically important about a particular setting/topic.

Source: Neuman, W. Lawrence (2006)

In selecting a sample of (100) respondents, a non-probability random sampling technique, specifically convenient sampling was used. This technique was chosen because it was convenient since the considered population is from four (5) companies located at different towns in Ghana. This was done by first identifying the companies who supply Goldfields Ghana Limited, Tarkwa Mine materials.

Secondly, total sample was distributed according to the proximity of each company because we employed face-to-face distribution of the questionnaire to respondents across the region and collected them back after completion. Table 3.4, below displays the questionnaire distribution rate for each university. Finally, a simple random method was used to select respondents from each of the four companies.

Table 3.4 Number of Respondents Surveyed

Company	Expected sample size
TARKWA MINE	14
MANTRAC	46
Sandvik	25
AEL	10
DHL	5
TOTAL	100

2.5 Data Collection Process

The instruments for data collection in this study were literature on the subject and a combination of data sources (data triangulation) such as open and closed-ended questionnaires, and semi structured interviews (more details are brought in the sections below). The combination of these instruments enables the strengths of one method to counteract the weaknesses of the other and it also helps to check the validity of the findings and generate a rich profile on strategic sourcing and supplier selection on the operations of Goldfields Ghana Limited, Tarkwa Mine.

3.5.1 Structured Questionnaire

Literature abounds with the benefits of questionnaires and interviews as survey instruments (Powell & Silipign, 2004; Babbie, 2003; Busher & Harter, 1980). The advantages of using questionnaires and interviews as a survey instrument for this study are that it facilitates wider geographic contact. It maintains anonymity and ensures uniformity of measurement from one unit of measurement to another, therefore enhancing reliability. Qualitative data from semi structured interviews and open-end questionnaires generate a range of qualitative data that enables the researcher to develop an in-depth understanding of the situation. In this study, self-administered, structured questionnaire was used to collect data from respondents. The questions sought respondents’ over all views on the supplier selection criteria used by Goldfields Ghanal Limited, Tarkwa Mine. In all, the questionnaire has two different parts. The first part is designed for suppliers’ and supply chain management staffs which pose questions on personal information, strategic sourcing and supplier selection issues, and perceived importance of supplier selection factors. The second part is for supply chain management staffs which show questions on respondents’ identification data, the evaluating the potential suppliers in order to find the best ones, and supplier selection criteria.

The questionnaire was developed from an extensive review of the literature and previously used similar instruments (Benbunan-Fich, Hiltz & Harasim 2005; Kenny, J. (2003). A majority of the closed ended questions consisted of (5) point structured pre-coded Likert-type ordinal/interval scale represented as follows: Strongly agree, Agree, Neutral, Disagree, strongly disagree. A major strength of the above five (5) point pre-coded Likert scaling is that during analysis, we were able to compile the group on the total pool of items (strongly agree, and agree) with respondents with the lowest score (disagree and strongly disagree) while eliminating the middle group (neutral) whose attitude may be inconsistent or unclear. Likert pre-coded scaling was adopted because it has been widely used in instruments measuring opinions, beliefs and attitude. Also because it facilitates the analysis of data referred to as direct data entry.

2.5.2 Pilot Testing and Final Administration

A pilot study was conducted in preparation for the study. Bell (cited in Naoum, 1998) describes a pilot study as getting the bugs out of the instrument so that the subjects in the main study would experience no difficulty in completing the instrument so that one can carry out preliminary analysis to see if the wording and format of the questions would present any difficulty when the main data is analyzed. The pilot study validates the research method and research approach. It provides a trial run for the questionnaire which involves testing the wording of the questions and

identifying ambiguous questions and testing the technique that would be used to collect the data. A preliminary draft as well as the final questionnaires was given to focus group members to test the clarity and meaningfulness of the questions, thereafter, the content and construction of the questionnaire. Fink (2003b in Saunders et al., 2007) suggested that a minimum of ten (10) members for pretesting is adequate. Based upon this, we chose a sample of twelve (12). Two (2) suppliers each and supply chain management staffs from all the six (6) companies. Each of the respondents was told the purpose of the questionnaire and assured of anonymity before they were given the questionnaire to respond to. Finally, after modifications and improvements were made to get a more effective instrument, the questionnaires were administered to the target population by means of personal contact. Respondents were first informed of the purpose, assured anonymity and confidentiality of responses. Ultimately, respondents were given the questionnaire to fill and return between 3rd, November to 17th, November 2014. April. After collection, the data was scrutinized for completeness, comprehensibility, consistency and reliability. This step is normally referred as “cleaning” the data in order to eliminate numerous problems that may arise during data analysis (Powell & Silipigni 2004). Thus, reading the results, looking out for surprise responses and verifying the coding of data after which data analysis was undertaken.

