THE EFFECT OF STRATEGIC SOURCING PRACTICE ON LOGISTICS OPERATIONAL PERFORMANCE THE CASE OF FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA, MINISTRY OF NATIONAL DEFENSE LOGISTICS MAIN DEPARTMENT

By: Temesgen Bekele

A Thesis Submitted to Addis Ababa University, School of Commerce Graduate Studies in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Arts in Logistics and Supply Chain Management.

Advisor: Kirubel Bruck (PHD)

June 2024

Addis Ababa, Ethiopia

THESIS APPROVAL SHEET

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

GRADUATE PROGRAM

STATEMENT OF DECLARATION

I, Temesgen Bekele, the under signed, declared that this thesis entitled: "***The Effect of Strategic Sourcing Practice on Logistics Operational Performance"*** in case of Ministry of National Defense Logistics Main department is my original work. I have undertaken the research work independently with the guidance and support of the research advisor. This study has not been submitted for any master's degree or undergraduate program in this or any other institutions and that all sources of materials used for this thesis has been duly acknowledged.

Temesgen Bekele Id GSE 9620/13

Signature _____

Date _____

Addis Ababa University

School of Commerce Graduate Studies

This is to certify that the thesis prepared by **Temesgen Bekele**, entitled "***The Effect of Strategic Sourcing Practice on Logistics Operational Performance"*** submitted in partial fulfillment of the requirements for the Degree of Master of Arts in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

Advisor: **Kirubel Bruck (Phd)** Signature: _____Date: _____

Internal Examiner: **Tariku Jebena (Phd)** Signature: _____Date _____

External Examiner: **Anwar Yimam (Phd)** Signature: _____ Date: _____

_____

Chair of Department or Graduate Program Coordinator

Abstract

Strategic sourcing is rapidly expanding around the world because organizations see it as a way to achieve strategic goals, improve end user satisfaction, and provide efficient and effective services that include a comprehensive approach to lowering total costs, including quality, service, and delivery. The study sought to investigate the impact of strategic sourcing practices on the logistics operational performance of the Ethiopian national defense force logistics main department. The study followed an explanatory research design with a quantitative approach. The logistics main department's study target population was 84, and a census-sampling technique was used because the target population was small. A questionnaire was used as a key data collection instrument. Of the total respondents, 84 questionnaires were distributed, and 80 of them, representing 95.2% response rate, were collected and assessed, which was deemed adequate. The impact of strategic sourcing practice on operational performance in selected institutions was assessed using four organizational performance metrics: quality of goods/service, total cost reduction, lead-time delivery, and end-user satisfaction.

The data were examined using correlation and multiple regression analysis. According to the study's findings, the selected institutions mean score for strategic sourcing practice and operational performance in four organizational performances was moderate. The strategic sourcing practice of supplier development and developing supplier relationships have a positive and significant impact on organizational operational performance. As a result, all hypotheses were examined, with the alternative hypotheses accepted. Based on these findings, the researcher recommends improving strategic sourcing methods by investing in supplier development and relationship metrics, training, quality improvement, and technology, consequently lowering costs, improving quality, and increasing strategic sourcing resilience.

***Key words**: Strategic Sourcing, Supplier Development, Developing Supplier Relationship, Supplier Relationship Management, Operational Performance*

Acknowledgement

First of all, I sincerely thank the Lord for enabling me to complete the research. Special appreciation goes to my supervisor, **Dr. Kirubel Bruck** for his encouragement, selfless guidance and inspiration during the stage of the study. I also appreciate Members of Ethiopian National Defense Force of the logistics Main Department head, for their collaboration in providing me all the necessary data required for the study.

I would also like to extend my special thanks to my colleagues for their good advice, support, and enormous contributions toward this research. Last but not least, I thank all the college instructors in the Logistics and Supply Chain Management Department, especially the department coordinator, **Dr. Tariku Jebena**, and registrar, **Mrs. Aster**. They stood me up morally and psychologically since I was challenged and felt hopeless returning from the battlefield.

"May God bless you all."

Table of Content

List of tables

List of Figures

List of Abbreviation and Acronyms

DSR – Developing Supplier Relationship

ENDF – Ethiopian National Defense Force

FDRE – Federal Democratic Republic of Ethiopia

MoND – Ministry of National Defense

OP – Operational Performance

SRM – Supplier Relationship Management

SD – Supplier Development

SCM - Supply Chain Management

SPSS - Statistical Package for Social Sciences

SS -Strategic Sourcing

VIF- Variance Inflation Factor

CHAPTER ONE

1. Introduction

The defense institution heavily relies on the efficient procurement and management of resources to ensure operational readiness and effectiveness. Strategic sourcing, a procurement approach that aims to align sourcing activities with the overall organizational strategy, can play a crucial role in streamlining supply chain operations and optimizing resource utilization (Davids et al., 2013).

