THE EFFECT OF INTERNATIONAL PROCUREMENT MULTIPLE SOURCING AND SINGLE SOURCING STRATEGY ON THE ORGANIZATION PERFORMANCE : THE CASE OF MESFIN INDUSTRIAL ENGINEERING PLC

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PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER'S OF ARTS DEGREE IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT ON THE EFFECT OF INTERNATIONAL PROCUREMENT MULTIPLE SOURCING STRATEGY AND SINGLE SOURCING ON THE ORGANIZATION PERFORMANCE: THE CASE OF MESFIN INDUSTRIAL ENGINEERING PLC

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This is to Certify that the thesis prepared by Jafar Sani Hassen, entitled: "The effect of international procurement multiple sourcing and single sourcing strategy on the organization performance: The case of Mesfin Industrial Engineering plc." Submitted in partial fulfillment of the requirements for the Degree of Master of Art in Logistics and Supply Chain Management compliance with the regulations of the university and meets the accepted standards with the respect to originality and quality.

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Declaration

I, Jafar Sani Hassen, declare that this paper is a result of my independent research work on the topic entitled “The effect of international procurement multiple sourcing and single sourcing strategy on the organization performance: The case of Mesfin Industrial Engineering plc.” for the partial fulfillment of the requirements for the Degree of Master of Art in Logistics and Supply Chain Management at Addis Ababa University, School of commerce. This work has not been submitted for a degree to any other university. All the references are also duly acknowledged.

Jafar Sani Hassen
July 2020

This is to certify that the above declaration made by the candidate is correct to the best of my Knowledge.

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Abstract

The integration of the global market makes the supply chain more complex and has great impacts on efficient supplier management strategies. Companies continuously try to find ways to improve their sourcing and better handle their supplier relationships. There is often a tussle between choosing a right sourcing strategy which says, whether the buyer should go for single sourcing or multiple sourcing. This thesis will present the effect of international procurement multiple and single-sourcing strategy on the organizational performance. Mesfin Industrial engineering plc.'s foreign procurement is the object of study. The purpose is to assess the rationale behind their sourcing strategies. To achieve the research objective, the study used the total population of Mesfin Industrial Engineering's International procurement stakeholders in the organization. Descriptive and explanatory research design employed in which primary and secondary data utilized where the primary information collected through questionnaires and semi-structured interview guides. The data analyzed and interpreted using quantitative and qualitative descriptive methods. The primary data were collected using a survey method by applying a questionnaire and interviews as a tool. 27 questionnaires were distributed and a response of 27 was analyzed using correlation and regression methods on SPSS version 25.0. And the rest 4 Mesfin industrial engineering supply chain managers undertake in-depth interviews to grasp their perspective on their respective fields. Accordingly, the findings of the analysis confirmed the positive correlation between the independent variables (Single and Multiple Buyer-Supplier Relationship, Delivery of Quality Goods, Supply Dependability and Communication, and the dependent variable of the study (Organization performance). On the other hand, the regression analysis outcome for International procurement Single and multiple Sourcing showed that Ninety Two percent and Eighty-Nine percent of the variance on organization performance is accounted for independent variables. Based on the findings of the study, the researcher recommends Maintaining the outstanding Buyer-Supplier relationship and Communication with International procurement single suppliers and Upgrading the relationship with the multiple suppliers, maintaining the quality control for both International souring strategies and goods needs supply uncertainty and urgency the company should shift to totally to International Procurement Single-Sourcing strategies. These findings clearly state the actual performance of each international sourcing strategy in the organization and show the way forward to increase their efficiency in international procurement and take the superior share in this turbulent market.

Keywords: *International Procurement, Sourcing strategy, Single sourcing, Organization performance, Multiple sourcing, Buyer-Supplier Relationship, Delivery of Quality Goods, Supply Dependability and Communication*

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Contents

List of Tables

List of Figures

LIST OF ACRONYMS AND ABBREVIATIONS

MIE	Mesfin Industrial Engineering Plc.
SKD	Semi-Knock down Vehicle
CKD	Completely-Knock down Vehicle
SC	Supply Chain
SCM	Supply Chain Management
MRO	Maintenance, Repair and Operating
TCO	Total Cost of Ownership
JIT	Just-in-time (JIT)

CHAPTER ONE
INTRODUCTION

Introduction

This chapter deals with the background of the study, statement of the problem, objectives of the study, significance of the study, delimitation of the study, definition of key terms, and organization of the study.

1.1. Background of the Study

International Procurement sourcing is the practice of sourcing from the global market for goods and services across geopolitical boundaries. International sourcing often aims to exploit global efficiencies in the delivery of a product or service. If we look at sourcing strategies, we can find single sourcing and multiple sourcing methods which are an integral part of the sourcing process; this study examined the effect of international procurement single and multiple-sourcing strategy on the organizational performance: The case of Mesfin Industrial Engineering plc. And, to come up with the findings that will provide insights for manufacturing industries and companies similar to MIE.

Every organization whether a manufacturer, retailer or a service render remains engaged in their business craving for different types of goods. All companies must get their hands dirty to purchase materials. The evolution of purchasing makes clear that conventionally purchasing was intended to "buy the materials of the right quality, in the right quantity, from the right source delivered to the right place at the right time at the right place" (Lysons & Farrington, 2006). It appears that during the past few years purchasing has begun to play an ever more important role in the strategy of the firm (Ellarm, 1994). When noticed throughout the years most manufacturing companies spend their cash on procuring goods from local and foreign market suppliers. Mostly the international procurement takes dominance on their budget.

The international markets offer the opportunity of saving costs on the buyer side, and on the selling side, globalization provides access to new markets (Monczka & Robert, 2009). Purchasing policies fundamentally contribute to business success in several ways: improve sales margins, increase better quality and logistics arrangements with the supplier, and more competitive supplier's base and more effective business relationships (Van Weele, 2010).
Nowadays, purchasing to sales ratios, in general, are in the range of 30%-60% for service organizations, 50%-70% for manufacturing industries, and 80%-95% for retailing firms – and many organizations are seeing a further rise in this percentage (Van Weele, 2010).

Sourcing refers to the value-added process of selecting suppliers and the respective cooperation scheme and it must be supported by advanced analytics & market intelligence, supplier performance information, and concrete and well-developed strategy. The supplier selection is related to all activities, which are required to select the best possible supplier and includes determining on the method of the subcontracting, preliminary qualification of suppliers and drawing up the bidders' list, preparation of the request for quotation and analysis of the bids received and selection of the supplier (Van Weele, 2010). Sourcing, from a strategic point of view, can be defined as a systematic process that directs purchasing and supply managers to plan, manage, and develop the supply base in line with the organization's strategic objectives (Roger, 2005). The most commonly used type of sourcing methods in local as well as in foreign market is single sourcing and multiple sourcing strategies.

A company is implementing a multi-sourcing strategy if it has a business relationship with a number of suppliers. In this approach, each of the suppliers responds to the demands and specifications of a particular quotation from the buying company (Zeng, 2000).
Single-Sourcing involves the idea of reducing the number of suppliers a firm does business with. This concept is evolved with a growing popularity of Japanese just-in-time (JIT) philosophy. To eliminate waste and to emphasize value-added activities, one of the purchasing objectives is to ensure that orders are placed at the right moment, at the right time, and in the right place with the right quality (Zeng, 2000).
This study examined the effect of multiple sourcing and single sourcing of international procurement on organizational performance: The case of Mesfin Industrial Engineering plc. The study tried to attain the best solution for the company sourcing problems and to better appreciate what good ways have taken so far and at last to improve MIE's foreign procurement framework and help the companies plan to have a significant market share in the horn of Africa.

1.2. Background of the organization

Mesfin Industrial Engineering was founded in 1992 and is vast metal construction and electromechanical engineering by having its headquarters at Mekelle in the Tigray region and having also a liaison office in the capital city, Addis Ababa. The company carries out a variety of products and services in Mekelle, Wukro town, and Gelan manufacturing plant including manufacturing of liquid and dry cargo bodies, trailers, semi-trailers, low beds, bulk cement, tipper body, and sugar cane haulage. MIE has also an assembly of heavy-duty MAN AG–TGS Trucks, Geely, and Peugeot automobiles and Sonalika tractors. Moreover, MIE also performed erection and installation of electromechanical works, Construction of pre-engineered buildings (PEB), putting up machinery and equipment for various industrial projects and design and manufacturing of fuel storage facilities, hydropower equipment's, sugar, cement & gold mining factories and the company experienced in the design and manufacturing of industrial equipment in Ethiopia.

As such, the company expansively designs, manufactures, supplies and installs various standard and non-standard parts particularly: jaw crushers, raw material storage, raw meal proportioning, raw mill kiln feed as well as pre-heater, coal mill, clinker cooler and transport, sugar processing equipment, gold mining equipment, biomass processing plant, coal firing, various cement factory components like silos, hoppers, chimneys, ducts, big bag packaging plant (with capacity 2 ton), cement silos and packing cement factories (MIE Website, 2019).

The Corporate Procurement Head of the Company is under the company's general manager having all the sub-purchasing department managers under its divisions. And the Corporate Procurement Head is responsible for the Procuring of Goods and Services both from the local and international markets requested by the company end-users with close collaborations with the sub-departments formed under all production units.

As previously stated, purchasing to sales ratios for manufacturing industries is up to 50%-70% and we can say assertively from the findings purchasing can make or break one's company. This study intends to examine the effect of single and multiple-sourcing international procurement on organizational performance on one of the biggest engineering firms in our country that have a current capital value of more than 25 million USD and employed 1,700 personnel Mesfin Industrial Engineering plc.

1.3. Statement of the Problem

There are various categories of goods and services procured in MIE having different levels of importance and budget implication. The major goods categories which are currently purchased under foreign procurement are Different Types of Steel and Sheet metals, Axles, Oscillating kits, Rim, Tires, SKD and CKD Light Vehicles, Heavy Vehicle lights, Different Industrial Machines and Different machine Spare parts, etc. From the company's need to produce different types of goods and plant different industries the requisitions will be satisfied mostly from the international markets.

Selecting the right source is a familiar problem, but this problem has lately acquired new facets. Firms have always had to relate to how significant and appropriate it will be to produce a component or provide a service etc., as only a few firms can meet their own needs for supply of components and services or to buy out. Therefore, there is nothing new under the sun. On the other hand, there have been changes that have made topical and increased the importance of appropriate choices concerning sourcing (Freytag, 2004).

According to new theories on sourcing (Gadde & Hakansson, 2001), the firm’s supply strategy is becoming more and more important for its survival and success in many industries. As modern information technology is gaining ground and markets become more liberalized and international, the structure of firms’ supply chains is becoming increasingly important, and the

supply chains are used proactively as a means to the firm's development and market adaptation (Coviello, et al., 2002).

Organizations are operating in an environment characterized by countless economic and political disruptions to their sources of supplies and services. To survive in this turbulent market place, these organizations must continually monitor their competitive position as well as their internally controllable processes, especially the procurement process (Burt, et al., 2003). improving the sourcing process is a critical factor for success and competitive advantage for companies" Purchasing policies fundamentally contribute to business success in several ways: improve sales margins, increase better quality and logistics arrangements with the supplier and more competitive supplier's base and more effective business relationships (Van Weele, 2010).

The goods procured from abroad market takes a great value and needs to be evaluated closely. To procure goods from the international market there must be a consideration for important principles. The most important one is sourcing strategies to be used. Single sourcing and multiple sourcing strategies are widely used in MIE automatically without making any research to use which sourcing strategies on which cases to get the maximum profit and to attain maximum competitive advantage. To implement effective international sourcing strategies every company needs to understand the value of sourcing practices in the given company. In most international journals and research recommends by improving sourcing strategies every organization can benefit immensely. There is a trend in organizations sourcing without expressing which strategy may benefit the firm more.

The reason motivate me to conduct research, is mostly when MIE trend of international purchase they awarding contracts without considering what kind of collaboration needed, what kinds of integrity and trust must be there between supplier and the buyer, what kind of deliverance do we expect from our suppliers, what level of supply certainty do we want, what kind of international payment methods must be used in each case, the cost of each international payment method, supplier capabilities, suppliers competitive advantage, long term supply sustainability, corporate social responsibility, green supply chain management, etc., must be checked. As per my observation of the company, the company only stresses to get the minimum requirement quotations and awarding the contract by only focusing the least price. Therefore, the researcher looked upon MIE's two prominent international procurement sourcing strategies, what kind of procedure they follow, and look upon as well the foreign procurement expert's considerations before awarding the purchase contracts which may affect the organization's performance. To get the maximum sourcing advantage from all goods procured abroad the departments need to know which sourcing strategies fit for the company's general growth and success.

There is regularly a battle between selecting a right sourcing strategy which says, whether the customer should go for single sourcing or multiple sourcing. Some of the literature gave their way to single sourcing and presents such kind of arguments and others for multiple sourcing. Focusing on single sourcing provides many efficiency advantages. However, some recent

disruptions have forced SC managers to rethink this lean sourcing strategy since the cost savings can be wiped out by disruption impacts.

There is different problem faced by MIE when they are perusing international procurement. The first thing they faced is getting different type of support or not getting no support at all, according to the sourcing strategy used. Some sourcing strategies give the company strong and valuable support that will eventually turn in to Monterey value, and another vice versa.

And this thesis will give recommendation for the organization how to reduce unnecessary costs in extensions, amendments, receiving standard shipping documents for customs, reduce unnecessary guarantee deposits, less level of defect materials, receiving goods at right time, goods at right quantity, how lifts the customer satisfaction to the desired level, and how to achieve supply certainty. The relationship gotten from the supplier will affect the performance of the organization in positive and negative way according to the supplier willingness.

Hence, the researcher tries to find ways for each souring strategies weakness and give each ways of going around it.in this way when the company uses the nominated sourcing strategies there is a code book, for what must be improved and sustain. The thesis will give recommendation to the same problem faced on the delivery of quality of goods, supply dependability and communication. This thesis will try to answer the effect of this issue on the organizational performance. Which consists cost, service level and the satisfaction of MIE's external Customers.

The research gap, therefore, brought forth by previous researches is being able to capture important phenomena such as the Buyer-Supplier relationship, Delivery of Quality Goods, Supply Dependability, and Communication that affect one's organization performance. However, as far as the knowledge of the researcher is concerned, no research has been conducted about the effect of these practices in the organizational performance of similar manufacturing industries in Ethiopia. The studies I came across shows that the independent variable I constructed for this study (Buyer-Supplier relationship, Delivery of Quality of Goods and services, Supply Dependability and Communication) neglected and replaced by another variable.

The above stated and other problems compromised for the effectiveness of international sourcing strategies. Therefore, it is essential to conduct this study to examine the effect of multiple sourcing and single sourcing of international procurement on organizational performance.

1.4. **Research Questions**

The purpose of this research intended to examine the effect of multiple sourcing and single sourcing of international procurement on the organization performance: The case of Mesfin Industrial Engineering plc.

Therefore, the following research questions were answered by the study:

1. What are the general approaches for selecting International procurement sourcing strategy in the company?
2. What are the effects of international procurement single sourcing strategy on organizational performance?
3. What are the effects of international procurement multiple sourcing strategy on organizational performance?

1.5. **Research Objective**

1.5.1. **General Objectives of the Study**

The general objective of this research is to examine the effect of multiple sourcing and single sourcing of international procurement on the organization performance: The case of Mesfin Industrial Engineering plc.

1.5.2. **Specific objectives**

The specific objective of this research is: -

1. To identify the general approaches for selecting International procurement sourcing strategy in the company?
2. To investigate the effects of international procurement single sourcing strategy on the organizational performance of the company?
3. To investigate the effects of international procurement multiple sourcing strategy on the organizational performance of the company?