2.6 Access Strategies

The letter of introduction to the participants included an explanation of the purpose of the study. The questionnaire was accompanied by a cover letter which described the objectives of the survey, assured the participants of confidentiality of the information. The terms were defined in the cover letter of the questionnaire to provide minimum deviation in participant understanding of the terminologies used. The informed consent form (**Appendix A and B**) was designed for suppliers, and supply chain management staffs of the selected companies before administering the questionnaire to them.

2.7 Credibility of the Research

Research is said to be valid when conclusions are true. It determines how good answers are provided by the research. While the concepts of internal and external validity and reliability have been very crucial in quantitative studies, qualitative researchers have distanced themselves from the quantitative paradigm by developing the following four criteria in ensuring trustworthiness in qualitative studies: credibility (in reference to internal validity); transferability (in reference to external validity and generalability); dependability (in reference to reliability) and conformability (in reference to objectivity), (Guaba, 1981; Easterby-Smith, 1991; ; Yin, 1994). Some of the strategies that need to be considered in order to meet the above criteria and therefore ensure trustworthiness in qualitative studies are triangulation interactive questioning with the use of probes, rephrasing of questions to test if the respondent is honest, appropriated to scrutinize the instrument by the researcher’s supervisor and peers, frequent debriefing session between peers and promoter to widen the researcher’s vision, and an in-depth methodological description provided in the study and examination of previous findings (Shenton, 2004).

Because people in authority generally feel reluctant in disclosing their identity, we developed an early familiarity with the participants (suppliers, and supply chain management staffs) before the first data collection dialogue took place. This was achieved via preliminary visits to the six selected companies, this helped both the researcher and the participants to gain adequate understanding of the research topic and also helped in establishing a relationship of trust with the participants (suppliers and supply chain management staffs). In addition, the concept of triangulation was used: observation, focus groups and individual interviews were conducted. During the interview section supporting data was provided to participants, which served as an interview guide to explain the strategic sourcing of those in the group under scrutiny and verify particularly details supplied by participants. Individuals were able to share their views and experiences during the interview. Moreover, specific ploys were incorporated which helped to uncover deliberate lie. This was done through the use of probes which elicited detailed data and iterative questioning. A false question was raised by an informant and it was rephrased by the researcher through an extracted relevant data. Falsehoods information was detected and the suspect data were discarded.

2.8 Summary

In this chapter the theoretical basis behind the research perspectives, research purpose, research approach, and research strategy were discussed. Questionnaire was designed and administered to some selected people to scrutinize and check the wordings as well as the items of the questions before distributing to respondents. Since we cannot satisfy the entire population, a sample size of one hundred (100) respondents composed of suppliers, and supply chain management staffs were selected. These respondents belong to the six companies selected for this study.

3.0 DATA ANALYSIS

Figures 4.3; to 4.19, summarize the various criteria used by Tarkwa Mine in selecting suppliers. The figures depict criteria such as durability, ergonomic, flexibility of operations, simplicity of operations, reliability, demand, modification, technical support, after sales service, current technology, geographical location, innovativeness, flexibility (payment, freight, price reduction, order frequency and amount), commercial relations, availability, and short delivery lead time

3.6.2.1 Durability

Durability is one of the criteria used by Tarkwa Mine in selecting suppliers for its logistics needs. Participants' responses on the role of durability in the selection process are depicted in Figure 4.3. The figure shows 57.1% respondents rated durability as a very high criterion when supplying product or service. 37.1% of the respondents believed durability is highly considered while 5.7% believed it is lowly considered in the supply decision making process.