The purpose of this study was to undertake a comprehensive assessment of the impact of strategic sourcing implementation practices on logistics operational performance in the Ethiopian National Defense Logistics Main Department. The study examined the current strategic sourcing practice methods, identified potential gaps, and made recommendations for strengthening strategic sourcing strategies and processes. The conclusions of this study help defense firms to improve their procurement practices and achieve maximum efficiency, cost-effectiveness, and operational preparedness in all aspects.

According to (Shiferaw, 2021) in his study, sourcing is a supply chain management strategy that validates how information is acquired and processed so that a company can use its pooled purchasing power to obtain the best possible market values.

One of the most crucial jobs for any company is to manage outsourcing activities and keep things running smoothly. Strategic sourcing necessitates an awareness of what a company buys, from whom, for what price, and in what quantity.

Strategic sourcing is the process of analyzing an organization's spending and using the results to develop strategies for purchasing goods and services more efficiently and effectively. It necessitates the combination of consumer needs, market conditions, and organizational objectives. Strategic Sourcing in the Army originated between 2000 and 2003 as a series of small, decentralized strategic sourcing "pilot" operations at numerous Army purchasing departments (Davids et al., 2013).

Among the federal institutions Ministry of National Defense has been the largest purchasing organization however, the amount of the budget is not clearly stated here because of the internal regulation of National Defense.

In accordance with this, the Main Department of Logistics of the Ministry of National Defense aspired to have a highly efficient, effective, agile organization responsible for acquiring, producing, delivering, supporting, and sustaining the most competent and cheap goods and services for the Soldiers:

1.1 Problem Statement

Strategic sourcing is the practice of examining an organization's expenditures and using the findings to create plans for more economical and successful procurement of goods and services. It necessitates the integration of organizational aims and objectives, market conditions, and customer needs (Kocabasoglu & Suresh, 2006).

According to (Richard et al., 2019) an organizations need to implement a strategic sourcing strategy to lower the overall cost of procuring resources, goods, and services while maintaining a high level of quality. Sourcing has a significant part in providing an advantage for organizations with regarding to their objectives regarding quality, time and cost. As a result, utilizing strategic approaches to sourcing is crucial to managers. Strategic sourcing has become one of an organization's most critical tasks in order to minimize costs, improve operational performance, gain access to reliable suppliers, improve product or service quality, and exchange best practices (Wanjiru et al., 2018).

A study done by (Tesfaye, 2019 p.71) effect of strategic sourcing on organizational performance in the case of MOHA Soft Drinks Industry S.C he asserted that “the three strategic sourcing dimensions (supplier development, effective procurement plan, and communication) have positive and significant effect on organizational performance”. In addition, (Wondemalem & Zerihun, 2022) evaluated the additional strategic sourcing aspects of supplier selection, buyer-supplier relationship, and contract management and found that they had a significant and beneficial effect on organizational performance. According to (Kocabasoglu & Suresh, 2006), who conducted a study on the impact of strategic sourcing and flexibility on firm supply chain agility, the study discovered that strategic supplier partnership,

supplier evaluation, sourcing flexibility, and trust in supply chain members are the key dimensions of strategic sourcing.

Even though there are some researches made on different Federal institutions regarding the title there is no other research entitled in Ethiopian National Defense Force before "The Effects of Strategic Sourcing Practices on Logistics Operational Performance in Ethiopian National Defense Force." Given these limitation, the purpose of this study is to explore the impact of strategic sourcing practice on operational performance, with a focus on the Ethiopian National Defense Force Logistics Main Department Head.

Today, the operational efficacy of the Armed Forces is dependent on the availability and readiness of modern channel of supply chain in all aspects. Because the military wants to be ready for battle at all times, a sizable quantity of combat rations and military uniforms would need to be stored for almost three years before being shipped out for consumption. This would result in a three year supply of combat rations and uniforms at the warehouse level (Ekström et al., 2020)

In case of the Ethiopian National Defense, it is challenging to obtain a consistent supply of combat rations and uniforms in reserve stock. From the researcher observation held within the Ethiopian Defense Force's logistics department, both the army and the Logistics department face difficulties in getting battle rations and uniforms in accordance with mission requirements. This is not appropriate for a field mission and could jeopardize the military mission's success to fulfill its national objectives.

The study is focused on military institutions that operate in a belligerent and evasive environment where decisions pertaining to life and death must be made. It seeks to shed light on how military organizations handle logistical, organizational, and financial management issues during operations, adding to the body of knowledge and influencing policy discussions, choices, and fresh perspectives among practitioners.

However, the Ministry of National Defense Logistics main department sector faces challenges in implementing strategic sourcing practices due to inefficient implementation of the strategic sourcing process and a lack of knowledge of the broader strategic sourcing idea at all levels, giving less attention to supplier development, supplier relationships development, and supplier

relationship management. These factors can limit agility and flexibility in procurement activities, hindering opportunities for cost reduction, efficiency improvement, and risk mitigation.