1.6. **Significance of the Study**

In the current international competitive environment, many manufacturers are focusing on supplier management as a means for achieving long-term competitive advantage. Supplier management "organizing the optimal flow of high-quality, value-for-money materials or components to manufacturing companies from a suitable set of innovative suppliers" (Goffin, et al., 1997) is crucial for several reasons. Suppliers can have a significant influence on a manufacturer's performance, through their contributions to cost reduction, new product design, and enabling the constant improvement of quality (Monczka, et al., 1993). The industrial purchasing function remains amongst the most critical activities for ensuring the long-term viability of a firm. Pre-dating the rush to Internet commerce, companies have been pursuing improvements in purchasing along with several major trends (Kinney, 2000). The ultimate goal of any business establishment was to remain in business profitably through the production and sale of products or services. Without optimal profit, a business/firm cannot survive. Every organization should invest to know which area of the department core to its business

profitability. One of the core activities in a business company is having a well-developed international procurement sourcing strategy.

The findings of this study will have huge importance generally to all industries in developing - nations and specifically similar to Mesfin Industrial Engineering company to understand and perform international procurement sourcing strategies effectively. The significance of the study is not only limited to industries, but it may also give a contribution to the institution that has to plan to source their goods from the international market.

1.7. **Scope of the study**

The study examined the effect of multiple sourcing and single sourcing of international procurement on the organization performance: The case of Mesfin Industrial Engineering plc. Thus, we can assume that the scope of the study is limited only to the International procurement strategies specifically on single-sourcing and multiple sourcing. The study will not cover all international procurement sourcing strategies. Also, the study is limited only to Mesfin Industrial Engineering firm.

Multiple and single sourcing of international procurement is a very wide field of area. This study was focused only on four dimensions and their effect on the organization performance of Mesfin Industrial Engineering plc.

These are: -

- Buyer-Supplier Relationship
- Delivery of Quality Goods
- Supply Dependability
- Communication

1.8. **Limitations of the study**

The first limitation of the study faced was due to COVID-19, the researcher considered himself as a lucky one who collected their data prior to the pandemic getting a toll in all of us. Even though the researcher managed to get questioners filled on time, I couldn't get face to face interviews for some mangers scheduled for me. Hence, the researcher forced to do the interviews for some mangers by phone. The second limitation I saw in my research is not incorporating the supplier side and the MIE's final customer voice. Another and important factor are, to pull well-shaped research the researcher is expected to have skilled, familiar, and systematic. To do so, researchers should pass through a long time of remarkable experiences in the research area. However, since the study's purpose is for academic fulfillment, we can assume that being a beginner the quality of the study might be affected.

1.9. **Defining key terms**

Supply chain: "The connected series of activities which is concerned with planning, co-coordinating and controlling material, parts and finished goods from suppliers to the customer" (Stevens,1989).

International procurement: is can be easily defined as procuring goods from overseas markets to get the best low price, best quality, and to exploit the competitive advantage that one company tries to get. Acquisition of goods and services, reduction of cost of production, increasing of incomes and employment, learning about advanced technical methods used abroad, and security of raw materials are significant advantages of international trade (Seyoum, 2009).

Supplier sourcing: is the process and procedures by which the buyer seeks to survey, evaluate suppliers, and determine policies relating to those who can most suitably meet the requirements of the organization. Sourcing is, therefore, the counterpart of product marketing (Lysons, 1992).

Sourcing strategies: is part of the overall purchasing strategy and is related to defining how many suppliers a firm will have for one specific component/product/service, given the importance of the component and the structure of the supply market, and how the suppliers are related to each other (Cousins, et al., 2008).

Suppliers: A supplier is an entity that supplies goods and services to another organization. This entity is part of the supply chain of a business, which may provide the bulk of the value contained within its products. Some suppliers may even engage in drop shipping, where they ship goods directly to the customers of the buyer (Bragg, 2020).

Sourcing strategy (Structure): Sourcing structures represent the different ways in which companies can work together (Cousins, et al., 2008).

Multiple sourcing: "purchasing from two or more vendors an identical good or service." (Trevelen, 1987).

Single sourcing: is defined as "purchasing from only one vendor [an identical good or service]" (Trevelen, 1987).

Organizational performance: refers to the effectiveness of the organization in fulfilling its purpose (Richard, et al., 2009).

1.10. Organization of the study

This study has been organized into five chapters. The first chapter sets a background for the study. The next chapter presents a literature review. The third chapter explains the nominated research methodology and chapter four will present which is devoted to the presentation of the findings. The fifth and the last chapter of this study is concerned with summarizing the findings of the study, then conclusions have been drawn. After that recommendations are given to improve the multiple sourcing and single sourcing of international procurement on the organization performance. Finally, the researcher gave his view on the future research direction.

CHAPTER TWO
RELATED LITERATURE REVIEW

Introduction

This chapter presents a review of the related literature on the subject under study presented by various researchers, scholars, analysts, and authors. By the theoretical review of the study international procurement, sourcing strategies and related issues in sourcing, presented from the reviewed related literature. The empirical study review selected previous similar academics studies are analyzed to support this study and the Conceptual framework presents the variables.

2.1.Theoretical Review

2.1.1. Supply Chain Management

For the operations of any business to run smoothly, the flow of materials to and from key locations must be carefully managed. This includes resources that go into intermediary products, resources that go directly into the final product, resources that contribute to the everyday running of the company and getting the product to intermediary and final customers. While a single company may not have direct control over all of these operations, it is key for the company's success that it regulates as much of this process as possible, whether through intermediaries and outsourcing or in-house management. Supply chain management is a combination of these activities, “Managing the modern supply chain has become a job that involves specialists in manufacturing, purchasing, and distribution (The 21st Century Supply Chain, 2004).

2.1.2. Procurement

Of the many fields involved in supply chain management, procurement is one of the major areas. It is here that a company gets the resources it needs to run. Procurement itself can be broken up into three major divisions by the intended use of the resource: raw material and production goods, maintenance, repair and operating (MRO) supplies, and capital goods and services. Of the three, MRO is most frequently understated but is an area that can make or break a company's competitive advantage. According to (Tuck , 2002), improper procurement management leads to three possible outcomes: running out of parts, having too much inventory, and failing to aggregate spend and leverage procurement, capitalizing on volume discounts and low-cost suppliers. The largest obstacle in procurement today is a large amount of data involved. There are "thousands of discrete items sourced from dozens of suppliers... multiple plants across the country and around the world" (Tuck , 2002).

Organizations can obtain a multitude of benefits by well-managed procurement business functions. The profit and competitiveness of an enterprise are highly reliant on how procurement

is implemented within the firm. The purchasing of goods and services of a firm account for 50% to 70% of the total costs (McGinnis & McCarty, 1998). It has a direct impact on profit because procurement represents the largest proportion of expenses in the firm. There is also an indirect impact on the profit due to the substantial part of the internal costs affecting what occurs in the interface between the firm and its suppliers (Gadde & Hakansson, 2001). Stated that "purchasing costs often stand for between 40 and 60 percent of a company's turnover". The development of the procurement function can influence corporate profitability. The procurement function has changed from the passive, reactive clerical viewpoint of the 70's to a strategic proactive function contributing, as much as other business functions, to build a desirable competitive advantage (Versebdaal, et al., 2005). Procurement has evolved from a clerical buying task into a strategic business function that contributes to the competitive position of companies (Carter & Narasimhan, 1996).

2.1.3. A definition of global (International) procurement

There are variety in the terminology and definitions of global purchasing. A wide variety of terms has been coined: global sourcing, international purchasing, worldwide sourcing, import sourcing, offshore sourcing, and international procurement, to name a few. In some papers, these terms have been clearly described in others they were used interchangeably. Global purchasing is the activity of searching and obtaining goods, services and other resources on a possible worldwide scale, to comply with the needs of the company and to continue and enhance the current competitive position of the company (Quintens, et al., 2006). Different supply channels – some firms being manufacturers themselves whereas others source either directly from manufacturing suppliers or indirectly from these via intermediaries (Popp, 2000).

Global purchasing can be the result of a reactive, opportunistic decision to decrease the purchasing cost of one item but can also be a strategic and coordinated effort to pro-actively enhance the competitive position of the company. It includes all phases of the purchasing process, from before the definition of the specification list, over supplier selection and buying to the follow-up and evaluation phase (Robinson, et al., 1967). The definition at the end tries to state that global purchasing includes not only the operational task of buying but also the more strategic responsibilities such as supplier development, the generation of global purchasing synergies, green supply chain management, and more responsibilities.

2.1.4. Strategic sourcing

Strategic sourcing comprises concepts of strategic purchasing, supplier development, information sharing with suppliers and inter-functional integration of purchasing. Strategic sourcing is defined as a critical challenge of designing and managing supply networks in line with the organization's operational and performance objectives (Chiang, et al., 2012). Decisions around strategic sourcing cannot only be based on the operational level, such as cost, quality, and

delivery. It has to incorporate a strategic level and capabilities evaluation of suppliers, such as highlighting quality management practices, long-term quality output, supplier´s strength, process capabilities, management practices, cost reduction at the same time as increasing profit, design and development capabilities (Talluri & Narasimhan, 2004). Because of the expanded competition, strategic sourcing needs to consider the total cost of ownership, the company's growth, and profit-making and comparing different alternative partners (Faes & Matthyssens, 2009). Sourcing strategies help with the procedure for companies to establish long-term relationships with their suppliers and achieve the considerations of strategic sourcing (Chiang, et al., 2012). When conducting a plan for strategic sourcing there are some aspects to consider, such as technology, quality, availability, cost, and fulfillment. Technology is a vital part of more effective communication with suppliers. The strategic sourcing plan is performed in an implementation phase (Van Weele, 2010).

2.1.5. **Why Sourcing and Strategic Sourcing are Important?**

Strategic Sourcing defined as the process of evaluating, selecting and aligning with suppliers or consortiums of suppliers to achieve operational improvements in support of an organization’s strategic objectives. The phrase Strategic Sourcing was coined and is used when the activities of sourcing are directly tied to a sourcing strategy. What does it mean to have a sourcing strategy and why does an organization need it? First, a sourcing strategy aligns an organization's overall business strategy with the sourcing objectives.

Having a clearly defined sourcing strategy will significantly improve both the quality of the results and the speed required to achieve an organization's sourcing objectives. Because Strategic Sourcing is so comprehensive, there is a high probability that the criticality and scope of Strategic Sourcing end up involving much more. It can result in a cross-functional/cross-enterprise effort intended to optimize the "concept-to-cash" supply chain performance. It is an ongoing endeavor to evolve both internal and external processes to obtain the highest level of strategic benefit for a business. When done correctly, the results are immense and ultimately position an organization to achieve a competitive advantage in the marketplace through its suppliers (Asrat, 2017).

It must be remembered that “sourcing” is not “Strategic Sourcing.” From an approach perspective, what separates the two is the ability to address the following critical success factors while executing against the approach. These factors are shown in the order an organization would encounter them in the process and are not indicative of the order of priority:

Strategic Sourcing approach to critical success factors

- Information Availability
- Organizational Commitment
- Supply Market Understanding
- Total Cost Evaluation
- Modifying Approach towards Suppliers
- Organizational Role Changes
- Culture / Processes for Continuous Improvement (Asrat, 2017)

2.1.6. **Supplier Sourcing Strategies**

Sourcing strategies is part of the overall purchasing strategy and is related to defining how many suppliers a firm will have for one specific component/product/service, given the importance of the component and the structure of the supply market, and how the suppliers are related to each other (Cousins, et al., 2008). Often the literature distinguishes between two primary sourcing strategies; single sourcing and multiple sourcing. In the later years, different types of combinations of sourcing structures have been developed such as parallel sourcing, network sourcing, triadic sourcing, etc. These sourcing structures are often reefed to as different types of hybrid sourcing structures (Dubois & Fredriksson, 2008).

The logistical system has to emphasize two key elements; product sourcing and timely acquisition. Sourcing strategies go well beyond cutting costs. Effective sourcing strategies can have a profound impact on overall performance. Sourcing is defined as the process of evaluating, selecting and aligning with suppliers or consortiums of suppliers to achieve operational improvements in support of an organization's strategic objectives. The phrase 'strategic sourcing' is herein used when the activities of sourcing are directly tied to a sourcing strategy (Nackman, 2010).

A sourcing strategy aligns an organization's overall business strategy with the sourcing objectives. For example, it does not benefit an organization to select a supplier for a multiple-year agreement based on superior manufacturing capabilities and local presence if the organization is evaluating global sourcing operations in support of business growth and cost-competitive objectives (Sinclair, 2010). Second, when properly defined, a sourcing strategy assists an organization by gaining a true understanding of its requirements, knowing how it must map to the existing supply market, and then develop a plan for both short and long-term sourcing objectives. Having a clearly defined sourcing strategy that significantly improves both the quality of the results and the speed required to achieve an organization's sourcing objectives (Irungu, 2012).

This makes sourcing the most significant aspect characterizing an organization's transformation to supply management. Sourcing, one of the major steps in the procurement process involves the identification and selection of the supplier whose costs, qualities, technologies, timeliness,

dependability, and service best meet the organization's needs (Lee, et al., 2012). Strategic sourcing involves taking a strategic approach to the selection of suppliers in a manner that is aligned with the organization's competitive strategy. Strategic sourcing reflects the integration of procurement or sourcing strategy with corporate strategy (Kiptum, 2014). Coupled with the vital role of the procurement department in the performance of the organization as a whole (Nackman, 2010). By going through a lot of literature we can say there are five primary sourcing strategies: single, multiple, dual, delegated and parallel. The different structures relate to a strategy that depends on the prevailing situation and the needs of the company. The characteristics of these structures will now be discussed.

2.1.6.1. **Single Sourcing**

This sourcing strategy characterizes a buying firm with only one source of supply for a specific product or service. This could be due to the special importance of the product, or the structure of the supply market, i.e. there are only one or a few suppliers available that are able or willing to deliver the specific product. The single-sourcing structure often results in mutual oriented relationships built on trust which has developed over a considerable period. Often the supplier takes an active part in the product development of the buying firm, and products and processes can be jointly developed. From a dependency point of view, the buying firm will be more depending on the supplier than vice versa. This has been pointed out as a disadvantage with the single-sourcing strategy (Cousins, et al., 2008).

Single sourcing may be a good option if there is potential for "supplier dependence, limited industrial capacity, lack of price-volume discounts, and location-specific needs" (Freeman & Minow , 2009). It has been noted that changing suppliers can often be disruptive, time-consuming, resource-intensive, costly, and even career-threatening for purchasing staff in cases where the new suppliers make mistakes where the old or existing one did not (Dede & Theuri, 2018). Single sourcing may also evolve into partnership sourcing, which is defined as a sourcing practice selectively based on a single supplier, providing the customer with extensive access to the operations and management systems of the supplier over an extended pre-arranged period (Gwako, 2008). The single-sourcing structure often results in mutual oriented relationships built on trust which has developed over a considerable period. Often the supplier takes an active part in the product development of the buying firm, and products and processes can be jointly developed.

2.1.6.2.Multiple Sourcing

This sourcing strategy is characterized by a buying firm with multiple sources of supply for a particular product or service. The buying firm will normally have a set of prequalified suppliers

to choose from to make sure that the different suppliers both have the capacity and the capability to deliver according to contract and specifications. The suppliers compete with each other based on price and other parameters like quality, delivery time, etc. Thus, the multiple sourcing strategy is often viewed as an adversarial approach to handling the suppliers, which also implies that the buying firm is quite independent of a single supplier because it can switch to another supplier relatively easy (Cousins, et al., 2008).

Multiple sourcing also provides an organization with completive advantage due to competitive bidding allowing the organization to take advantage of price, quality, and delivery time incentives offered by the various suppliers through the competitive forces of the market (Akoth, 2014). (Gwako, 2008) However, cautions that this option is only limited to the standardized product and service markets and is not available in the area of specialized items and services where only there is monopoly among the suppliers.