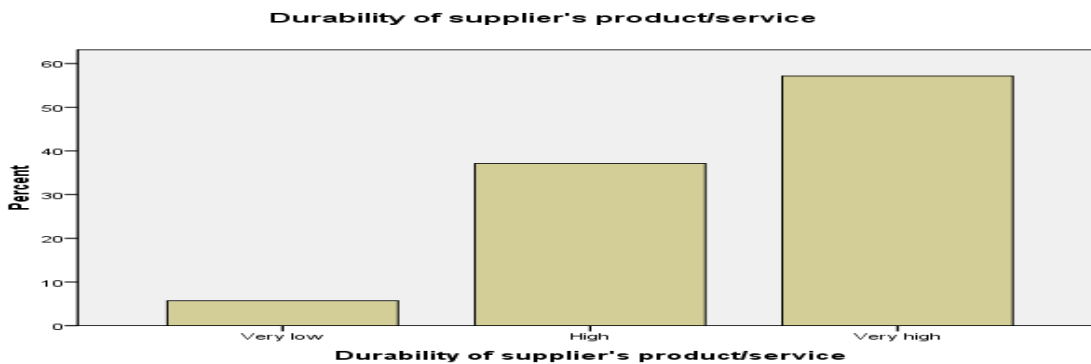


Figure 4.3 Durability of supplier's product/service

Source: Researcher's Field Data from SPSS Output

3.6.2.2 Durability of supplier's

A second criterion is ergonomic. Results from the SPSS analysis in Figure 4.4, reveal 54.2% of the respondents believed high ergonomic quality of supplier's product or service is considered in the selection of suppliers while 42.9% and 2.9% respectively considered ergonomic to be very high and low criterion.



Figure 4.4 Flexibility of supplier's

Source: Researcher's Field Data from SPSS Output

3.6.2.3 Flexibility was identified as the third criterion in the supplier selection process.

Research results from the study on flexibility are presented in Figure 4.5. The data indicate that flexibility was rated as a high criterion by 55% of the respondents. Only 5% of the respondents believed flexibility is a low criterion.

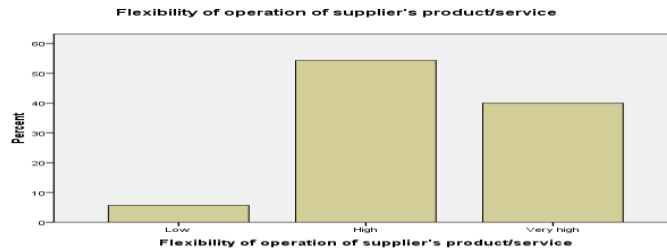


Figure 4.5 Flexibility of operation

Source: Researcher’s Field Data from SPSS Output

3.6.2.4. Simplicity is another criterion used by purchasers in the supplier selection process.

Participants’ responses to the question related to simplicity are presented in Figure 4.6. The figure reveals 57.5% of participants believed simplicity is highly considered in the selection process. 39.3% of the respondents indicated that simplicity is a very strong criterion when it comes to the selection of suppliers.

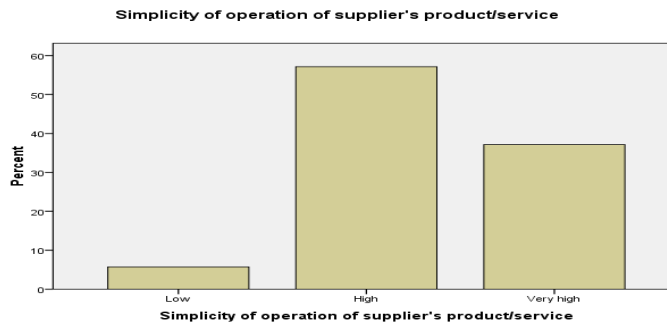


Figure 4.6

Source: Researcher’s Field Data from SPSS Output

3.6.2.5. A fifth criterion identified by participants as essential in the supplier selection process is reliability.

About 47% of the participants identified reliability as a very important criterion. Five percent each of the respondents believed reliability is somewhat important and not important respectively. The overwhelming response of respondents indicate reliability is an essential criterion.



Figure 4.7: Reliability

Source: Researcher’s Field Data from SPSS Output

3.6.2.4 Supplier’s reaction to demand

Participants identified reaction to demand as the sixth criterion in the selection of suppliers. 60% of the respondents believed supplier’s reaction to demand is important. 20% each of the participants identified supplier’s reaction to demand as very important and somewhat important.



Figure 4.8: Supplier's reaction to demand
Source: Researcher's Field Data from SPSS Output

Supplier's ability to modify its product or service is one of the criteria used by Tarkwa Mine in selecting suppliers for its outsourcing of materials. Participants' responses on the ability to modify product or service in the selection process are depicted in Figure 4.9. The figure shows 54. % respondents rated supplier's ability to modify its product or service as a very high criterion when outsourcing materials. 39% of the respondents believed the ability to modify product or service is important while 7% believed it is lowly considered in the supply decision making process.

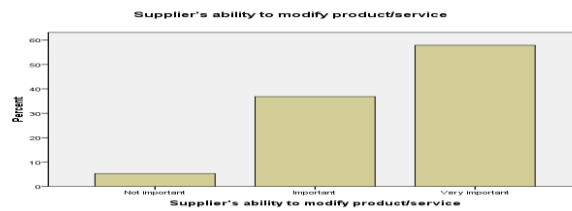


Figure 4.9: Ability to modify
Source: Researcher's Field Data from SPSS Output

Technical support is another criterion used by purchasers in the supplier selection process. Results from the SPSS analysis in Figure 4.9, reveal 65% of the respondents believed technical support considered important in the selection process. The overwhelming response of respondents indicate technical support is an essential criterion.