The researcher, who has been a member of the Ethiopian National Defense Force working as a division logistics department head, has observed different problems from the continuous evaluation of monthly, quarterly, and annual reports. According to the 2023 annual report, delays in goods, lack of quality, lack of well-organized and confirmed planned purchases, and lack of consistency are major indications of the low performance of organizational sourcing practices. From my own experience as a sample from one division unit, among the demand requests for military uniforms were 2670 pieces, but only 1576 were responded to, which means about 59%, and the remains will be pending for more than four months. With this insight, this problem is too huge when we look at a defense institution that has a large number of different structures.

Additional observation by the researcher was practically exercised in one division regarding the combat ration and military uniforms. According to the EFDRE army regulation, a uniform is distributed twice a year, and the military combat ration during the field has been specified in the logistics manual regulation 700 grams of biscuits with two pieces of packed 240 grams of snacked food for each soldier per day. But what is in place was only a single pack of packed snacks with the specified biscuits for the past three years until the study was initiated, and the military uniform and boots were worn for more than nine months without any other change.

In this regard, there is a supply disruption, poor distribution, and poor quality of goods and service to end users of units as planned and requested at the appropriate time, location, quality, and quantity. As a result, the study attempted to fill gaps in the impact of strategic sourcing practice dimensions on supplier relationship management, supplier development, and developing supplier relationships for the efficient and effective delivery and continuity of combat rations and uniforms for military missions.

For the above-stated reasons and related problems, the accomplishment of the mission have in effective and high impact on the mental and psychological readiness of the soldiers. By addressing these challenges and improving the implementation of strategic sourcing practices, defense organizations can enhance their procurement processes, optimize resource utilization, reduce costs, and maintain operational readiness. Therefore, a comprehensive assessment of

the effect of strategic sourcing practice on operational performance in the defense sector is crucial to identify and overcome existing barriers and pave the way for improved procurement strategies and practices.

These all are excellent reasons for the researcher to work hard and investigate the effect of strategic sourcing practices on logistics operational performance in the FDRE national defense logistics main department.

1.2 Research Objectives

1.2.1 General objectives of the study

The study's general aim is to examine the effect of strategic sourcing practices on logistics operational performance to improve overall operational preparedness and mission success of Ethiopian defense forces.

1.2.2 Specific Objectives

- ✓ To investigate the effect of Supplier Development on Logistics Operational Performance.
- ✓ To analyze how Developing supplier relationships affect Logistics Operational Performance.
- ✓ To examine whether Supplier Relationship Management (SRM) has an impact on Logistics Operational performance.

1.3 Research Hypotheses

As previously said, the study aims to investigate the impact of strategic sourcing practices on the organization's logistics operational performance. The study attempted to reveal that improving the practice of strategic sourcing dimensions leads to better operational performance. In this regard, the following hypotheses were formulated.

Hypothesis 1: Supplier Development and Operational Performance

- H0a: Supplier Development has no effect on Operational Performance.
- H1a: Supplier Development has a positive effect on Operational Performance.

Hypothesis 2: Developing Supplier Relationships and Operational Performance

- H0b: Developing Supplier Relationship has no effect on Operational Performance.
- H1b: Developing Supplier Relationship has a positive effect on Operational

Performance.

Hypothesis 3: Supplier Relationship Management (SRM) and Operational Performance

- H0c: Supplier Relationship Management (SRM) has no effect on Operational Performance.
- H1c: Supplier Relationship Management (SRM) has a positive effect on Operational Performance.

1.4 Significance of the Study

The researcher believes that the result of study have the following significance.

This study can improve the knowledge in the MoND, especially of the Logistics main departments regarding how strategic sourcing practices affect logistics operational performance and achieves defense missions and goals. As such, findings from this study may be useful for providing feedback on strategic sourcing processes to the Ministry of Defense through the head department assigned and other units within it.

The researcher thinks of identifying and suggesting workable and effective ways of strategic procurement that will save the organization a lot of resources as well as smoothening, the flow of supply chain to the end users according to their demand on quality, quantity, time delivery and satisfaction. Besides, it gives an opportunity for the researcher to familiarize with some issues around dimensions of practice in strategic sourcing. This research could be used as a potential reference point in future studies by other scholars interested in undertaking investigations along similar lines because this is a first timer for our company. Apart from filling the literature gap, this study has also practical implications in terms of improving logistics operational performance of strategic sourcing practice effect as its academic purpose.

1.5 Scope of the study

The primary focus of the study was on the influence of strategic sourcing practices on the operational performance of Ministry of National Defense. In particular, the investigation will be limited to these dimensions of strategic sourcing: supplier relationship management, Developing Supplier Relationship, and supplier development.