2.1.6.3. Dual Sourcing

There are fewer articles that described dual sourcing as a sourcing strategy than single and multiple sourcing. Dual sourcing is a strategy, where the buying firm uses two suppliers, but these two do not have to be similar. They claim that one supplier may dominate the other in the terms of business share, price, etc., but the buying firm uses two suppliers to reduce the risk of disruption in the supply of goods and services. Thus, one reason for having two suppliers is to reduce stock because of less disruption in the supply chain (Yu, et al., 2009).

2.1.6.4. **Delegated Sourcing**

This sourcing strategy implies making one supplier responsible for the delivery of an entire sub-assembly (system) to the buying firm as opposed to an individual part. The buying firm is giving more responsibility to one key supplier who coordinates the rest of the component suppliers. The supplier is often referred to as the first-tier supplier. When the buying firm is working more closely with one supplier and leaves the rest of the coordination to this supplier, the buying firm achieves a reduction in the transaction costs (but the first-tier supplier can get higher transaction costs). One disadvantage with this sourcing strategy is that the first tier (or system) supplier can become very large, and thereby get more power than the buying firm. This can alter the balance in the buyer-supplier relationship (Cousins, et al., 2008).

2.1.6.5. **Parallel Sourcing**

Parallel sourcing is a sourcing strategy that allows the buyer to work on a single basis with each component supplier within a product group while maintaining multiple sourcing across different product groups. This structure described and tested by (Richardson, 1993) when he studied Japanese automakers and how they worked with their suppliers. He realized that “there are usually several firms within the assembler’s supplier group qualified to manufacture a

component. The other qualified suppliers may be currently producing similar components for other models or have done so in the past." Thus, there exist several suppliers in the buying firm's the supplier base with (almost) similar capability that could produce a specific component but are producing some other components today. By using this knowledge, the buying firm can introduce the threat of switching suppliers if the currently used supplier is not performing according to expectations. On the other hand, if the supplier is performing well it will remain a single supplier for the specific component on a certain model (or a production site) and the buying firm and supplier will continue to develop a long-lasting and mutually oriented business relationship (Richardson, 1993).

2.1.7. Supplier Evaluation and selections

Supplier evaluation is a term used in business and refers to the process of evaluating and approving potential suppliers by quantitative assessment. The purpose of supplier evaluation is to ensure a portfolio of best in class suppliers is available for use. Supplier evaluation is also a process applied to current suppliers to measure and monitor their performance to reduce costs, mitigate risk and driving continuous improvement. Potential suppliers must be evaluated to determine their suitability. Supplier evaluation is an expensive and resource-intensive process that should be tailored to the importance of the purchase. Supplier evaluation is also an iterative process that eliminates unsuitable suppliers at each stage. Only qualified suppliers advance to more resource-intensive stages of the market research process (Nicosia, 2006). Also, Technical evaluation and then selection of potential suppliers provide deliver frequent and JIT supply of materials, improved quality, reliability, and delivery by suppliers. Furthermore, when the buying firm provides technical evaluation and selection process, the performance dimensions of the buying firm will improve in terms of cost, quality, productivity, and design (Lee, 1985).

2.1.8. Comparison between Single and multiple Sourcing

Single vs. multi implies if the company has one or several suppliers for the same product. Single sourcing is defined as an extreme form of source loyalty to a single source even if there are other possible sources. A positive advantage is that single sourcing can cut costs through cost advantages and quality improvements which lead to an enhanced global competitive position. Other positive advantages are the various supply base reduction efforts, total cost-cutting strategies and reducing through time projects in purchasing (Faes & Matthyssens, 2009). Since the transaction costs are decreasing a greater effort can be made to develop relationships with the supplier generating greater competitiveness against other supply chains (Van Weele, 2010).

A negative factor when using single sourcing is a dependency on one source, given that it can lead to higher switching costs, potentially less competitive cost structures and is costly if changing suppliers. Using single-sourcing means the emphasis is even higher on finding the perfect fit among the alternative supplies (Faes & Matthyssens, 2009). Another issue is if there is

an increased demand that a single supplier can´t meet (Handfield, et al., 2009). Single sourcing leads to the best results in innovative technology circumstances and expertise-oriented situations (Faes & Matthyssens, 2009).

Multiple sourcing is defined as when a buying company has several similar available suppliers for the component orders for the same item (Faes & Matthyssens, 2009). There are two main reasons for using multiple sourcing. It reduces dependency on individual suppliers and other advantages that companies gain by having competing suppliers such as risk reduction of becoming locked into one technical solution, that later will be outdated or becoming dependent on one supplier (Gadde & Hakansson, 2001). Negative aspects are the loss of not developing a close relationship with suppliers and high transaction costs for the company (Van Weele, 2010).

A strategy for each segment of a company might be more suitable, rather than a company strategy. In contrary for this idea, another author suggests "although the preceding analysis suggests that it is impossible to choose between single and multi-sourcing strategies on objective grounds, it is possible to say that an Ideal sourcing strategy would, by definition, seek simultaneously to maximize the benefits and minimize the costs of both." (Ramsay & Wilson, 1990). (Quayle, 1998) Goes on to question whether companies must choose a specific sourcing policy. He argues that a specific policy does not allow flexibility and the decision should be the buyers, who can consider all aspects at the time purchasing of the parts occur (Quayle, 2002). He argues that neither strategy is superior to the other. For example, lower prices can be obtained by playing suppliers against each other (dual sourcing) or using one supplier and finding ways of cutting costs by economies of scale, mutual development, etc. (Quayle, 2002).

The literature presented this far in this comparison suggests that there is no superior strategy for all situations, but there are examples of literature suggesting the superior strategy (Faes & Matthyssens, 2009). Present a comparison where different authors suggest different superior strategies. There are contradictory arguments from scholars regarding using single or multiple sourcing strategies. Some of the literature gave their way to single sourcing and presents such kind of arguments and others for multiple sourcing. Focusing on single sourcing provides many efficiency advantages. However, several recent disruptions have forced SC managers to rethink this lean sourcing strategy since the cost savings can be wiped out by disruption impacts. However, some scholars try to make a point by engaging with multiple suppliers will make the buyer come across with many different sets of skills, machinery and equipment's which in turn provide confidence in a buyer for various potential businesses and power of sourcing various product or services to the customer. A multi-sourcing strategy exposes the buyer with various risks. One of the biggest risks is governance which is quite insignificant in single sourcing. The performance of one vendor can significantly affect the performance of other vendors. More the suppliers more are the complexity (Faes & Matthyssens, 2009).

2.1.9. **Partnership vs. competitive bidding**

The strategic decision to be made is if there is a need or want to develop a long-term relationship through partnership sourcing or keep the suppliers on an arm's length by using competitive bidding and sounding out the competition (Van Weele, 2010). Using competitive bidding is often related to multi-sourcing where the different alternative suppliers compete to create the best market price (Jonsson, 2005). When a supplier has a corporative relationship with the buyer it is often referred to as a partnership. Partnership with suppliers can give a positive influence on company performance. The relationship can grow from joint resources and exchange of valuable knowledge with different partners (Handfield, et al., 2009). As the partnership proceeds more trust will develop and less face to face and personal communicating is needed, this contributes to a more effective relationship where the performance of each party is shared (Jonsson, 2005).

2.1.10. **Supplier development**

(Krause & Ellram, 1997) Define supplier development as any effort from the buying company to together with suppliers to increase the performance and/or capabilities of the supplier and to meet the buying company's short and/or long-term supply needs. Supplier development is described as activities undertaken to improve the current or future relationship between buyers and suppliers, either short- or long-term which could lead to improved or expanded capabilities. Supplier development is any systematic program established to create and sustain a network of competent suppliers (Williams, 2006).

Possible outcomes of supplier development include improved communication, joint problem solving and risk-sharing as well as reduced costs. Supplier development is a subject in SCM which has been significantly researched because manufacturers realized that supplier performance is important for their establishing and maintaining a competitive advantage. Supplier development has a critical role when driving performance improvement in purchasing and contributes to overall organizational effectiveness. Direct involvement in supplier development activities plays an important role in supplier performance improvement (Li, et al., 2011). In the Buyer performance, the context performance of manufacturing companies can be evaluated by one or several key competitive priorities which are described in four categories: quality, delivery, cost, and flexibility. Supplier performance is defined by the following measures: lead-times, on-time delivery, delivery reliability, quality, and cost (Shin, et al., 2000).

2.1.11. **Contracting**

The purpose of contract management is to ensure that all parties to the contract fully meet their respective obligations as efficiently and effectively as possible, delivering the business and operational outputs required from the contract and providing value for money. It also protects the

rights of the parties and ensures the required performance when circumstances change. We can give our supplier's different types of contracts depending upon our choice. They compare the differences between short term and long-term contracts and how the different formats might influence the purchasing. They suggest that short-term contracts might be useful when the purchaser wishes to punish the supplier, the final demand is inconsistent, and the purchased product is subject to many changes, the products have an unknown life expectancy, or they are dealing with an unknown supplier. For long-term contract they suggest that they might be useful when purchaser wishes to reward the supplier, the market and final demand is stable, the product is subject to few changes and the life expectancy is known, working with known suppliers or when the volume is too low to attract the desired price. Another reason could be to ensure against future price escalations (Ramsay & Wilson, 1990).

Monczka et al, (2005) defines negotiation as a process of formal communication, either face to-face or via electronic means, where two or more people, groups, or organizations come together to seek mutual agreement about an issue or issues. The negotiation process involves time, information, and power between individuals and organizations that are interdependent. The negotiation process is made by a clear understanding between other's party needs and wants. During the negotiation, both parties have to reach a possible 'win-win' situation which would help to create a solid business ground for future possibilities. As part of the sourcing process, it is important to present how to conclude and get the best outcome from the sourcing process (Monczka, et al., 2005).

2.1.12. Communication

Communication becomes crucial in these turbulent economic times as it drives the firm into becoming a collaborative structure (Krishnapriya & Rupashree, 1997). It has been revealed that buyer and supplier strategic information flows positively impact the relationship-specific performance of both sharing and receiving parties, among which delivery time, quality and flexibility are prevalent (Klein & Rai, 2009). The communication between buyer and supplier begins with the function of negotiating the contract. At this stage, the behavior of initiating the relationship occurs simultaneously as perceptions are gathered and expectations met or not met. This stage leads onto the functional stage of the day-to-day fulfillment of the transaction and, at the same time, experiencing the relationship (Ambrose, et al., 2008).

Buyer-supplier relationships have gained considerable attention in recent years, as research in purchasing and supply management focuses increasingly on strategic aspects such as supply chain relationships. Interest comes from a variety of sources, including the industrial marketing and purchasing group (IMP), relationship marketing, organizational behavior, and transaction cost economics (TCE). A number of studies reviewed and identify a number of dimensions that are generally considered as key to a relationship – communication, trust, satisfaction, commitment, relationship maturity, power and dependence. While relationship models and

corresponding measurement instruments have been developed independently in a variety of domains, there is much divergence over the relative importance of the different models (Ambrose, et al., 2008). Most of the empirical work to date has focused on only one or two dimensions of the relationship, as an indicator of overall relationship strength (Giannakis & Croom, 2003).

However, to realize the streamlining effect of information, the information shall be more proprietary, tacit and holistic than the data traded in arm's length relationship, given the fact that levels of information sharing, as well as quality and relevance of information, shared become critical aspects in deciding success in collaborative efforts in buyer-supplier relationships (Krishnapriya & Rupashree, 1997). Communication is operationalized to include the extent to which the firm and its key suppliers:(a) share critical, sensitive information related to operational and strategic issues; (b) exchange such information frequently, informally and/or promptly; (c) maintain frequent face-to-face meetings; and (d) closely monitor and stay abreast of events or changes that may affect both parties (Krause & Ellram, 1997).

2.1.13. Organizational performance

Organizational performance refers to the effectiveness of the organization in fulfilling its purpose. Some organizations aim to trade successfully to return financial benefits to shareholders, while others have non-financial objectives such as service to the community. Organizational performance encompasses three specific areas of firm outcomes; a financial performance which is concerned with profits, returns on assets, and return on investment; product market performance which centers on sales and market share; and shareholder return that involves total shareholder return and economic value-added. Therefore, organizational performance comprises the actual output or results of an organization as measured against its intended outputs which are its goals and objectives (Richard, et al., 2009).

According to (Yamin, et al., 1999)firm performance refers to how well a firm achieves its market-oriented goals as well as its financial goals. Financial performance measurements are accounting-based measurements such as ROI, the percentage in market share, the rapid turnover of inventories, return on asset, etc.

It is widely argued that sourcing strategies with high integration between buyer and supplier render high supplier performance; this is in fact the focal argument in the supply chain management literature. Sourcing strategies with close collaboration are, however, difficult to realize when a low-cost focus is applied – due. Several performance indicators must therefore be considered simultaneously to illustrate the performance trade-off experienced by firms choosing between various sourcing strategies. (Åkesson, et al., 2007)

Price and quality performance is often the focus of previous, Performance issues in terms of deliveries and lead times are also frequently discussed. In addition, performance in terms of issues concerning the relationship between buyer and supplier – such as communication, relationship atmosphere or obtained flexibility – is commonly considered in previous research Finally, supplier performance in terms of working conditions is occasionally considered, and notably in relation to garment manufacturing in low-cost countries (Åkesson, et al., 2007).

2.2.Empirical Review

(Dede & Theuri, 2018) in the study of the effect of sourcing practices on procurement performance in state corporations in Kenya, with specific reference to the Kenya Bureau of Standards, founds that organizations had gone beyond sticking to a single-sourcing strategy but have embraced the contingency approach where they are using the most suitable strategy at a time and using other strategies where they best apply. This, therefore, implied that there is a positive relationship between multiple sourcing, green sourcing and global sourcing with the performance of the procurement department. It also indicated a stronger relationship of performance with multiple sourcing and green sourcing with a weak correlation between global sourcing and performance of the procurement department. The study, however, showed a negative correlation between single sourcing and the performance of the procurement department and also noted that there were still some grey areas in theory and practice especially as regards the involvement of the levels of the organizations and the user departments in the process, as well as a, clearly define method of determining the most suitable strategy at any given time. Even though, the study showed the relationship between single and multiple sourcing on the performance of the procurement department it does not specifically state the relationship with in terms of customer satisfaction, cost and at large on the organization's performance.

It appears that during the past few years purchasing has begun to play an ever more important role in the strategy of the firm (Carter & Narasimhan, 1996). To survive, managers have begun to rethink their competitive priorities and their value chain. Increasing numbers of organizations have recognized that effective purchasing holds the potential to transform their competitive performance for the better. It is generally agreed that purchasing has evolved from a clerical buying function into a strategic business function that contributes to the competitive position of companies.

According to (Shubhendu, 2015), there is often a tussle between choosing a right sourcing strategy which says, whether the buyer should go for single sourcing or multiple sourcing. The study introduces only quality as a parameter apart from other parameters such as economies of scale and specific knowledge or learning effect on sourcing strategy selection by taking into account the small number of interactions involving the buyer and competing suppliers. The author concludes that multiple sourcing is the better option for the buyer in terms of cost for bid

and negotiations and that the quality is better in single sourcing however the cost has to be paid for the same. So, from the analysis, the study recommends multiple (dual) sourcing approaches for a buyer are a good option to go to get better cost benefits and appropriate quality (Shubhendu, 2015).