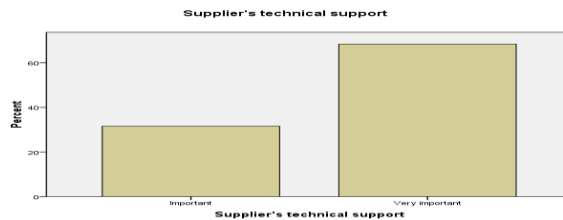


Figure 4.9: Technical support
Source: Researcher's Field Data from SPSS Output

After sales service is another criterion used by purchasers in the supplier selection process. Participants' responses to the question related to after sales service is presented in Figure 4.10. The figure depicts 57.5% of participants believed after sales service is highly considered in the selection process. 39.3% of the respondents indicated that after sales service is a very strong criterion when it comes to the selection of suppliers.

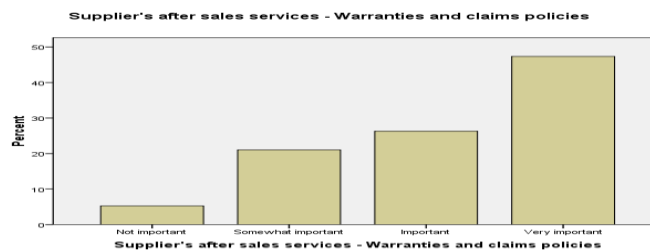


Figure 4.10: After sales service
Source: Researcher’s Field Data from SPSS Output

3.6.2.5 Current Technology

Current technology was identified as one of the criteria in the supplier selection process. Research results from the study on current technology are presented in Figure 4.11. The data indicate that current technology was rated as very important criterion by 47% of the respondents. 35% of the respondents believed the current technology is important while 18% believed it is somewhat important considered in the supply chain decision making process.

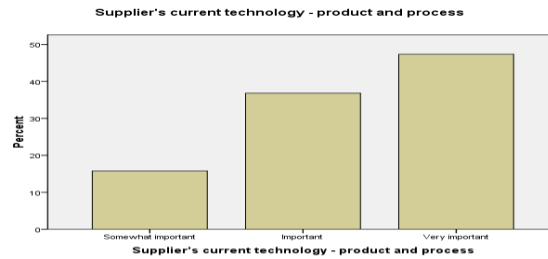


Figure 4.12: Technology
Source: Researcher’s Field Data from SPSS Output

Geographical location is another criterion used by Tarkwa Mine in selecting suppliers for its outsourcing of materials. Participants’ responses on geographical location in the selection process are depicted in Figure 4.12. The figure shows 49% respondents rated geographical location as a very important criterion when outsourcing materials. 39% of the respondents believed geographical location is important while 12% believed it is somewhat important.

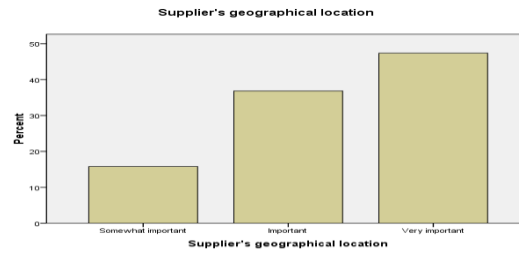


Figure 4.13: Geographical location
Source: Researcher’s Field Data from SPSS Output

3.6.2.6 Innovativeness

Participants identified innovativeness as a criterion in the selection of suppliers. 57% of the respondents believed innovativeness is very important. 38% of the respondents identified innovativeness as important while 5% of the participants identified innovativeness as somewhat important.

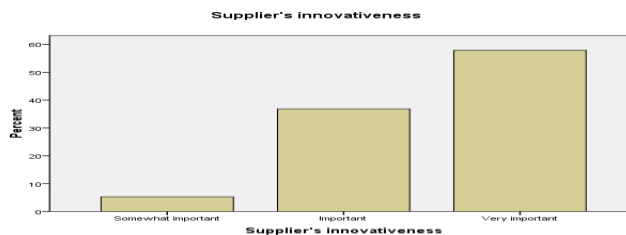


Figure 4.14: Innovativeness
Source: Researcher’s Field Data from SPSS Output

3.6.2.7 Supplier’s Flexibility

Supplier’s flexibility in payment, freight, price reduction, order frequency and amount was identified as another criterion in the supplier selection process. Research results from the study on supplier’s flexibility are

presented in Figure 4.15. The data indicate that supplier’s flexibility was rated as important criterion by 50% of the respondents. Only 5% of the respondents believed supplier’s flexibility is not an important criterion.