Thematically, the study will focus on strategic sourcing activities within the Ministry of National Defense related with sourcing of military uniforms and combat rations only. It will not delve into other procurement or operational activities within the organization. Additionally, the study was only considered the strategic sourcing dimensions (Developing supplier relationship, supplier relationship management, and supplier development) and their effect on logistics operation performance. Other dimensions or factors that may contribute to organizational performance were excluded from this study.

Geographically, the MOND was broad in geographical locations and large in its structure. However, due to a shortage of time and resources, the study was conducted within the main department of the Ministry of National Defense Logistics, located at the headquarters. The findings and conclusions derived from this study may not apply to other logistics departments operating in different geographical locations and units since the area of study were under the mandate of defense logistics main department.

1.6 Limitation of the study

The organization's policy prohibited the disclosure of financial data and information to an external body. This limits the study's capacity to present the impact of strategic sourcing on operational success in terms of financial outcomes.

1.7 Definition of Terms

Sourcing

Sourcing is a proactive management of a supply market to assure access to the resources required for the firm's long-term demand. Understand market Strategic Sourcing features, identify relevant potential suppliers, build a business strategy, and establish objectives for any market shaping efforts. Sourcing defines the agreement with the suppliers engaged in the strategy without necessarily going into the specifics of the contract (Kocabasoglu & Suresh, 2006).

Strategic Sourcing (SS)

Strategic Sourcing defined as an institutional sourcing and supplier management process that

continuously improves and examines the company's supply chain activities. It is an iterative approach that eliminates cost and minimizes risk while creating better connections with fewer but more crucial suppliers (Parniangtong, 2016)

Procurement

Procurement is the management of a broad range of processes associated with an organization's desire to obtain the necessary goods and services for manufacturing a product, transforming inputs into outputs, or indirectly operating the organization. These processes include product and service sourcing, supplier selection, pricing and terms negotiation, transaction and contract management, supplier performance management, and supplier sustainability issues (Galloway et al., 2020)

Supplier Development

Supplier development is described as "any activity undertaken by a buyer to improve a supplier's performance and/or capabilities in order to meet the buyer's short- and/or long-term supply requirements" (Wisner, Tan, and Leong, 2017).

It is also any effort of a buying firm working with its supplier(s) to increase the performance and capabilities of the supplier(s), meet the buying firm's short- and/or long-term supply needs, and promote ongoing improvements that aim to benefit both the buyer and the supplier (Parniangtong, 2016).

Supplier Relationship Management

Supplier relationship management (SRM) is the systematic approach to evaluating vendors that supply goods, materials and services to an organization, determining each supplier's contribution to success and developing strategies to improve their performance (Paulraj & Chen, 2005).

Developing Supplier Relationship

According to Kenichi Ohmae global management consultant, and known as "Mr. Strategy" worldwide, "Companies are just beginning to learn what nations have always known: in a complex, uncertain world filled with dangerous opponents, it is best not to go it alone." Building strong supplier partnerships requires many buyers and sellers both worked hard and

were committed. Creating meaningful partnerships is not easy, and much work is required to make the collaboration succeed. An example is Raytheon, which has developed close supplier relationships with its suppliers (Joel Wisner, Keah-Choon Tan, G. Keong Leong , 2017).

1.8 Organization of the study

This study was organized in to five chapters. The first chapter deal with introduction, which includes back ground of the study statement of the problem, research hypothesis, objective of the study scope of the study, limitation of the study, significance of the research and organization of the study. The second chapter was including a relevant literature review that focuses on the theoretical framework and conceptual issue of strategic sourcing practice. The third chapter focuses on the research approach, which covers the study area description, study design, data collection methods and tools, study population, sample size and sampling, data analysis methods, and ethical issues. The study's findings were presented in chapter four, along with an analysis of the data. The final chapter would include the study's discussion, implications, and conclusion, as well as a recommendation based on its relevance and priority.

CHAPTER TWO
RELATED LITRATURE REVIEW

2 Introduction

This chapter presents literature reviews related to the purpose of this study. The objective of examining the literature is to provide insight into strategic sourcing procedures, to lay the conceptual groundwork for the study, and to define and establish the significance of the research issue. Saunders (Stobbe, 2008) defines a literature search as "a systematic search of one or more databases for material on a specific subject". It allows the researcher to readily identify how the current research links to past research. Based on the literature reviewed, this thesis attempted to compose and consider research questions, as well as identify measurement variables, for the purpose of assessing the effect of strategic sourcing and operational performance in the context of FDRE National defense.

Theoretical Literature Review

2.1 Concept of Strategic Sourcing.

Strategic Sourcing concept has been developed in mid-1990 to avoid misalignment in the supply chain operation towards the organizational objectives and to increase the organizational profitability through the effective procurement process (Kocabasoglu & Suresh, 2006).

The definition of Strategic sourcing is given by different scholars and among these it is an organizational procurement and supply management procedure used to discover and develop quality and employee suppliers that bring the most value to the buyer's product or service (Goldsmith et al., 2020).