According to (Ramsay & Wilson, 1990), the strategic combination of single sourcing and long-term contracts is rapidly becoming the norm in progressive purchasing functions. The implications of this radical development are examined by disentangling the advantages and disadvantages of the separate strategies before recombining them to provide a generally applicable sourcing/contracting decision-making model. A strategy for each segment of a company might be more suitable, rather than a company strategy. In contrary for this idea, another author suggests "although the preceding analysis suggests that it is impossible to choose between single and multi-sourcing strategies on objective grounds, it is possible to say that an Ideal sourcing strategy would, by definition, seek simultaneously to maximize the benefits and minimize the costs of both."

The literature presented this far in this comparison suggests that there is no superior strategy for all situations, but there are examples of literature suggesting the superior strategy. (Faes & Matthyssens, 2009) Present a comparison where different authors suggest different superior strategies. There are contradictory arguments from scholars regarding using single or multiple sourcing strategies. Some of the literature gave their way to single sourcing and presents such kind of arguments and others for multiple sourcing. Focusing on single sourcing provides many efficiency advantages. However, some recent disruptions have forced SC managers to rethink this lean sourcing strategy since the cost savings can be wiped out by disruption impacts.

(Makafui, et al., 2015), according to their study "The Impact of Sourcing on the Delivery of Raw Material" reveals the impact of sourcing on delivery of materials has effects on the overall operation of the corporation at Yabsco Ventures. We can see the results gathered indicated that there several benefits and for that matter impact that sourcing has on the delivery of raw materials for the Company. The findings are that strategic sourcing aim is to reduce costs and obtain savings and increase efficiency with the suppliers. And the researchers state that "The focus of strategic sourcing management involves integrating supplier capabilities into organizational processes to achieve a competitive advantage through cost reduction, technology development, quality improvement, cycle time and delivery capabilities to meet customer requirements".

The study of the Strategic Procurement and Financial Performance of Iranian Manufacturing Companies done by (Sobhani, et al., 2014) substantiated that there is a positive relationship between the strategic procurement and financial performance of the companies. Since the strategic procurement concept was investigated through purchasing skills and supplier

involvement constructs, the main conclusion of this study could be summarized into two points. First, by improving the skills of procurement personnel, an organization could achieve a better financial performance following by getting strategic in procurement. Second, engaging the key suppliers from the design process to cooperatively solving the supply chain predicaments could diminish the wastes of an organization and subsequently increase its financial performance. The managers should, therefore, focus on attempts to find out corporate and/or business strategy and understand it so that they can align the strategic procurement with corporate strategy, and demonstrate how procurement management can reply to organizational objectives and goals. Organizations may set up internal classes to teach the essential skills to their employees or may find it necessary to recruit procurement professionals with these skills. The managers can select the key suppliers; establish close relationships with suppliers to make certain efficient and high-quality delivery of materials.

2.3. Literature Gap

There is often a tussle between choosing a right sourcing strategy which says, whether the buyer should go for single sourcing or multiple sourcing. Some of the literature gave their way to single sourcing and presents such kind of arguments and others for multiple sourcing. Focusing on single sourcing provides many efficiency advantages. However, some recent disruptions have forced SC managers to rethink this lean sourcing strategy since the cost savings can be wiped out by disruption impacts.

The research gap, therefore, brought forth by previous researches is being able to capture important phenomena such as the Buyer-Supplier relationship, Delivery of Quality of Goods and services, Supply Dependability and Communication by each evaluating them with the multiple and single-sourcing strategies. However, as far as the knowledge of the researcher is concerned, no research has been conducted about effect of these practices in the organizational performance of similar manufacturing industries in Ethiopia. the studies I came across shows that the independent variable I constructed for this study (Buyer-Supplier relationship, Delivery of Quality of Goods and services, Supply Dependability and Communication) neglected and replaced by another variable.

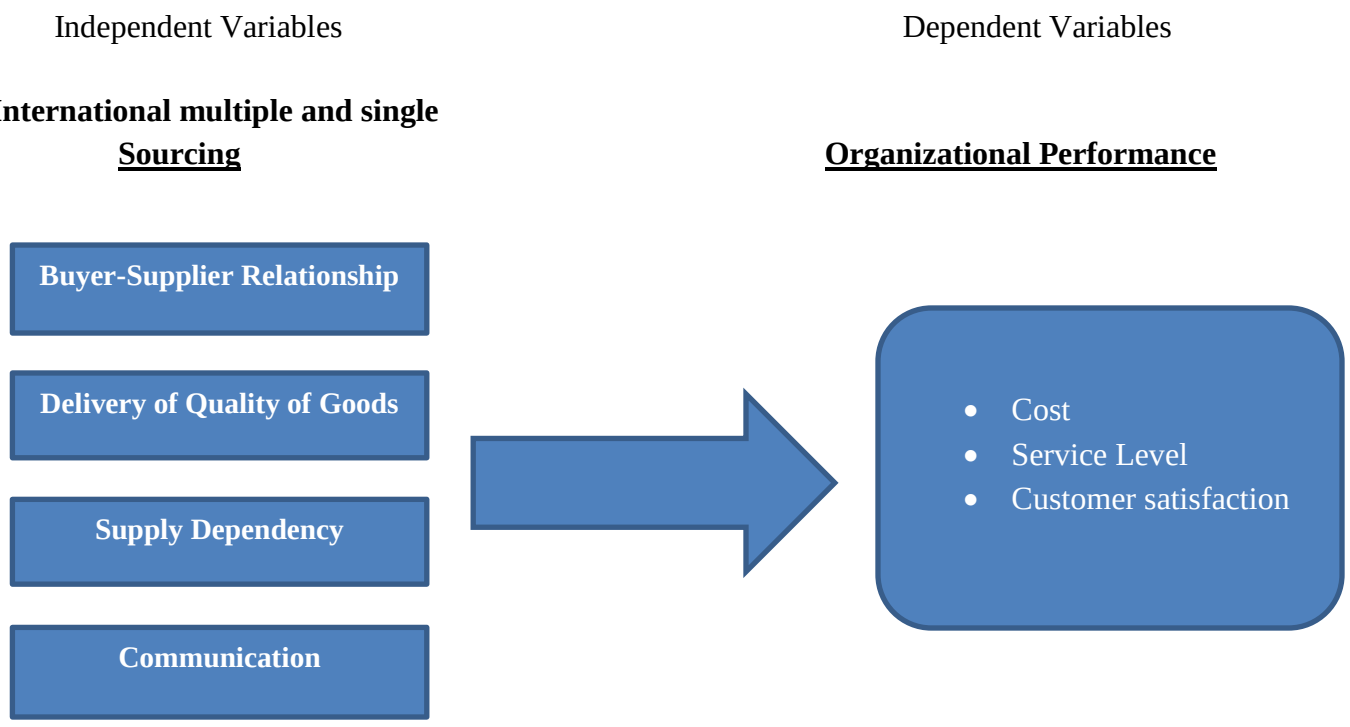
From the aforementioned discussion, it is clear that there exists an important but neglected research gap that needs to be investigated very well. For one thing, no evidence designate sufficient studies were conducted on the effect of the multiple sourcing and single sourcing of international procurement on the organization’s performance.

2.4.Conceptual framework

Based on the literature review, a conceptual framework for this study was developed. The major objective of the study intends to examine the effect of multiple and single sourcing of international procurement on organizational performance. The conceptual framework illustrates

the relationship between the independent variables on one hand and the dependent variable on the other.

Figure 1. Conceptual framework



Source: - Compiled by the researcher mainly based on Sanchez-Rodriguez (2009); Prajogo (2011); Chen et al. (2004); Sileshi S.S. (2015) ;) Eyerusalem Melaku (2018), Bayew Liknaw (2018), Mulu Addis (2018)

CHAPTER THREE
RESEARCH METHODOLOGY

Introduction

This chapter explores the research methodology that is used in carrying out the research study by describing the research approach, research design, population and sampling, sources of data and types, data collection procedure, and finally ethical considerations. The first section of this chapter highlights the research design strategy that the studies adopted. Then, the study population and sampling techniques, as well as means of collected data and data analysis methodologies, are explained.

3.1. Research Approach

In this research, both qualitative and quantitative research approaches were used in combination to enumerate the data gathered. According to (Creswell, 2003) the quantitative approach is the one in which the investigator primarily uses postpositive claims for developing knowledge, i.e., cause and effect relationship between known variables of interest or it employs strategies of inquiry such as experiments and surveys and collect data on predetermined instruments that yield statistics data. These approaches considered appropriate in answering the research questions.

3.2.Research design

The study adopts both descriptive research design and an exploratory study, the researcher must be able to define clearly, what he wants to measure and must find adequate methods for measuring it along with a clear-cut definition of 'population' he wants to study. Since the aim is to obtain complete and accurate information in the said studies, the procedure to be used must be carefully planned. The research design must make enough provision for protection against bias and must maximize reliability, with due concern for the economical completion of the research study (Kothari, 2004).

The study employed both qualitative and quantitative ones. A quantitative method was selected because it is viewed as effective to gather large data and comprehensive issues at a specified period of time. While the qualitative method was selected based on the assumption that it enables the researcher to generate meanings and phenomena within the real context of the research participants and to fill the gap left by the quantitative one (Kothari, 2004). Therefore, mixed-method was adopted in order to make the study more reliable through triangulation.

3.3.Population and Sample Size

The population of this study was comprised of Mesfin Industrial Engineering plc's Department's, which include Supply department managers (4), all foreign procurement officers (12), Strategy and planning department (4), Design Office Department (4), Corporate Finance Manager (1) and Marketing & Strategy Department (6).

Table 1. Population

S/No	List of International Procurement Stake Holders in Mesfin Industrial Engineering plc	Number of Respondents	Type of Survey
1	All Supply department managers	4	In-depth Interview
2	All Foreign procurement Officers	12	Questionnaire
3	All Strategy and planning Department office	4	Questionnaire
4	All Design Office Department office	4	Questionnaire
5	All Corporate Finance Manager	1	Questionnaire
6	All Marketing & Strategy Experts	6	Questionnaire
	Total Respondents	31	

Source; (Mesfin Industrial Engineering plc HR department, 2016).

Therefore, the data collected from the above-stated experts of MIE represents the target population. Unlike a sample survey, in which only a subset of the elements is selected for inclusion and enumeration, a census generally does not suffer from sampling error. Therefore, from the target population, the researcher determines to study all the members of a population (31). By referring the above sourcing stakeholders in the company, the target population is 31 employees out of these all 31 Samples taken because the populations are small and it's easy to carry out census study. Since the populations are manageable it was more sensible to collect data from the entire population. Therefore, the study employed a census method to conduct research over the given case.

3.4.Data collection tools

Primary data is first-hand information, data collected directly from an original source. Primary data can be collected through observation, interviews, or the use of questionnaires (Saunders, et al., 2012). The Data collection techniques that were used for this study are categorized into primary data collection techniques, where Primary data was collected through questionnaires from selected sample respondents and secondary data collection techniques whereby, the data already recorded in the form of a journal, articles, books, and other unpublished materials are

collected and hence are compiled together to give essence to what the research is trying to find out.
Besides, for the sake of developing a conceptual framework the researcher used secondary data sources. These secondary data were obtained from published databases related to the study. For collecting the data questioner will be administered to related foreign procurement experts and staff directly or indirectly have a relationship with foreign procurement. To collect depth-information for this study the following are important tools. Questionnaire - for many stakeholders in international procurement will be distributed and collected and In-depth interviews for the experts.

3.5.Data Collection Procedure

To achieve the objectives of this research, the researcher collected both primary and secondary data. According to (Kothari, 2004) the major advantages of questionnaires are that they can be administered to groups of people simultaneously; they are less costly and less time-consuming, Respondents, who are not easily approachable, can also be reached conveniently and large samples can be made use of and thus the results can be made more dependable and reliable than other measuring instruments.

The uestionnaire was prepared before the time of distribution and the researcher has discussed with those selected workers how to respond correctly, to minimize risks of improper responses. Interview: is an adaptable way of finding things out. The human language is very useful in the opening of what lies behind people's action (Zikmund, et al., 2003) Semi-structured interview questionnaire was prepared for 4 persons (Supply Department Managers) and arranged orderly in an understandable, precise and clear manner. It should be clear, to the point, and able to avoid leading concepts.

During the survey, the questionnaire was administered to the target population through personal contact by the researcher. Respondents were kindly requested to fill the questionnaire on the spot for most of the cases. Out of the total 27 distributed questionnaires, all of them are collected and for the interview, with the supply mangers, two supply managers gave their feedback face to face interviews the rest two supply managers gave their responses via phone.

3.6.Data Analysis

This research used the methods of descriptive, correlation, and regression analysis. The descriptive data analysis approach is appropriate due to the nature of the study. According to (Marczyk, et al., 2005) in purely descriptive studies precise and comprehensive description facts is the primary focus of the study. Correlation analysis is a statistical tool for the exploration of

relationships between variables upon another Regression analysis is a technique employed on one variable to determine the effect of another variable.

The data of this study were analyzed using a computer through package software (SPSS: Statistical Package for Social Sciences. v25). Some statistical methods were employed: In this research data were analyzed using a computer through a software package called SPSS (Statistical Package for Social Sciences), version 25. The researcher applied both descriptive statistics and inferential statistics (correlation and regression). The correctness of the data was checked by the researcher at the initial stage. Then using descriptive statistics (frequency and percentage) the characteristics of respondents were analyzed.

3.7.Scale Reliability Analysis

Reliability refers to the extent to which data collection techniques or analysis procedures bring out reliable findings. Reliability analysis is concerned with the internal consistency of the research instrument. Cronbach's alpha is one of the most frequently used, which is the degree of inter-correlations among the items that constitute a scale. Considering '0.7' as an acceptable reliability coefficient for Cronbach's Alpha approach, the higher the score, the more reliable the generated scale will be.

3.8.Validity

As per (Mugenda & Mugenda, 2003) for a research tool to be valid, it needs to have three components, the first one is construct validity which deals with the consistency of the questions with the responses intended by the researcher. Structuring the questionnaire as per the specific objectives will assure this component of validity. Content validity is the second component which means the ability of an instrument to gather the data required for the analytical techniques suggested. Using a close-ended question will assure avoidance of irrelevant answers. To ensure the internal validity of the questionnaire, the researcher gave the draft questionnaire to the Addis Ababa Supply department manager for review and recommendations which are to be made a portion of the final questionnaire. Therefore, the researcher has confidence that the constructs can measure the effect.

3.9.Reliability Test

According to (Leedy & Ormord, 2010) Reliability is the consistency with which a measuring instrument yields a certain result when the entity being measured has not changed (Leedy & Ormord, 2010). Further explained, that we can measure something accurately only when we can also measure it consistently. Yet, measuring something consistently doesn't necessarily mean

measuring it accurately. In other words, reliability is a necessary but insufficient condition for validity.

The respondents who were selected for this research are the employees of MIE and stakeholders in International Procurement who directly or indirectly participate and have the experience of the related issue. Hence, they have given credible answers to the questionnaires. The same answer would probably be given to another independent researcher. Therefore, the researcher believed that this study was being reliable. To check the reliability and internal consistency of the measurement items the researcher was tested the reliability through Cronbach's alpha.

Table 2. Reliability Statistics Test Result

Variables	Cronbach's Alpha	N of Items
Single Sourcing Data	0.852	5
Multiple Sourcing Data	0.914	5

Source: - Own survey result, 2020

The overall Cronbach's 'α' for the survey designed for the study is greater than 0.70, which is well over the accepted limit of 0.70, which is reliable. Therefore, the result shows that the results extracted from the questionnaire are reliable.

3.10. Ethical Considerations

Because of the sensibility of the data that will be presented in the future MIE's and its supplier's transaction will be kept with good care. To examine the two prominent sourcing strategies the permission will be required from the company. Initially, the GM of the company gave their consent by word and got their full support from the company's foreign procurement department located here in Addis Ababa starting from the title and future data collection requirement. The permission to provide the data and to cooperate has found. During the whole process of the research data and information will be kept confidential and used only for this research purpose.