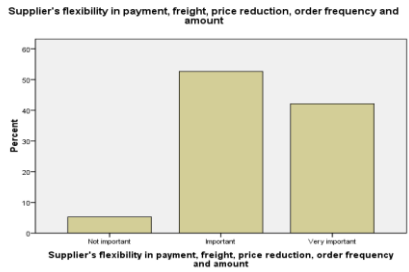


Figure 4.15: Flexibility
Source: Researcher’s Field Data from SPSS Output

Commercial relation is another criterion in supplier selection. Results from the SPSS analysis in Figure 4.16, reveal 50% of the respondents believed commercial relation is important criterion in the selection of suppliers while 45% and 5% respectively considered commercial relation to be very important and somewhat criterion.



Figure 4.16: Commercial relation
Source: Researcher’s Field Data from SPSS Output

3.6.2.8 Availability

Supplier’ availability was identified as one of the criteria in the supplier selection process. Research results from the study on supplier’s availability are presented in Figure 4.17. The data indicate that supplier’s availability was rated as very important criterion by 48% of the respondents. 38% of the respondents believed supplier’s availability is important while 15% believed it is somewhat important considered in the supply chain decision making process.



Figure 4.17: Availability
Source: Researcher’s Field Data from SPSS Output

3.6.2.9 Lead Time

Lead time is another criterion used by purchasers in the supplier selection process. Results from the SPSS analysis in Figure 4.18, reveal 50% of the respondents believed lead time considered very important in the selection process. The overwhelming response of respondents indicate lead time is an essential criterion.



Figure 4.18: Lead time
Source: Researcher’s Field Data from SPSS Output

3.6.2.10 Relationship in supplier Selections

Participants identified relationship in supplier selections as another criterion in the selection of suppliers. 40% of the respondents believed total quality management 40% is a high criterion in relationship with supplier selections. 20% of the respondents identified getting the right supplier to supply on time as another criterion. 8% each of the participants identified quality of the products; specification; vendor rating; monitoring and evaluation; and quality of materials as another criteria of the relationship in supplier selections.

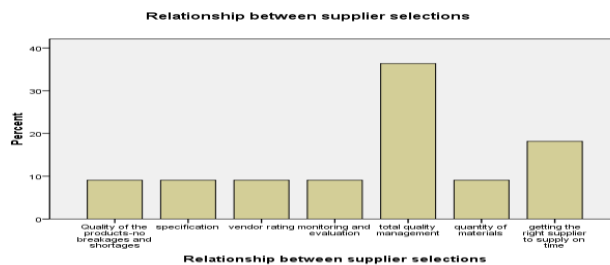


Figure 4.19: Supplier selection
Source: Researcher’s Field Data from SPSS Output

4.0 CONCLUSION

The purpose of this study was to examine the impact of strategic sourcing and supplier selection on the operations of Goldfields Ghana Limited, Tarkwa Mine. We examined the current strategic sourcing of Goldfields Ghana Limited, Tarkwa Mine in four major supply chain and logistics industries: criteria selection in outsourcing materials, relationship between suppliers, and criteria evaluation when choosing a vendor. Out of the one hundred questionnaires that were administered, thirty-five (35) were responded to. Based on an objective analysis of the obtained data, the major findings and conclusions of this study may be summarized as follows:

The current sourcing at Goldfields Ghana Limited, Tarkwa Mine is multiple. Supplies are purchased both locally and internationally. Supplies decisions are based on price and quality of the materials; and how best to meet sustainability requirements. In multiple sourcing, it is advantageous for an order to be split among multiple suppliers in which they all deliver the same type of product from the purchaser. Tarkwa Mine gets its major supplies from Mantrac, DHL, AEL, and Sandvik companies.

It appears the various criteria used by Tarkwa Mine in selecting suppliers for their outsourcing of materials are: durability, ergonomic, flexibility of operations, simplicity of operations, reliability, demand, modification, technical support, after sales service, current technology, geographical location, innovativeness, flexibility (payment, freight, price reduction, order frequency and amount), commercial relations, availability, and short delivery lead time.

With respect to the relationships in supplier selections the data depicted that total quality management was rated higher. It appears the other factors clientele consider in building relationships in supplier selections include: finding the right supplier to deliver the materials at the right time, quality of the products, monitoring and evaluation, specification, and vendor rating.

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