Strategic sourcing in the services business, a service solution, also known as a Strategic Partnership, is uniquely tailored to meet the client's needs, It is frequently seen as one component of supply chain management in a manufacturing environment (Ramachandran, 2020).

The major objective of strategic sourcing is to engage supplier that align with the strategic business and operational goals of the organization by doing uncertainty lessening and upgrading of flexibility when faced with supply, competitive, and demand uncertainties (Yagoob & Ting, 2015).

According to(Milliken, 1987) view strategic sourcing is an endeavor to gain a competitive edge by involving suppliers early in developing product, sharing supplier technology and assisting suppliers in generating product and process improvements. Strategic sourcing is a method of acquiring industrial skills while avoiding capital inputs.

Strategic sourcing is the collaborative and systematic process of critically examining an organization's spending and using that information to make more effective and efficient commodity and service acquisition decisions (Gewald & Lammers, 2006).

Strategic Sourcing Primary Objectives

- ✓ Reduce the cost of goods and services
- ✓ Capture Resulting Saving
- ✓ Create contractual alliance with supplier to support the long term goals of the organization.
- ✓ Maintain and improve product quality
- ✓ Improve business functions
- ✓ Optimize the total purchasing process

2.2 Evolution of Strategic Sourcing

According to Engel at the 89th annual international supply management conference, the majority of our supply chain profession has evolved over the last few decades from a purchasing agent culture in which working in silos was the norm to a supply chain management environment in which working with cross-functional and cross-locational teams is critical to success. Strategic sourcing is organized because a methodology or process is necessary; it is collaborative. One key requirement for any successful strategic sourcing initiative is that functional elements other than procurement engage in decision-making and assessment processes (Medina-Serrano et al., 2020).

Another recent study by White, Parfitt, Lee, and Jones describes the strategic sourcing development process using different models. These numerous models from various studies completed between 1989 and 2006 are summarized in a way that shows the progression from non-strategic procurement to tactical procurement, then to contemporary strategic procurement, as well as the historical evolution of the studies undertaken at various times. As a

result, the most recent research emphasized the gradual rise of current strategic sourcing, which focuses on value chain integration rather than traditional transactional procurement.

Strategic Sourcing differs from standard procurement processes in the following respects. Strategic sourcing is a holistic method to lowering total costs, which includes quality, service, and delivery. It differs from traditional procurement processes in the following ways. Strategic sourcing involves a comprehensive approach to reduce total costs, including quality, service, and delivery. It consolidates purchasing power, allowing organizations to maximize benefit from sourcing from each supplier. It tighter supplier relationships help standardize costs, improve quality, and time. Strategic sourcing redesign business processes, work, and information flow, eliminating redundancies and reducing purchasing orders. It also fosters improved teamwork and purchasing skills by involving members from various departments, overcoming traditional organizational barriers.

In general, firms are now use strategic sourcing, a relatively new supply chain concept, to fulfill their objectives and receive the right products and services from the right sources, at the right time, and at the lowest total supply chain cost.

2.3 The significance of strategic sourcing

Strategic sourcing is the most effective tool a company can employ to increase profits, with a significant return on investment. Gargeya and Su's research visibly shows that many firms updated their purchasing function to become an integral element of the corporate planning process. These companies acknowledged the advantages and competitive advantages of including purchasing into strategy planning (Ramachandran, 2019).

Different authors and organizations describe the benefits of strategic sourcing in various ways and from various perspectives. According to a Harvard Business Review analytical research, one of the primary benefits of focusing on strategic sourcing is increased efficiency.

Traditionally the primary measure of sourcing effectiveness, achieving cost-savings targets that include both hard-dollar and soft-cost savings gained through demand management, consolidation, or extraction of additional value (e.g., higher-quality goods, more extensive service or support) is now a prerequisite for a high-performance sourcing and procurement function (Harvard Business Review Press, 2020).

Strategic sourcing is critical in today's organizations; to acquire a competitive advantage, businesses must spend the majority of their operational budget on raw materials, finished goods, and services (Zerihun et al.2022). Strategic Sourcing is a systematic strategy or procedure that allows a supply chain function to focus on spends areas or procedures that can result in cost reductions. The process is divided into eight fundamental parts, starting with identifying a spend area and concluding with selecting and managing a supplier link (Ribas et al., 2021).

2.4 Theories of strategic sourcing

1. Transaction cost theory: This theory suggests that companies should consider the costs associated with different sourcing options, such as transaction costs, search costs, and coordination costs. It emphasizes the importance of minimizing costs while selecting suppliers (Williamson, 1985).

2. Resource-based view theory: This theory focuses on the unique resources and capabilities of suppliers. It suggests that companies should consider the strategic fit between their own resources and capabilities and those of potential suppliers. By aligning resources and capabilities, companies can achieve a competitive advantage (Barney, 1991).