CHAPTER FOUR
RESULTS, INTERPRETATIONS AND DISCUSSIONS

Introduction

This chapter presents analysis, results, and discussion of the study to describe the effect of international procurement multiple and single sourcing strategy on the organizational performance in Mesfin Industrial Engineering plc. The findings were analyzed and presented in the form of descriptive statistics, correlation, and linear regression. The analysis and interpretation of data were guided by the research objectives from which a discussion of findings has been made.

4.1.Response rate

The study targeted to Twenty seven (27) foreign purchase stakeholders Employees and 4 In-depth interviews were made. Out of the 27 employees the questionnaires were filled and returned by all the employees (27 employees) the individual respondents translating to a response rate of 100%. The response rate was 100%. This response rate was enough and representative and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good while a response rate of 70% and over is excellent. This commendable response rate was established, firstly due to the respondent's population was very manageable, and their utmost collaboration was valuable to get the questioner as early as planned.

Table 3. Response Rate

Response Rate			
		N	%
Cases	Valid	27	100
	Excluded[a]	0	0
	Total	27	100

Source: - Own survey result, 2020

4.2.Descriptive Analysis

A calculated mean value that ranges from 1 to 1.80 implies strong disagreement, a mean range from 1.81 to 2.6, from 2.61 to 3.4, from 3.41 to 4.2 and from 4.21 to 5.00 represented respondents' perceptions of somewhat disagree, neutral, somewhat agree and strongly agree

respectively (Mohammed, 2016). In the process of examining the data, the standard deviation was used. Small standard deviations (relative to the value of the mean itself) indicate that data are close to the mean whereas a large standard deviation (relative to the mean) indicates that the data points are distant from the mean. The mean is a poor fit for the data. Standard deviation is a measure of how well the mean represents the data.

4.2.1 Demographic data presentation and Analysis

The study initially sought to ascertain the general information on the employees who are directly or indirectly involved in the study with regards to the age, level of education, and working experiences in the organization.

Table 4. Demographics of Respondents

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	17	63	63	63
	Female	10	37	37	100
	Total	27	100	100	
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-30	7	25.9	25.9	25.9
	31-35	2	7.4	7.4	33.3
	36-40	9	33.3	33.3	66.7
	41 and above	9	33.3	33.3	100
	Total	27	100	100	
Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Degree	21	77.8	77.8	77.8
	MA	6	22.2	22.2	100
	Total	27	100	100	
Year of Service					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-4 Years	4	14.8	14.8	14.8
	5-9 Years	9	33.3	33.3	48.1
	10-20Years	9	33.3	33.3	81.5
	Above 20 Years	5	18.5	18.5	100
	Total	27	100	100	

Source: - Own survey result, 2020

The number of years that an individual has been in the organization and his or her age determines the level of dealing with challenges in the international procurement. The respondents were asked to indicate their ages. From the total 27 respondents, 10 (37 %) of them are Female respondent and 17 (63 %) of the respondent is male, this implies that male respondent greater than Female.

From the findings, the majority of the respondents (33.3%) were between 36-40 years old, (33.3%) were 41 and above years, (25.9%) were between 26-30 years old, while (7.4%) were 31-35 years old. The findings indicate that majority of the respondents were aged between 36 and above years. Regarding the employee education qualification, the above table, clearly indicated that majority of the workforces (77.8%) acquired their first Degree and while the rest (22.2%) of the respondents are MA Degree Holders.

The respondents were questioned to indicate the number of years that they had worked in Mesfin Industrial Engineering plc. From the findings, most of the respondents (33.3%) had worked in Mesfin Industrial Engineering plc. for 5-9 years, (33.3%) for over 10-20 years, (18.5%) Above 20 years while the rest (14.8%) had worked in the company 1-4 years. These findings mean that most of the Mesfin Industrial Engineering's employees were highly skilled as they had worked for a long and reasonable duration service years in the respected fields and hence the experience will help the respondents to give clear and precise information regarding the study.

4.3.Descriptive Analysis

The descriptive analysis can interpret the Likert scale in the range of five points Likert scale (that ranges from strongly disagree to strongly agree in the survey questionnaire). A calculated mean value that ranges from 1 to 1.80 implies strong disagreement, a mean range from 1.81 to 2.6, from 2.61 to 3.4, from 3.41 to 4.2 and from 4.21 to 5.00 represented respondents' perceptions of somewhat disagree, neutral, somewhat agree and strongly agree respectively (Mohammed, 2016).

4.3.1. To identify the General approaches for selecting International procurement Sourcing Strategies in Mesfin Industrial Engineering plc.

Table 5. Approaches for selecting Sourcing Strategies

Approaches for selecting International procurement Sourcing Strategies	N	Min	Max	Mean	Std. Deviation
Our company have well written International Procurement sourcing strategies approach	27	2	5	3.3704	1.04323

Our company developed detailed requirements for goods and service to be purchased through selected sourcing strategies	27	2	5	3.4074	0.88835
Is the procurement department participate in the development of sourcing Strategies	27	2	5	3.6296	0.6877
The management intervene in the selecting of your company's sourcing strategies	27	2	5	3.7037	0.82345
Valid N (list wise)	27			3.5277	

Source: - Own survey result, 2020

The mean values of each of the items on General approaches for selecting International procurement Sourcing Strategies in Mesfin Industrial Engineering plc. indicator were calculated between 3.37 and 3.7 with almost comparable standard deviations that range between 0.68 and 1.04. So, respondents rating the case company's Approaches for selecting International procurement Sourcing Strategies somewhat agreed. So the respondents indicate the company has well written International Procurement sourcing strategies approach which has an accumulative mean of 3.37. , Mesfin Industrial Engineering plc. has well developed detailed requirements for goods and service to be purchased through selected sourcing strategies which have a an accumulative mean of 3.4, the companies foreign procurement department participate in the development of sourcing strategies which have an accumulative mean of 3.62 and finally the management of the company intervene in the selecting sourcing strategies which have an accumulative mean of 3.7, and the overall aggregate mean for approaches for selecting International procurement Sourcing Strategies is 3.52.

This shows that Mesfin Industrial Engineering plc. has a well-established International procurement Sourcing Strategies to procure goods from abroad which also correspondent with the interviewed supply managers they concurred that, their company uses international procurement sourcing strategies for selected goods like for trailer the company has selected suppliers for and assembling a line of truck and automobile also. And for different spare parts, the company uses multiple sourcing strategies. Per the interview with the supply chain managers concurred with the respondents the sourcing strategies approach developed and directed by supply chain corporate managers which lead them to have adequate working space for the supply chain officials. Finally, I came to know that the company's management intervenes in selecting sourcing strategies for some items. This will happen for mostly urgent goods this also aligns with the finding collected form the respondents.

4.3.2. All Variables [Independent and dependent variables]

The respondents were asked about the effect of International procurement Multiple and Single-sourcing strategies on the grangerization performance. As described in the below table 4.3. Indicated that all five dependent and independent variables the mean and standard deviation results. These five variables indicate the effect of International procurement single-sourcing

strategies on the performance of the organization in terms of Buyer-Supplier relationship, Delivery of Quality of goods, supply dependability, and communication.

Table 6. Mean and Standard Deviation Descriptive statistics result for International Procurement on Single Sourcing

Descriptive Statistics			
Variables	Mean	Std. Deviation	N
Effect of Single Sourcing on Organizational Performance	3.4938	0.51781	27
Single Sourcing Buyer-Supplier Relationship	3.5481	0.72873	27
Single Sourcing Delivery of Quality Goods	3.4667	0.65163	27
Single Sourcing Supply Dependability	3.3148	0.57006	27
Single Sourcing Communication	3.5833	0.61237	27
Average Mean	3.48134		

Source: - Own survey result, 2020

As presented in Table 6 it is understood that the mean values of all variables were between 3.3148 and 3.5833. The average mean value of the all variables is 3.48134 and this showed as there is a moderate and implies that half and above respondent agreed that on international procurement single-sourcing strategies have a positive effect on the organizational performance through the good Buyer supplier Relationship, delivery of quality of goods, by being a reliable source of the supply and by having better communication.

Table 7. Mean and Standard Deviation Descriptive statistics result for International Procurement on Multiple Sourcing

Descriptive Statistics			
Variables	Mean	Std. Deviation	N
Effect of Multiple Sourcing on Organizational Performance	2.6543	0.66975	27
Multiple Sourcing Buyer-Supplier Relationship	2.6222	0.72395	27
Multiple Sourcing Delivery of Quality Goods	2.8222	0.75107	27
Multiple Sourcing Supply Dependability	2.8519	0.69773	27
Multiple Sourcing Communication	2.7222	0.75107	27
Average Mean	2.73456		

Source: - Own survey result, 2020

As presented in Table 7. It is understood that the mean values of all variables were between 2.6222 and 2.8519. The average mean value of the all variables is 2.73456 and this showed as there is a moderate and that half and above respondent agreed that on Multiple Sourcing International procurement strategies have Moderate effect on the organizational performance through not-satisfactory Buyer supplier Relationship, delivery of quality of goods, by not being a reliable source of the supply and by having bad communication.

The above stated descriptive statics shows the questioner respondents replies to questions raised to them and the below response will also show the interviewed Mesfin industrial engineering plc. Supply department managers reply to the questions raised to them.

- According to the response of Mesfin Industrial Engineering Foreign Procurement stake holder's questioner respondents and Supply Managers on interview question on Buyer-Supplier Relationship, single-sourcing goods is an ideal choice for best relationship with the supplier that have assumed advantages throughout the experiences of these respected managers. For instance, when the company uses single-sourcing the Buyer-supplier relationship will be win-win. Sometimes the supplier gave the advice in which way things must be done even on changing of designs to reduce unnecessary costs and maximize the customer service level and satisfaction.

  The company gets discounts, free sample goods, getting small quantity urgent goods without charge, priority shipments, level of trust, alliance doing business... gave the company invaluable profit and reduce unnecessary costs.

  This response aligns with the questioner respondents, which gave the mean of 3. 5481. Unlikely, in multiple sourcing Buyer-Supplier Relationships does not trust worthy at times. Because the suppliers will only take a share of their advantage in every transaction. This response aligns with the questioner respondents' answers on single-sourcing Buyer-Supplier Relationship and Multiple Sourcing Buyer-Supplier Relationship, which gave the mean of 2.6222.

- According to the response of Mesfin Industrial Engineering Foreign Procurement stake holder's questioner respondents and Supply Managers on Delivery of Quality goods, single sourcing goods from one specific supplier for specific goods to be fertile. The suppliers currently working with the company gives the desired quality and desired level of efficiency without any further detailed requirement for their end. This gave the company in the market to have the best name for quality (Mainly on Trailers and Low-Bed truck production). Correspondingly, Multiple sourcing Delivery of Quality of Goods is also similarly favorable. From the managers view the quality mostly dependent on the supplier's performance and the follow up of the buying company.

Sourcing strategies don't differentiate o the quality of goods. This response aligns with the questioner respondents' answers on single-sourcing Delivery of Quality goods and Multiple Sourcing Delivery of Quality goods, which gave the mean of 3.4667 and 2.8222 respectively.

- According to the response of Mesfin Industrial Engineering Foreign Procurement stake holder's questioner respondents and Supply Managers on Supply Dependability, the company uses single sourcing to get an interrupted supply for their supply. Being consistent in the market Engineering is valuable and failure in this aspect the consequence will be very damaging. Single sourcing has the benefits of being certain on the supply and plan accordingly. This gave the company customers to attain the desired quality of products thought the business.

  For instance, as I gathered from the company's foreign procurement managers most goods for Trailers procured by using single sourcing. For Axles, Sheet Metals, I-Beams, Towing Eye, Oscillating Kits, and similar products are procured through single sourcing. That gave the company to have the best-sustained quality over the competitors and upgrade the service level and customer satisfaction to the heights level. Multiple Sourcing Supply Dependability was in doubt by the interviewed Supply Managers and the respondents.

  The specific sourcing strategies wouldn't be preferable for the sustainable products needed for their company. This response aligns with the questioner respondents' answers on single-sourcing Supply Dependability and Multiple Sourcing Supply Dependability, which gave the mean of 3.3148 and 2.8519 respectively.

- According to the response of Mesfin Industrial Engineering Foreign Procurement stake holder's questioner respondents and Supply Managers on Communication, using single sourcing on the international procurement will give you the best benefits for both parties. The communication habits will be converted eventually into monetary terms. For Instance, as the gathered information from the managers suggest that when you have the best communication with your suppliers you will reduce the charges on amendments, extension, guarantees, attain better freight charges, caring for every shipment of the companies order, no dispute, collaboration … gave the company an invaluable profit and reduced unnecessary costs. It's mandatory as all conquer in International Procurement the sharing instant information more than valuable for one's company.

Multiple Sourcing Communication is having shortcomings on this aspect. This response aligns with the questioner respondents' answers on single-sourcing Communication and Multiple Sourcing Communication, which gave the mean of 3.5833 and 2.7222 respectively.

4.4.Correlation Analysis

Correlation analysis is also known as the Pearson's correlation coefficient is to examine the relationship between two variables. Specifically, a correlation coefficient finds out the degree to which variation in one variable is related to variation in another variable. In this study, Pearson's Product Moment Correlation Coefficient was used to find out whether there is a significant relationship between each independent and dependent variable.

Pearson correlation measures the existence (given by a p-value) and strength (given by the coefficient r between -1 and +1) of a linear relationship between two variables. It should only be used when its underlying assumptions are satisfied. If the outcome is significant, we conclude that a correlation exists. An absolute value of r of 0.1 is classified as small, an absolute value of 0.3 is classified as medium, and 0.5 is classified as large (Samuels, 2014). Pearson correlation as "measures the degree and direction of linear relationships between two variables".

Hence, in this study Bivariate Pearson Coefficient (r) was used to examine the relationship between the variables by using a two-tailed test of statistical significance at the level of 95% significance, $P< 0.01$.Interpretation of correlation coefficient (r) size is as follows: if the correlation coefficient falls between 0.1 to 0.20, it is slight correlation or small; if it is between 0.20 to 0.40 is low correlation or weak relationship, if it lies between 0.40 to 0.70 moderate; if it falls along 0.70to 0.90 high correlation or substantial relationship and if it is within 0.90 to 1.00 it is very high correlation or very strong correlation between variables (Burns, 2008).

A correlation score of -1.00 means that there is a perfect negative relationship between the two variables while a correlation score of 1.00 means there is a perfect positive relationship between the two variables. A Correlation score of 0.00 means that there is no relationship between the two variables. The below Pearson's Correlation Coefficient Matrix computed for International procurement single-sourcing strategies on the performance of the organization in terms of Buyer-Supplier relationship, Delivery of Quality of goods, supply dependability, and communication.

Table 8. Pearson's Correlation Coefficient Matrix for Single Sourcing strategies

Correlations						
		Single Sourcing Buyer-Supplier Relationship	Single Sourcing Delivery of Quality Goods	Single Sourcing Supply Dependability	Single Sourcing Communication	Organizational Performance
Single Sourcing Buyer-Supplier Relationship	Pearson Correlation	1	.785**	0.244	.398*	.702**
	Sig. (2-tailed)		0	0.219	0.04	0
	N	27	27	27	27	27
Single Sourcing Delivery of Quality Goods	Pearson Correlation	.785**	1	0.335	0.275	.636**
	Sig. (2-tailed)	0		0.088	0.166	0
	N	27	27	27	27	27
Single Sourcing Supply Dependability	Pearson Correlation	0.244	0.335	1	.645**	.658**
	Sig. (2-tailed)	0.219	0.088		0	0
	N	27	27	27	27	27
Single Sourcing Communication	Pearson Correlation	.398*	0.275	.645**	1	.856**
	Sig. (2-tailed)	0.04	0.166	0		0
	N	27	27	27	27	27
Organizational Performance	Pearson Correlation	.702**	.636**	.658**	.856**	1
	Sig. (2-tailed)	0	0	0	0	
	N	27	27	27	27	27

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

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

Source: - Own survey result, 2020

The below Pearson's Correlation Coefficient Matrix computed for International procurement Multiple sourcing strategies on the performance of the organization in terms of Buyer-Supplier relationship, Delivery of Quality of goods, supply dependability and communication.