3. Knowledge-based theory: This theory emphasis on the implementation of knowledge and information in sourcing decisions. It suggests that companies should consider the knowledge and expertise of suppliers in order to enhance their own capabilities and gain a competitive edge (Barney, 1991).

4. Transaction cost economics: This theory focuses on the costs associated with different sourcing options and the role of contractual arrangements in managing these costs. It suggests that companies should consider the transaction costs, such as bargaining and monitoring costs, when making sourcing decisions (Williamson, 2000)

5. Supply base management theory: This theory suggests that companies should strategically manage their network of suppliers. It emphasizes the importance of developing close relationships with suppliers, improving supplier relationships, and reducing supply chain risks (Cousins et al., 2004).

Generally, these theories suggest that strategic sourcing decisions in supply chain management should consider various factors such as cost, resource fit, knowledge, transaction costs, and supplier relationship management.

2.5 Dimension aspects of strategic sourcing

2.5.1 Supplier Development

Any effort undertaken by a purchasing firm in partnership with its supplier(s) to improve the supplier(s)' performance and/or capabilities that satisfy the purchasing company's short and/or long-term supply needs, and foster ongoing improvements meant to benefit both the buyer and the supplier(s) is referred to as supplier development (Galloway et al., 2020).

There are various techniques to assist in selecting a product that are related to supplier comparison and diversity (Galloway et al., 2020). From the buyer's point of view, supplier development generally has two objectives first, to reduce expenses, improve quality, and speed up delivery; and second, to teach suppliers a systematic procedure to keep promoting continuous improvement. On the other hand, it is thought to be among the most important choices that purchasing companies have when it comes to managing problems that could occur in their supply networks, like subpar performance from present suppliers, current suppliers' inability to assist the strategic expansion of purchasing companies, or a shortage of qualified suppliers (Ahmed et al., 2012).

Choosing and creating choice criteria, pre-qualification, final supplier selection, supplier monitoring, and assessing the need for a new supplier are the general five steps involved in the supplier selection process (Ribas et al., 2021).

Establishing standards for assessing possible providers is the first task for the evaluation and assessment committee. The next stage is to give each criterion a weight so as to the impact and degree of each criterion on supplier appraisal may be evaluated. A particular can have many sub-attributes ascribed to it. The last stage is to research possible providers in addition to the first attributes mentioned (Choy et al., 2003).

The SCM literature has also stressed the significance of supplier development in supporting a business's operations strategy by ensuring that suppliers' performance and capabilities meet the needs of the purchasing firm (Humphreys et al., 2004).

Regarding relevant supplier development initiatives, the body of existing literature has shown that purchasing firms generally enhance the performance and capabilities of their suppliers through the following means: establishing performance targets for the provider, offering training supplying the provider with tools, tech assistance, and even investments; moving employees between the two companies; assessing the performance of the supplier acknowledging the supplier's advancement through rewards; visiting the supplier location to evaluate its operations; as well as collaborating with the provider of improved materials (Krause et al., 2007).

The goal of supplier development is to fortify ties with important suppliers in order to reduce the likelihood of opportunistic behavior. According to(Dyer & Singh, 1998) opportunistic risk is reduced when businesses invest in relationship-specific assets and have shared know-how. These kinds of connections may also enhance performance and lessen uncertainty. According to (Krause et al., 2007) supplier development in this study is defined as any activity a buyer does to enhance a supplier's performance and/or capabilities to satisfy the buyer's short- or long-term supply needs. On this ground, the hypothesis was formulated as follows.

Hypothesis 1: Supplier Development and Operational Performance

- H0a: Supplier Development has no effect on Operational performance.
- H1a: Supplier Development has a positive effect on Operational performance.

2.5.2 Developing Supplier Relationship

In the context of developing buyer-supplier relationships, a long-term supplier relationship is characterized by a company's propensity to maintain ties with its suppliers for a comparatively longer duration(Paulraj & Chen, 2005).

Paulraj states that rather than emphasizing antagonistic relationships, long-term orientation concentrates on projects that strengthen the better relational qualities among supply chain participants and produce a win-win scenario for the buyer and its suppliers. While businesses with a long-term orientation rely on relational exchange to maximize their gains over a series of transactions, short-term-oriented businesses rely on the efficiency of market exchanges to

maximize their gains in a single transaction(Ganesan, 1994). Close relationships with suppliers enable buyers to plan ahead and solve problems together, share risk and rewards more readily, and sustain the relationships for a longer amount of time. It has also been asserted that, in the context of supply chain management, effective supplier relationships that is, establishing long-term relationships with key suppliers help firms achieve superior performance by lowering costs, improving quality, and enhancing customer responsiveness or flexibility (De Toni et al., 1994), as cited by Prajogoetal (2012). In addition, Chen et al. (2004) expanded on the findings of earlier research to propose that modern competitiveness has led to a notable evolution in supply management, wherein achieving superior performance in terms of cost, quality, and flexibility (i.e., customer responsiveness) is progressively dependent on enduring supplier relationships with suppliers.

Developing long term relationship Orientation is "operationalized by items that measure how much the purchasing company:

a) anticipates a lengthy duration of relationships with its major suppliers;

b) Collaborates closely to enhance product quality with important suppliers; and

c) Sees the vendors as an extension of the business; consequently

d) Suppliers consider their partnership with the purchasing company to be enduring (Krause & Ellram, 1997)

Based on those implications the hypothesis is formulated as follows that shows the positive association between developing long-term supplier relationship and operational performance.

Hypothesis 2: Developing Supplier Relationships and Operational Performance

- H0b: Developing Supplier Relationship has no effect on Operational Performance.
- H1b: Developing Supplier Relationship has a positive effect on Operational Performance.

2.5.3 Supplier Relationship Management

Businesses that are actively involved in supply chain management are paying more and more attention to supplier relationship management, or SRM. As stated by international consultant Accenture, SRM “encompasses a broad suite of capabilities that facilitate collaboration, sourcing, transaction execution and performance monitoring between an organization and its trading partners. SRM leverages the latest technology capabilities to integrate and enhance supplier oriented processes along the supply chain such as design-to-source, source-to-contract

and procure-to-pay."

Briefly, SRM entails employing software programs to help manage these processes more effectively and efficiently, as well as streamlining communication and processes between the supplier and the buyer. The need for supply chain management (SRM) solutions arose from the success of e-procurement, which primarily focuses on internal processes. SRM software facilitates information sharing across multiple tiers of relationships that are too intricate and time-consuming to handle manually. This leads to increased supply chain collaboration, reduced business expenses, real-time visibility, and improved procurement efficiency (Joel Wisner, Keah-Choon Tan, G. Keong Leong , 2017). Based on this implication the following hypothesis was formulated.

Hypothesis 3: Supplier Relationship Management (SRM) and Operational Performance

- H0c: Supplier Relationship Management (SRM) has no effect on Operational performance.
- H1c: Supplier Relationship Management (SRM) has a positive effect on Operational performance.

2.6 Organizational Performance

Organizational performance is the actual output or outcomes of an institution and its intended outputs or goals and objectives (Khalid et al., 2019). Organizational performance can be measured through reduction in cost, quality of goods/services delivered, productivity, lead time (Huo et al., 2014; Khalid et al., 2019). Huo (2014) stressed that though operational performance has been widely used as a key output measure of firm performance. Additional to that numerous studies have pinpointed the limitation in relaying on financial performance measure in supply chain studies. Concurring to (Pires, 2023) states that the foremost basic factor for effective management is Performance measurement (PM) which recognizing and measuring the impact of Supply Chain Management (SCM) on it improves the organizational execution. In any case, the subject of execution does not get adequate inspiration in supply chain administration inquire about. The indicator of performance of an organization can be financial targets achieved and fulfillment of work constrain. On the same note, Ho (2008) watched that organization performance may moreover be assessed based on institution effectiveness and proficiency.

2.7 Empirical Review

The responsibilities of purchasing have changed markedly over the last few decades, purchasing focused heavily on the transactional elements of the procurement process. Purchasing was accepted as a support function that provides for the sourcing needs of other departments. Major changes are currently taking place within purchasing functions of firms. Purchasing is shifting its focus from daily procurement activities to long term, value-adding purchasing and supply chain initiatives (Humphreys et al., 2004).

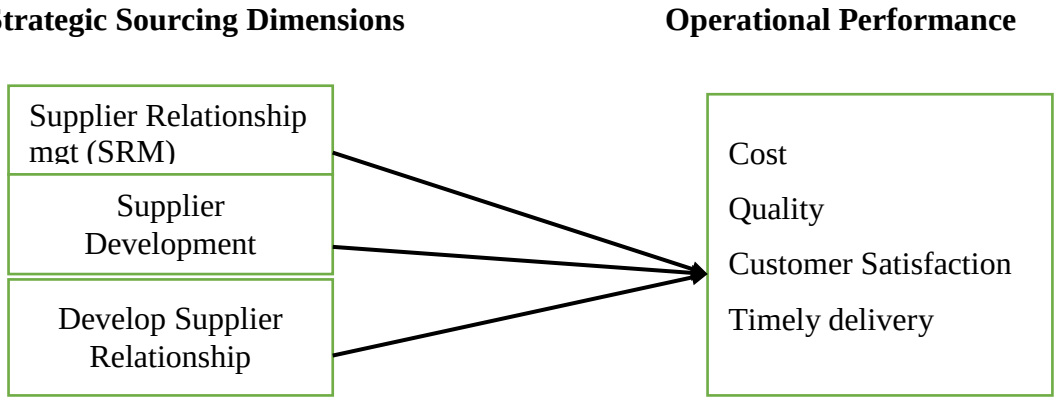
As the researcher tried to indicate on the literature part, different studies use different dimensions of strategic sourcing as dependent variables on their study to measure organizational performance some has included all the strategic sourcing dimensions while some others selectively use among these few of them to measure performance of an organization.