Table 9. Pearson's Correlation Coefficient Matrix for Multiple Sourcing strategies

Correlations						
		Multiple Sourcing Buyer-Supplier Relationship	Multiple Sourcing Delivery of Quality Goods	Multiple Sourcing Supply Dependability	Multiple Sourcing Communication	Organizational Performance
Multiple Sourcing Buyer-Supplier Relationship	Pearson Correlation	1	.735**	.498**	.454*	.392*
	Sig. (2-tailed)		0	0.008	0.017	0.043
	N	27	27	27	27	27
Multiple Sourcing Delivery of Quality Goods	Pearson Correlation	.735**	1	.733**	.652**	.750**
	Sig. (2-tailed)	0		0	0	0
	N	27	27	27	27	27
Multiple Sourcing Supply Dependability	Pearson Correlation	.498**	.733**	1	.859**	.901**
	Sig. (2-tailed)	0.008	0		0	0
	N	27	27	27	27	27
Multiple Sourcing Communication	Pearson Correlation	.454*	.652**	.859**	1	.866**
	Sig. (2-tailed)	0.017	0	0		0
	N	27	27	27	27	27
Organizational Performance	Pearson Correlation	.392*	.750**	.901**	.866**	1
	Sig. (2-tailed)	0.043	0	0	0	
	N	27	27	27	27	27

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

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

Source: - Own survey result, 2020

As per the above table 8 and table 9 correlations among variables indicates that all correlation results are a positive. This implies that among variables they have positive relationship. As per the above table correlation result, the relation between and among variables is mostly above 0.5 this implies that strong relationship between or among variables.

4.5.Regression Analysis

According to (Green & Salkind, 2003), regression analysis is a statistical process of estimating the relationship between variables. Regression analysis helps in generating an equation that describes the statistical relationship between one or more predictor variables and the response variable. The regression analysis results were presented using a scatter plot diagrams, regression model summary tables, Analysis of Variance (ANOVA) table and beta coefficients tables.

Table 10. Coefficients for Single Sourcing strategies

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.001	0.218		-0.004	0.996		
	Single Sourcing Buyer-Supplier Relationship	0.173	0.072	0.244	2.399	0.025	0.319	3.139
	Single Sourcing Delivery of Quality Goods	0.186	0.079	0.234	2.358	0.028	0.334	2.995
	Single Sourcing Supply Dependability	0.113	0.073	0.124	1.545	0.137	0.51	1.959
	Single Sourcing Communication	0.52	0.07	0.615	7.44	0.00	0.482	2.074
a. Dependent Variable: Organizational Performance								

Source: - Own survey result, 2020

Regression equation is stated as:

$$OP = \alpha + \beta 1\ (SBSR) + \beta 2\ (SDQG) + \beta 3\ (SSD) + \beta 4\ (SC) + e$$

Where:

Where the variables are defined as:

- OP - Organization Performance
- SBSR – single-sourcing Buyer-Supplier relationship

- SDQG – single-sourcing Delivery of Quality of goods
- SSD – single-sourcing supply Dependability
- SC – single-sourcing communication
- e - error term

Linear regression was conducted to identify cause and effect between independent and dependent variables. And, Regression analysis was used in order to estimate or predict the effect of an independent variable on the dependent variable. The significance level of 0.05 with 95% confidence interval was used. The dependent variable was Organizational Performance and the independent variables include single-multiple sourcing strategies Buyer-Supplier relationship, Delivery of Quality goods, supply dependability, and communication. The reason for using regression analysis was to assess the direct effect of International procurement Single-Multiple Sourcing strategy on the Organizational Performance: The case of Mesfin Industrial Engineering plc.

Multicollinearity exists when there is a strong correlation between two or more predictors in a regression model. Perfect collinearity exists when at least one predictor is a perfect linear combination of the others (the simplest example being two predictors that are perfectly correlated – they have a correlation coefficient of 1). If there is perfect collinearity between predictors it becomes impossible to obtain unique estimates of the regression coefficients because there are an infinite number of combinations of coefficients that would work equally well. One way of identifying multi collinearity is to scan a correlation matrix of all of the predictor variables and see if any correlate very highly or above .80 or .90 (Field, 2009).

The other collinearity diagnostics is the Variance Inflation Factor (VIF), which indicates whether a predictor has a strong linear relationship with the other predictor(s). Although there are no hard and fast rules about what value of the VIF should cause concern, a value of 10 is a good value at which to worry. What's more, if the average VIF is greater than 1, then multicollinearity may be biasing the regression model. Related to the VIF is the tolerance statistic, which is its reciprocal (1/VIF). As such, value below 0.1 indicate serious problems that values below 0.2 are worthy of concern (Field, 2009).

The finding indicates that the VIF values for single-sourcing Buyer-Supplier relationship, single-sourcing Delivery of Quality of goods, single-sourcing supply dependability, and single-sourcing communication sharing are below 10, tolerance result above 0.10 and this was implying that there is no interdependence among independent variables. Hence, the Multi collinearly assumption is fulfilled in the study. Although there are no hard and fast rules about what value of the VIF should cause concern, a value of 10 is a good value at which to worry. What's more, if the average VIF is greater than 1, then multicollinearity may be biasing the regression model.

Related to the VIF is the tolerance statistic, which is its reciprocal (1/VIF). As such, value below 0.1 indicate serious problems that values below 0.2 are worthy of concern (Field, 2009).

Therefore, from the result, it can have concluded that the model is a good fit. Since the P-value [SIG] 0.000 is less than α =0.05 this result indicates a linear between the dependent variables and the independent Variables. For any two observations the residual terms should be uncorrelated (or independent). This eventuality is sometimes described as a lack of autocorrelation. This assumption can be tested with the Durbin–Watson test, which tests for serial correlations. A Dubin-Watsun statistic is a number that tests for autocorrelation in the residuals from a statistical regression analysis. The Durban-Watson statistics always between o and 4. The value 2 means that there is no autocorrelation in the sample of the study. Values approaching 0 indicate positive auto correlation and values toward 4 indicate negative autocorrelation (Bryman, 1998). Therefore, as per the above table ANOVA result, the model is fitting. Indicates that the value Durbin-Watson Statistic result 2.775. Thus, this study has tested for the assumption of autocorrelation and there is no autocorrelation from the above result. Hence, the autocorrelation assumption is fulfilled.

The mean values of the outcome variable for each increment of the predictors lie along a straight line. In plain English, this means that it is assumed that the relationship we are modeling is a linear one (Field, 2009). The adjusted R square of the multiple regression measures how much of the variability in the outcome is accounted for by the predictors (Field, 2009). The findings presents the model summary which states that the effect of single-sourcing in Organization performance is due to the predictor variables single-sourcing Buyer-Supplier relationship, single-sourcing Delivery of Quality of goods, single-sourcing supply dependability and single-sourcing communication. Based on the above model summary R Square value indicated that the independent variables explained the dependent variable by 92.8 %.

As per the above table 10, Explained regression equation is stated as:

- Organizational Performance = -0.001+0.173*SBSR+0.186*SDQG+0.113*SSD+0.52*SC

The standardized beta value shows the number of standard deviations that the outcome will change as a result of one standard deviation change in the predictor. The standard deviation units are directly comparable; therefore, they provide a better insight into the importance of a predictor in the model. The large the value of the beta coefficient in an independent variable means the more important determinant the variable is in predicting the dependent variable. The standardize beta value for buyer single-sourcing Communication is 0.52. This implies that this variable has a relatively strong degree of importance for analyzing the effect of single-sourcing on International Procurement on Organizational performance, followed by single-sourcing Delivery of Quality

Goods, single-sourcing Buyer-Supplier Relationship and single-sourcing Supply Dependability whose beta value equals 0.186, 0.173 and 0.113 respectively.

On the other hand, the standardization coefficient specifies the number of standard deviations that the outcome will change as a result of one standard deviation change in the predictor. The standardized beta values are all measured in standard deviation units and so are directly comparable: therefore, they provide a better insight into the 'importance' of a predictor in the model (Field, 2009). The standardized beta value for single-sourcing Buyer-Supplier Relationship, single-sourcing Delivery of Quality Goods, single-sourcing Supply Dependability, and single-sourcing Communication is 0.244, 0.234, 0.124 and 0.615 respectively indicating that all the variables have a comparative degree of importance in the model.

The t-test values are used to determine whether the predictor is significant. The p values in the table indicate the probability of obtaining the computed t-value. The finding shows that single-sourcing Supply Dependability is not significant predictor on organization performance. The table depicts single-sourcing Buyer-Supplier Relationship, single-sourcing Delivery of Quality Goods and single-sourcing Communication is significant predictor of organization performance.

Table 11. Coefficients for Multiple Sourcing strategies

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.259	0.211		1.228	0.232		
	Multiple Sourcing Buyer-Supplier Relationship	-0.265	0.094	-0.287	-2.819	0.01	0.456	2.191
	Multiple Sourcing Delivery of Quality Goods	0.361	0.116	0.405	3.123	0.005	0.28	3.566
	Multiple Sourcing Supply Dependability	0.434	0.144	0.452	3.011	0.006	0.209	4.782
	Multiple Sourcing Communication	0.306	0.12	0.344	2.557	0.018	0.261	3.829
a. Dependent Variable: Organizational Performance								

Source: - Own survey result, 2020

Regression equation is stated as:

$OP = \alpha + \beta 1\ (MBSR) + \beta 2\ (MDQG) + \beta 3\ (MSD) + \beta 4\ (MC) + e$

Where:

Where the variables are defined as:

- OP - Organization Performance
- MBSR - Multiple Sourcing Buyer-Supplier relationship
- MDQG - Multiple Sourcing Delivery of Quality of goods
- MSD - Multiple Sourcing supply Dependability
- MC - Multiple Sourcing communication
- e - error term

Linear regression was conducted to identify cause and effect between independent and dependent variables. And, Regression analysis was used in order to estimate or predict the effect of an independent variable on the dependent variable. The significance level of 0.05 with 95% confidence interval was used. The dependent variable was Organizational Performance and the independent variables include single-multiple sourcing strategies Buyer-Supplier relationship, Delivery of Quality goods, supply dependability, and communication. The reason for using regression analysis was to assess the direct effect of International procurement Single-Multiple Sourcing strategy on the Organizational Performance: The case of Mesfin Industrial Engineering plc.

Multicollinearity exists when there is a strong correlation between two or more predictors in a regression model. Perfect collinearity exists when at least one predictor is a perfect linear combination of the others (the simplest example being two predictors that are perfectly correlated – they have a correlation coefficient of 1). If there is perfect collinearity between predictors it becomes impossible to obtain unique estimates of the regression coefficients because there are an infinite number of combinations of coefficients that would work equally well. One way of identifying multi collinearity is to scan a correlation matrix of all of the predictor variables and see if any correlate very highly or above .80 or .90 (Field, 2009).

The other collinearity diagnostics is the Variance Inflation Factor (VIF), which indicates whether a predictor has a strong linear relationship with the other predictor(s). Although there are no hard and fast rules about what value of the VIF should cause concern, a value of 10 is a good value at which to worry. What's more, if the average VIF is greater than 1, then multicollinearity may be biasing the regression model. Related to the VIF is the tolerance statistic, which is its reciprocal (1/VIF). As such, value below 0.1 indicate serious problems that values below 0.2 are worthy of concern (Field, 2009).

The finding indicates that the VIF values for multiple-sourcing Buyer-Supplier relationship, multiple-sourcing Delivery of Quality of goods, multiple-sourcing supply dependability, and multiple-sourcing communication sharing are below 10, tolerance result above 0.10 and this was implying that there is no interdependence among independent variables. Hence, the Multi collinearly assumption is fulfilled in the study.

Therefore, from the result, it can have concluded that the model is a good fit. Since the P-value [SIG] 0.000 is less than α =0.05 this result indicates a linear between the dependent variables and the independent Variables. For any two observations the residual terms should be uncorrelated (or independent). This eventuality is sometimes described as a lack of autocorrelation. This assumption can be tested with the Durbin–Watson test, which tests for serial correlations. A Dubin-Watsun statistic is a number that tests for autocorrelation in the residuals from a statistical regression analysis. The Durban-Watson statistics always between o and 4. The value 2 means that there is no autocorrelation in the sample of the study. Values approaching 0 indicate positive auto correlation and values toward 4 indicate negative autocorrelation (Bryman, 1998). Therefore, as per the above table ANOVA result, the model is fitting. indicates that the value Durbin-Watson Statistic result 2.233. Thus, this study has tested for assumption of autocorrelation and there is no autocorrelation from the above result. Hence, the autocorrelation assumption is fulfilled.

The mean values of the outcome variable for each increment of the predictors lie along a straight line. In plain English, this means that it is assumed that the relationship we are modeling is a linear one (Field, 2009). The finding presents the model summary which states that the effect of multiple Sourcing in Organization performance is due to the predictor variables Multiple Sourcing Buyer-Supplier relationship, Multiple Sourcing Delivery of Quality of goods, Multiple Sourcing supply dependability and Multiple Sourcing communication. Based on the above model summary R Square value indicated that the independent variables explained the dependent variable by 89.6 %.

As per the above table 11, Explained regression equation is stated as:

- Organizational Performance = 0.259+0.265*MBSR+0.361*MDQG+0.434*MSD+0.306*MC

The standardize beta value for buyer Multiple Sourcing Supply Dependability and Multiple Sourcing Delivery of Quality Goods is 0.144 and 0.116 respectively. This implies that this variable has a relatively strong degree of importance for analyzing the effect of Multiple sourcing on International Procurement on Organizational performance except for Multiple Sourcing Buyer-Supplier relationship which standardize beta value is -0.265, followed by Multiple Sourcing Communication and Multiple Sourcing Buyer-Supplier Relationship whose beta value equals 0.12 and 0.094, respectively.

On the other hand, the standardization coefficient specifies the number of standard deviations that the outcome will change as a result of one standard deviation change in the predictor. The standardized beta values are all measured in standard deviation units and so are directly comparable: therefore, they provide a better insight into the ‘importance’ of a predictor in the

model (Field, 2009). The standardized beta value for Multiple Sourcing Buyer-Supplier Relationship, Multiple Sourcing Delivery of Quality Goods, Multiple Sourcing Supply Dependability, and Multiple Sourcing Communication are -0.287, 0.405, 0.452 and 0.344 respectively indicating that all the variables have a comparative degree of importance in the model.

The t-test values are used to determine whether the predictor is significant. The p values in the table indicate the probability of obtaining the computed t-value. The finding shows that Multiple Sourcing Buyer-Supplier Relationship is not a significant predictor of on organization performance. The table depicts Multiple Sourcing Delivery of Quality Goods, Multiple Sourcing Supply Dependability and Multiple Sourcing Communication is a significant predictor of organization performance.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter provides a summary of the major findings, conclusions, and recommendations of the study. Then, conclusions will be discussed based on researcher insights gained regarding study findings and limitations. In addition, recommendations are presented.

5.1.Summary of Major Finding

The general objective of this research is to examine the effect of multiple-sourcing and single-sourcing strategies of international procurement on the organization performance. Across the research process, the researcher investigated the effect of multiple sourcing and single sourcing of international procurement on the organization performance: The case of Mesfin Industrial Engineering plc., exemplified the relationship that exists between the organization performance and international procurement multiple-sourcing and single sourcing-strategies, analyzed the dimensions of International procurement strategies with the intent of knowing the strength of the relationship of the dimensions in this particular case. To achieve the stated objectives a quantitative approach, correlation and regression analysis were used based on the data collected from the employees of the company.

From the demographic data of the respondents one can conclude that as statistics indicate that most of the respondent are BA degree holders and most of the respondents work experience is between 5- 20 years, this show the employees were highly experienced as they had worked for a long and reasonable duration service years in the respected fields and hence the experience will help easily implement international procurement strategies and distinguish which sourcing strategies more effective currently in the organization.

These values of Coefficients for single-sourcing strategies can be interpreted as:

- Single-sourcing Buyer-Supplier Relationship (*standardized* β = .244): this value indicates that as single-sourcing Buyer-Supplier Relationship increase by one standard deviation, the organization performance increases by 0.244 standard deviation. This is true only if the effects of single-sourcing Delivery of Quality Goods, single-sourcing Supply Dependability, and single-sourcing Communication are held constant.

- Single-sourcing Delivery of Quality Goods (*standardized* β = .234): this value indicates that as single-sourcing Delivery of Quality Goods increase by one standard deviation, the organization performance increases by 0.234 standard deviation. This is true only if the

effects of single-sourcing Buyer-Supplier Relationship, single-sourcing Supply Dependability, and single-sourcing Communication are held constant.

- Single-sourcing Supply Dependability (*standardized* β = .124): this value indicates that as single-sourcing Supply Dependability increase by one standard deviation, the organization performance increases by 0.124 standard deviation. This is true only if the effects of single-sourcing Buyer-Supplier Relationship, single-sourcing Delivery of Quality Goods, and single-sourcing Communication are held constant.

- Single-sourcing Communication (*standardized* β = .615): this value indicates that as single-sourcing Communication increase by one standard deviation, the organization performance increases by 0.615 standard deviation. This is true only if the effects of single-sourcing Buyer-Supplier Relationship, single-sourcing Delivery of Quality Goods, and single-sourcing Supply Dependability are held constant.

These values of Coefficients for multiple sourcing strategies can be interpreted as:

- Multiple Sourcing Buyer-Supplier Relationship (*standardized* β =.-.287): this value indicates that as Multiple Sourcing Buyer-Supplier Relationship increase by one standard deviation, the organization performance increases by -.287 standard deviation. This is true only if the effects of Multiple Sourcing Delivery of Quality Goods, Multiple Sourcing Supply Dependability, and Multiple Sourcing Communication are held constant.

- Multiple Sourcing Delivery of Quality Goods (*standardized* β = .405): this value indicates that as Multiple Sourcing Delivery of Quality Goods increase by one standard deviation, the organization performance increases by .405 standard deviation. This is true only if the effects of Multiple Sourcing Buyer-Supplier Relationship, Multiple Sourcing Supply Dependability, and Multiple Sourcing Communication are held constant.

- Multiple Sourcing Supply Dependability (*standardized* β = .452): this value indicates that as Multiple Sourcing Supply Dependability increase by one standard deviation, the organization performance increases by 0.452 standard deviation. This is true only if the effects of Multiple Sourcing Buyer-Supplier Relationship, Multiple Sourcing Delivery of Quality Goods, and Multiple Sourcing Communication are held constant.

- Multiple Sourcing Communication (*standardized* β = .344): this value indicates that as Multiple Sourcing Communication increase by one standard deviation, the organization performance increases by 0.344 standard deviation. This is true only if the effects of

Multiple Sourcing Buyer-Supplier Relationship, Multiple Sourcing Delivery of Quality Goods, and Multiple Sourcing Supply Dependability are held constant.

In general, the cause and effect of multiple-sourcing four variables together with organization performance of Mesfin Industrial Engineering plc. is analyzed with the help of SPSS version 25, and Multiple Sourcing Buyer-Supplier Relationship weeks on Beta and week significant effect on organization performance of Mesfin Industrial Engineering plc.

From the finding, the detail results on correlation results are hereunder:

- The correlation between Single and Multiple Sourcing Buyer-Supplier Relationship and Organization Performance is positive and significantly correlated at [r=0.702], [P<0.01], and [r=0.392], [P<0.01] respectively, this shows that the relationship between the two variables is good.
- The correlation between Single-Sourcing Delivery of Quality Goods and Organization Performance is positive and significantly correlated at [r=0.636], [P<0.01], and [r=0.750], [P<0.01] respectively, this shows that the relationship between the two variables is strong.
- The correlation between Single-Sourcing Supply Dependability and Organization Performance is positive and significantly correlated at [r=658], [P<0.01], and [r=0.901], [P<0.01] respectively, this shows that the relationship between the two variables is good.

- The correlation between Single Sourcing Communication and Organization Performance is positive and significantly correlated at [r=0.856], [P<0.01] and [r=0.866], [P<0.01] respectively, this shows that the relationship between the two variables is good. (See table 8. and 9.)

The correlation analysis showed that the significant and positive relationship among and between independent variables (Buyer-Supplier Relationship, Delivery of Quality Goods, Supply Dependability and Communication) and Dependent Variable (Organization Performance) for both Single and multiple sourcing strategies on international procurement. Therefore, improvement and interrelation in all independent variables can increase the organization performance increasing integration of single-multiple sourcing strategies on International procurement and to overcoming and keep the organization to advancement.

The regression showed as all the independent variables for single and multiple sourcing strategies on International procurement have a positive and significant effect on organization performance of Mesfin Industrial Engineering plc. with the exception of Single-Sourcing Supply Dependability.

- As stated in the literature review section, when a supplier has a corporative relationship with the buyer it is often referred to as a partnership. Partnership with suppliers can give

a positive influence on company performance. The relationship can grow from joint resources and exchange of valuable knowledge with different partners (Handfield, et al., 2009). As the partnership proceeds more trust will develop and less face to face and personal communicating is needed, this contributes to a more effective relationship where the performance of each party is shared (Jonsson, 2005).
The products procured can feature high technical complexity and entail associated high development costs. Companies often pursue core competency strategies to reduce their asset levels to a minimum. Therefore, companies increasingly depend on their innovative suppliers and have to integrate them more closely (Cousins, 2005).

Research also suggests that becoming a preferred customer is increasingly a prerequisite for sustainable competitive advantage; because it involves developing innovative contracts with profit-sharing clauses or early supplier involvement in new product development (Trent, 2005) Open-book policies is another interesting aspect of supplier integration that has received increased scholarly attention. Within this particular form of cooperation, cost data are being exchanged between buyer and seller and this is occurring in both directions to some degree (Ellram, 2006).

According to the response on Buyer-Supplier Relationship, single sourcing goods is an ideal choice for the best relationship with the supplier that has assumed advantages throughout the experiences of these respected managers. For instance, when the company uses single-sourcing the Buyer-supplier relationship will be win-win. Sometimes the supplier gave the advice in which way things must be done even on changing of designs to reduce unnecessary costs and maximize the customer service level and satisfaction. The company gets discounts, free sample goods, getting small quantity urgent good without charge, priority shipments, level of trust, alliance doing business... gave the company invaluable profit and reduce unnecessary costs.

- Multiple sourcing is the better option for the buyer in terms of cost for bid and negotiations. We can clearly see from the above that the quality is better in single sourcing however the cost has to pay for the same. Which is certainly a tradeoff between cost and quality (Mandal, 2015). Suppliers can have a significant influence on a manufacturer's performance, through their contributions to cost reduction, new product design and enabling the constant improvement of quality (Monczka, et al., 1993)

  According to the response on Delivery of Quality goods, single sourcing goods from one specific supplier for specific goods to be fertile. The suppliers currently working with the company gives the desired quality and desired level of efficiency without any further detailed requirement for their end. This gave the company in the market to have the best name for quality (Mainly on Trailers and Low-Bed truck production). Correspondingly,

multiple-sourcing Delivery of Quality of Goods is also similarly favorable. From the manager's view the quality mostly dependent on the supplier's performance and the follow up of the buying company. Sourcing strategies don't differentiate o the quality of goods.

- (Krause , et al., 2007) Found that commitment of the buying firm to long-term relationships with major suppliers, shared goals and values with suppliers, and the involvement in supplier development initiatives were positively associated with the buying firm's competitive performance in US automotive and electronics industries.

  According to the response on Supply Dependability, the company uses single sourcing to get an uninterrupted supply for their supply. Being consistent in the market Engineering is valuable and failure in this aspect the consequence will be very damaging. Single sourcing has the benefits of being certain on the supply and plan accordingly. This gave the company customers to attain the desired quality of products thought the business. For instance, as I gathered from the company's foreign procurement managers most goods for Trailers procured by using single sourcing. For Axles, Sheet Metals, I-Beams, Towing Eye, Oscillating Kits, and similar products are procured through single sourcing. That gave the company to have the best-sustained quality over the competitors and upgrade the service level and customer satisfaction to the heights level. Multiple-sourcing Supply Dependability was in doubt by the interviewed Supply Managers and the respondents. The specific sourcing strategies wouldn't be preferable for the sustainable products needed for their company.

- Information sharing has been described as the heart, lifeblood, nerve center, essential ingredient or foundation of supply chain collaboration (Cao, et al., 2010). Supply chain partners who exchange information regularly are able to work as a single entity and can understand the needs of the other partner better and, hence, can respond to market change quicker (Li, et al., 2006). By building upon the findings of prior studies, (Li, et al., 2006)suggested that simplified material flow, including streamlining and making highly visible all information flow throughout the chain, is the key to an integrated and effective supply chain.

  According to the response on Communication, using single sourcing on the international procurement will give you the best benefits for both parties. The communication habits will be converted eventually into monetary terms. For Instance, as the gathered information from the managers suggest that when you have the best communication with your suppliers you will reduce the charges on amendments, extension, guarantees, attain better freight charges, caring for every shipment of the companies order, no dispute, collaboration … gave the company an invaluable profit and reduced unnecessary costs.

It's mandatory as all conquer in International Procurement the sharing instant information more than valuable for one's company. Multiple-sourcing Communication is having shortcomings in this aspect. Information sharing becomes crucial in these turbulent economic times as it drives the firm into becoming a collaborative structure (Krishnapriya & Rupashree, 2014). It has been revealed that buyer and supplier strategic information flows positively impact the relationship-specific performance of both sharing and receiving parties, among which delivery time, quality, and flexibility are prevalent (Klein & Rai, 2009).

As stated in the literature review section, (Faes & Matthyssens, 2009) present a comparison where different authors suggest different superior strategies. There are contradictory arguments from scholars regarding using single or multiple sourcing strategies. Some of the literature gave their way to single sourcing and presents such kind of arguments and others for multiple sourcing. Focusing on single sourcing provides many efficiency advantages. However, some recent disruptions have forced SC managers to rethink this lean sourcing strategy since the cost savings can be wiped out by disruption impacts.

Even though my study and the practice of so far in the organization gave the upper hand for International Procurement Single-Sourcing Strategies, we can assume for future transactions it's better to have not one supplier for a specific product. This shows in this pandemic time of CVOVID-19 that whips out all supply chain all over the world. The most affected supply chains were the company uses all products from china. As Faes & Matthyssens suggested and myself conquered also recent disruptions have forced SC managers to rethink this lean sourcing strategy since the cost savings can be wiped out by disruption impacts.

5.2.Conclusion of the Study

The purpose of this study is to examine the effect of multiple-sourcing and single-sourcing strategies of international procurement on the organization performance: The case of Mesfin Industrial Engineering plc. and based on the research objectives, analysis of the data and finding of the study the following conclusion are drawn:

The study intended to achieve three specific objectives and based on these specific objectives, research questionnaires were developed and distributed to Mesfin Industrial engineering employees, who are stakeholders and participate in International procurement operation directly or indirectly. Then the data obtained were analyzed with SPSS version 25 and obtained the below result.

1. To identify the general approaches for selecting International procurement sourcing strategy in the company

So the respondents indicate the company has a well written International Procurement sourcing strategies approach which has a accumulative mean of 3.37. , Mesfin Industrial Engineering plc. have well developed detailed requirements for goods and service to be purchased through selected sourcing strategies which have an accumulative mean of 3.4, the company's foreign procurement department participate in the development of sourcing strategies which have an accumulative mean of 3.62 and finally the management of the company intervene in the selecting sourcing strategies which have an accumulative mean of 3.7, and the overall aggregate mean for approaches for selecting International procurement Sourcing Strategies is 3.52.

This shows that Mesfin Industrial Engineering plc. have a well-established International procurement Sourcing Strategies to procure goods from abroad which also correspondent with the interviewed supply managers they concurred that, their company uses international procurement sourcing strategies for selected goods like for trailer the company has selected suppliers for and assembling a line of truck and automobile also. And for different spare parts, the company uses multiple sourcing strategies. Per the interview with the supply chain managers concurred with the respondents the sourcing strategies approach developed and directed by supply chain corporate managers which lead them to have adequate working space for the supply chain officials. Finally, I came to know that the company's management intervenes in selecting sourcing strategies for some items. This will happen for mostly urgent goods this also aligns with the finding collected form the respondents.

2. To investigate the effects of international procurement single-sourcing strategy on the organizational performance of the company

The study findings have shown that organization performance was significantly influenced by International procurements single sourcing strategy variables consists of Buyer-Supplier Relationship, Delivery of Quality Goods, and Communication except for Supply Dependability. This study established that single sourcing strategy provides better efficiency in Buyer-Supplier Relationship (better communication, reduced unnecessary cost, and upgraded service level), Supply quality of goods and valuable communication that eventually turn to monetary value enables the organization to grow and prosper. Therefore, finding from the scatterplot matrix, correlation and multiple regressions show that order international procurement single sourcing strategy significantly influences Organization Performance in that an improvement single sourcing strategy would lead to a rise in the performance of the organization.

3. To investigate the effects of international procurement multiple-sourcing strategy on the organizational performance of the company

As the other predictor variable on the outcome, the finding of this revealed that International procurements multiple sourcing strategy do have an influence on the organization performance. Multiple-sourcing strategy variables consist of Buyer-Supplier Relationship, Delivery of Quality Goods, Supply Dependability, and Communication. Therefore, finding from the scatterplot matrix, correlation and multiple regressions show that order international procurement single and multiple-sourcing strategy significantly influences Organization Performance in that an improvement single sourcing strategy would lead to a rise in the performance of the organization.

5.3.Recommendations

Based on the study findings, the following recommendations are given under the study-specific objectives:

As per the research finding there is a significant statistical relationship between Single and Multiple-Sourcing on International Sourcing and Organization Performance of Mesfin Industrial Engineering. It is also noted that on International Sourcing Single and Multiple Sourcing Strategies explains almost Ninety-Two and Eighty-Nine Percent of the study variables respectively, Buyer-Supplier Relationship, Delivery of Quality Goods, Supply Dependability and Communication explain the outcome variable. Therefore, it is recommended the organization to consider these and below-listed points when they procure their raw materials and consumable goods from abroad via Multiple sourcing strategies:

1. Maintaining the outstanding Buyer-Supplier relationship with International procurement single suppliers and Upgrading the relationship with the multiple suppliers closely collaborating up to points and underlying benefiting points and the risks and rewards of the arrangement for business when they are engaged in. MIE should need to maintain the relationship they got for main line of goods. Including Axles, Sheet Metals, I-Beams, Towing Eye, Oscillating Kits, and similar products must be maintained through close collaboration with the suppliers. Maintaining the quality control for both International souring strategies mostly on multiple suppliers and state the quality tolerance which is acceptable and arrange the easy claiming method for defect goods.

2. For goods needs supply uncertainty and urgency the company should shift to totally to International Procumbent Single-Souring strategies. Being consistent in the market Engineering is valuable and failure in this aspect the consequence will be very damaging. Single sourcing has the benefits of being certain on the supply and plan accordingly. This will give the company and its customers to attain the desired quality of products thought the business. For Axles, Sheet Metals, I-Beams, Towing Eye, Oscillating Kits, and similar products are procured through single sourcing. That gave the company to have the

best-sustained quality over the competitors and upgrade the service level and customer satisfaction to the heights level. Multiple-sourcing Supply Dependability was in doubt by the interviewed Supply Managers and the respondents.

3. Maintaining outstanding communication already exists with International procurement single suppliers and upgrading the communication channels to multiple supplies. Availing channels for the companies to interact on detailed cases and issues they may have.

5.4.Direction for Future Research

1. The researcher pieces of advices for coming researchers who are interested to study International procurement sourcing strategies incorporate the upstream suppliers' respondents to get full and clear directions.
2. The researcher only collected data from one organization. The future researcher if they have the time and the resource can study the whole specific industry.
3. The researcher advises those who are interested to study similar topics, to incorporate all International Procurement sourcing strategies.

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Appendix- I

Addis Ababa University School of Commerce
Department of Logistics and Supplies Chain Management

A questionnaire to be filled by International Procurement Sourcing Stakeholders in MIE
Research Topic: - The Effect of International Procurement Multiple Sourcing and Single Sourcing strategy on the Organizational Performance: The Case of MIE
Researcher Name: Jafar Sani Hassen

Dear Sir/ Madam

The purpose of this questionnaire is to collect relevant data that help to examine the effect of international procurement multiple sourcing and single sourcing strategy on the organizational performance: The Case of Mesfin Industrial Engineering, and to come up with relevant remedies to improve the practice. Please take out 15-20 minutes to answer this 52-question survey about your experience. Your view Point is extremely important for success of this thesis.

You are one of the respondents selected to participate on this study. Please note that all the information provided by you will remain confidential and no individual responses will be identified. Please answer fully and honestly as you can. It is purely academic exercise. In order to express my sincere gratitude, I will be happy to share the conclusion and reports of my thesis upon request. If you have any questions related to this study, please do not hesitate to contact.

I greatly appreciate your time and contribution to this research.

With Best Regards,

Jafar Sani Hassen
Jafarsani50@yahoo.com
Tel +251 911 680 414

General Direction

- You do not need to write your name on the questionnaire paper
- To the questions with alternative choices, write " **x** " inside the boxes, and give short answer and brief responses for the items requiring opinion and factual information in the space provided when required.

Part –I Personal Background Information

1. Please indicate your gender: 1. Male □2. Female □
2. Age of respondent 1. Less than 25 □ 2. 26- 30 □ 3. 31- 35 □ 4. 36 - 40 □ 5. 41 and above □
3. Level of education 1. Diploma □ 2. Degree □ 3.MA □ 4. PhD □ 5. If other _____
4. Year of service you have worked in the current organization? 1.1 – 4 year's □ 2.5 – 9 years □ 3.10 – 20 years □ 4. Above 20 years □

Part- II. Questions intended to examine the effect of multiple and single sourcing of international procurement on organizational performance of your company. Please Indicate the extent of your view from your experience by putting "X "in the column. You need to rate the extent of your agreement using the following rating scales

1 = Strongly Disagree (SD) 2 = Disagree (D) 3 = Moderately (M) 4 = Agree (A) 5 = Strongly Agree (SA)

Note:

The following key terms will help you to fill the questionnaire understanding their contextual meanings in the study:

Sourcing strategies: is part of the overall purchasing strategy and is related to defining how many suppliers a firm will have for one specific component/product/service, given the importance of the component and the structure of the supply market, and how the suppliers are related to each other (Cousins et al., 2008).

Multiple sourcing: "purchasing from two or more vendors an identical good or service."

Single sourcing: is defined as "purchasing from only one vendor [an identical good or service]"

Organization performance: refers to the effectiveness of the organization in fulfilling its purpose.

Communication is the extent of which a firm shares a variety of relevant, accurate, complete and confidential ideas, plans and procedures with its supply chain partners in a timely manner.

No.	Statement	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
		1	2	3	4	5
Approaches for selecting Sourcing Strategies						
1	Our company have well written International Procurement sourcing strategies approach					
2	Our company developed detailed requirements for goods and service to be purchased through selected sourcing strategies					
3	Is the procurement department participate in the development of sourcing Strategies					
4	The management intervene in the selecting of your company's sourcing strategies					
Single-Sourcing Strategy						
Buyer-Supplier Relationship						
1	Our Supplier collaborates with our company's requirements					
2	Our supplier uses flexible international payment methods					
3	Information is shared freely between our company and suppliers					
4	The company and its supplies partners have a clear understanding of the risks and rewards of the arrangement					
5	High levels of trust and integrity exist between the company and its suppliers					
Delivery of Quality of Goods						
1	Our Supplier deliver goods with desired quantity and quality					
2	Our supplier delivers goods on specified time					
3	Are the end users and the organization satisfied by the quality of the supplies					
4	The Company can claim goods without too much hustle					
5	the supplier understands the quantity tolerance stated by ERCA and ship goods accordingly per the stated customs procedure					
Supply Dependability						
1	your company faced supply uncertainty					

2	the Supplier meet the company's tight schedules by any means and understand urgency					
3	the supplier understands urgency of the company and act for it					
4	the company receives the required quantity at desired time					
Communication						
1	Information is shared freely between the company and its suppliers					
2	Our Supplier bend their will for the sake of their relations					
3	our supplier always has open mind for negotiations					
4	Our company attain better seat at the table in the negotiation					
Organizational Performance						
1	by using single sourcing stagey your company reduced unnecessary costs (extensions, amendments, receiving standard shipping documents for customs, guarantees, level of defect materials)					
2	by using single sourcing strategy your company upgraded service level of the company (goods at right time, goods at right quantity, defects)					
3	by using single sourcing strategy your company lifts the customer satisfaction at desired level (quality of goods, right time delivery, supply certainty, urgent orders)					
Multiple-Sourcing Strategy						
Buyer-Supplier Relationship						
1	Our Supplier collaborates with our company's requirements					
2	Our supplier uses flexible international payment methods					
3	Information is shared freely between our company and suppliers					
4	The company and its supplies partners have a clear understanding of the risks and rewards of the arrangement					

5	High levels of trust and integrity exist between the company and its suppliers					
Delivery of Quality of Goods						
1	Our Supplier deliver goods with desired quantity and quality					
2	Our supplier delivers goods on specified time					
3	Are the end users and the organization satisfied by the quality of the supplies					
4	The Company can claim goods without too much hustle					
5	the supplier understands the quantity tolerance stated by ERCA and ship goods accordingly per the stated customs procedure					
Supply Dependability						
1	your company faced supply uncertainty					
2	the Supplier meet the company's tight schedules by any means and understand urgency					
3	the supplier understands urgency of the company and act for it					
4	the company receives the required quantity at desired time					
Communication						
1	Information is shared freely between the company and its suppliers					
2	Our Supplier bend their will for the sake of their relations					
3	our supplier always has open mind for negotiations					
4	Our company attain better seat at the table in the negotiation					
Organizational Performance						
1	by using multiple sourcing strategy your company reduced unnecessary costs (extensions, amendments, receiving standard shipping documents for customs, guarantees, level of defect materials)					
2	by using multiple sourcing strategy your company upgraded service level of the company (goods at right time, goods at right quantity, defects)					

3	by using multiple sourcing strategy your company lifts the customer satisfaction at desired level (quality of goods, right time delivery, supply certainty, urgent orders)					

Appendix- II

Addis Ababa University School of Commerce
Department of Logistics and Supplies Chain Management

A questionnaire to be filled by International Procurement Sourcing Stakeholders in MIE
Research Topic: - The Effect of International Procurement Multiple Sourcing and Single Sourcing strategy on the Organizational Performance: The Case of MIE
Researcher Name: Jafar Sani Hassen
I. Semi-structured Interview question to Supply Department Managers of Mesfin Industrial Engineering plc

1. What are the Approaches for selecting Sourcing Strategies in your organization?

2. What are the International Procurement Single and Multiple Sourcing Strategy Buyer-Supplier Relationship looks like in your opinion?

3. What are the International Procurement Single and Multiple Sourcing Strategy Delivery of Quality of Goods looks like in your opinion?

4. What are the International Procurement Single and Multiple Sourcing Strategy Supply Dependability looks like in your opinion?

5. What are the International Procurement Single and Multiple Sourcing Strategy Communication looks like in your opinion?

6. In what ways and extent International Procurement Single and Multiple Sourcing Strategy affect the Organizational Performance?

Appendix- III Descriptive Statistics; for all independent variables

Case Processing Summary

		N	%
Cases	Valid	27	100.0
	Excluded[a]	0	.0
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.852	5

Reliability Statistics

Cronbach's Alpha	N of Items
.914	5

Correlations

		SBSR	SDQG	SSD	SCN	SOP
SBSR	Pearson Correlation	1	.785**	.244	.398*	.702**
	Sig. (2-tailed)		.000	.219	.040	.000
	N	27	27	27	27	27
SDQG	Pearson Correlation	.785**	1	.335	.275	.636**
	Sig. (2-tailed)	.000		.088	.166	.000
	N	27	27	27	27	27
SSD	Pearson Correlation	.244	.335	1	.645**	.658**
	Sig. (2-tailed)	.219	.088		.000	.000
	N	27	27	27	27	27
SCN	Pearson Correlation	.398*	.275	.645**	1	.856**
	Sig. (2-tailed)	.040	.166	.000		.000
	N	27	27	27	27	27

SOP	Pearson Correlation	.702**	.636**	.658**	.856**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	27	27	27	27	27

Correlations

		MBSR	MDQG	MSD	MCN	MOP
MBSR	Pearson Correlation	1	.735**	.498**	.454*	.392*
	Sig. (2-tailed)		.000	.008	.017	.043
	N	27	27	27	27	27
MDQG	Pearson Correlation	.735**	1	.733**	.652**	.750**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	27	27	27	27	27
MSD	Pearson Correlation	.498**	.733**	1	.859**	.901**
	Sig. (2-tailed)	.008	.000		.000	.000
	N	27	27	27	27	27
MCN	Pearson Correlation	.454*	.652**	.859**	1	.866**
	Sig. (2-tailed)	.017	.000	.000		.000
	N	27	27	27	27	27
MOP	Pearson Correlation	.392*	.750**	.901**	.866**	1
	Sig. (2-tailed)	.043	.000	.000	.000	
	N	27	27	27	27	27

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

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

Descriptive Statistics

	Mean	Std. Deviation	N
SOP	3.4938	.51781	27
SBSR	3.5481	.72873	27
SDQG	3.4667	.65163	27
SSD	3.3148	.57006	27
SCN	3.5833	.61237	27

Descriptive Statistics

	Mean	Std. Deviation	N
MOP	2.6543	.66975	27
MBSR	2.6222	.72395	27
MDQG	2.8222	.75107	27
MSD	2.8519	.69773	27
MCN	2.7222	.75107	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SCN, SDQG, SSD, SBSR[b]	.	Enter

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MCN, MBSR, MDQG, MSD[b]	.	Enter

a. Dependent Variable: MOP

b. All requested variables entered.

Model Summary[b]

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.467	4	1.617	70.487	.000[b]
	Residual	0.505	22	0.023		
	Total	6.971	26			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Single Sourcing Communication, Single Sourcing Supply Dependability, Single Sourcing Buyer-Supplier Relationship, Single Sourcing Delivery of Quality Goods

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.453	4	2.613	47.511	.000[b]
	Residual	1.21	22	0.055		
	Total	11.663	26			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Multiple Sourcing Communication, Multiple Sourcing Supply Dependability, Multiple Sourcing Buyer-Supplier Relationship, Multiple Sourcing Delivery of Quality Goods

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.467	4	1.617	70.487	.000[b]
	Residual	.505	22	.023		
	Total	6.971	26			

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.453	4	2.613	47.511	.000[b]
	Residual	1.210	22	.055		
	Total	11.663	26			

a. Dependent Variable: MOP

b. Predictors: (Constant), MCN, MBSR, MDQG, MSD

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
	(Constant)		
	Single Sourcing Buyer-Supplier Relationship	0.319	3.139
	Single Sourcing Delivery of Quality Goods	0.334	2.995
	Single Sourcing Supply Dependability	0.51	1.959
	Single Sourcing Communication	0.482	2.074
a. Dependent Variable: Organizational Performance			

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	Multiple Sourcing Buyer-Supplier Relationship	0.456	2.191
	Multiple Sourcing Delivery of Quality Goods	0.28	3.566
	Multiple Sourcing Supply Dependability	0.209	4.782
	Multiple Sourcing Communication	0.261	3.829
a. Dependent Variable: Organizational Performance			

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.963[a]	0.928	0.914	0.15145

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.947[a]	0.896	0.877	0.23452

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	MBSR	MDQG	MSD	MCN
1	1	4.895	1.000	.00	.00	.00	.00	.00
	2	.045	10.417	.03	.31	.01	.04	.13
	3	.039	11.242	.90	.07	.06	.00	.01
	4	.014	18.642	.02	.55	.71	.01	.23
	5	.007	25.643	.05	.06	.22	.95	.63

a. Dependent Variable: MOP

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.001	0.218		-0.004	0.996		
	Single Sourcing Buyer-Supplier Relationship	0.173	0.072	0.244	2.399	0.025	0.319	3.139
	Single Sourcing Delivery of Quality Goods	0.186	0.079	0.234	2.358	0.028	0.334	2.995
	Single Sourcing Supply Dependability	0.113	0.073	0.124	1.545	0.137	0.51	1.959
	Single Sourcing Communication	0.52	0.07	0.615	7.44	0.00	0.482	2.074
a. Dependent Variable: Organizational Performance								

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.259	0.211		1.228	0.232		
	Multiple Sourcing Buyer-Supplier Relationship	-0.265	0.094	-0.287	-2.819	0.01	0.456	2.191
	Multiple Sourcing Delivery of Quality Goods	0.361	0.116	0.405	3.123	0.005	0.28	3.566
	Multiple Sourcing Supply Dependability	0.434	0.144	0.452	3.011	0.006	0.209	4.782
	Multiple Sourcing Communication	0.306	0.12	0.344	2.557	0.018	0.261	3.829
a. Dependent Variable: Organizational Performance								

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.4739	4.3136	3.4938	.49871	27
Std. Predicted Value	-2.045	1.644	.000	1.000	27
Standard Error of Predicted Value	.038	.111	.063	.018	27
Adjusted Predicted Value	2.3870	4.3049	3.4881	.50463	27

Residual	-.32370	.22123	.00000	.13931	27
Std. Residual	-2.137	1.461	.000	.920	27
Stud. Residual	-2.303	1.533	.017	1.001	27
Deleted Residual	-.37580	.27971	.00575	.16565	27
Stud. Deleted Residual	-2.583	1.585	.004	1.053	27
Mahal. Distance	.632	13.029	3.852	2.894	27
Cook's Distance	.000	.212	.038	.059	27
Centered Leverage Value	.024	.501	.148	.111	27

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.9364	3.8965	2.6543	.63405	27
Std. Predicted Value	-1.132	1.959	.000	1.000	27
Standard Error of Predicted Value	.059	.171	.097	.027	27
Adjusted Predicted Value	1.8200	3.8448	2.6545	.64006	27
Residual	-.31209	.57748	.00000	.21573	27
Std. Residual	-1.331	2.462	.000	.920	27
Stud. Residual	-1.403	2.595	.001	1.016	27
Deleted Residual	-.36673	.64115	-.00020	.26523	27
Stud. Deleted Residual	-1.437	3.043	.023	1.078	27
Mahal. Distance	.681	12.839	3.852	2.815	27
Cook's Distance	.000	.217	.048	.061	27
Centered Leverage Value	.026	.494	.148	.108	27

a. Dependent Variable: MOP