Majority of the studies has used cost, quality and time factors separately as an indicator of measurements for organizational operational performance. However, the researcher intended to add end user satisfaction, which was one part of the metrics to measure the organizational performance since they were part of activities in strategic sourcing dimensions of supplier development, developing supplier relationship and supplier relationship management.

2.8 Conceptual framework of the study

The model of concept can be depicted as a group of variety of principles and ideas retrieved from fields that are relevant to enquiry and structure usage to a presentation of subsequent study. Conceptual framework is used to appear the relationship between the dependent variable and independent variables. Figure 2.1 underneath appears the diagrammatical relationship between dependent variable and independent variables. The independent variables are supplier development, developing supplier relationship and supplier relationship management (SRM), As stated about over the metrics to measure of key sourcing practice factors altogether influence the dependent variable 'organizational operational performance' which may be measured in terms of satisfying objectives through realized investment funds, benefit quality, adaptability, client fulfillment and lead time deliverance. The conceptual system is formulated as follows:

Figure 1Conceptual framework of the study.



Source: adapted from (Joel Wisner, Keah-Choon Tan, G. Keong Leong , 2017)

2.9 Key Elements of Strategic Sourcing

Effective strategic sourcing requires an organized approach consolidating key components to maximize its affect.

- **Assessment:** Some time recently setting out on any sourcing activity, organizations must comprehensively evaluate their needs. It sets the establishment for viable decision-making all through the sourcing prepare.
- **Market Research**: Organizations must accumulate insights on provider capabilities, industry patterns, supply showcase flow, and estimating structures. The data engages organizations to form educated choices and arrange favorable terms.
- **Supplier assessment and selection**: Organizations must build up strong assessment criteria to survey potential providers impartially. Key variables incorporate provider capabilities, quality measures, budgetary steadiness, and track record.
- **Contract negotiation**: Compelling transaction points to attain favorable terms and conditions that adjust with organizational destinations. It addresses estimating, conveyance plans, benefit level understandings, and chance allotment.
- **Supplier relationship Management:** Compelling provider relationship administration includes clear communication and customary execution assessments. Organizations must endeavor to cultivate long-term organizations based on believe and shared objectives.

- **Performance Measurement and Improvement**: Organizations must build up execution estimation frameworks that track provider execution against agreed-upon KPIs. The information empowers organizations to distinguish zones for change and drive provider responsibility.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research design and methodology used to obtain the findings presented in this study. It details the specific research methods and procedures employed throughout the research process in order to address the objectives of the investigation. The chapter begins by describing the overall research strategy and design. It then discusses the target population, sample size, and sampling techniques utilized in this study. Next, the data collection methods including the validity and reliability of the instrument used are explained. The data analysis techniques applied are also covered. Finally, the ethical considerations taken in to account during the research are addressed. By detailing this information, the chapter demonstrates how the research outcomes were generated in alignment with the stated goals of the study.

3.2 Description of the Study Area and population

Under Ministry of FDRE National Defense which its head quarter is located around Tor-hailoch, there are different Main departments and directorates who are giving a service for the whole institution of the national defense components. This research has been conducted within the logistics main department and defense procurement directorate of the Ethiopian Ministry of National Defense. These departments are primarily responsible for sourcing and delivering goods and services to end-users within the ministry. Ensuring the timely provision of the right quality and quantity of supplies at the appropriate price and location is fundamental to meeting stakeholder/end user's expectations. Therefore, the focus of this study was to examine the functions of the logistics main department and procurement directorates, which are tasked with sourcing goods and services from domestic and international markets. Specifically, the researcher aims to investigate the impact of strategic sourcing practices on organizational performance within these departments. This will involve identifying gaps in the implementation process and recommending areas for improvement across the ministry of national defense supply chain operations practices.

3.3 Research Design

According to Creswell, research design is the blueprint or plan utilized to develop responses to research questions. As a result, the researcher employed both explanatory research, and descriptive research, among other sorts of research designs. The explanatory research design were employed to assess the impact of strategic sourcing practice on organization operational performance and to see the effect of different variables by using different inferential tools that help to elaborate the relationship and interactions between variables. While descriptive research design were used to characterize and interpret current trends in the study area. Since the data used for this study was a onetime survey collected data, the researcher employed cross sectional study type. In this cross sectional study type, the researcher has been used quantitative data types that are used to analyze data by using data from specific population at a single point in time.

3.4 Research Approach

To address the key research objectives indicated in this study, the researcher used quantitative research approach. Further, combination of primary and secondary sources of data also used to describe the variables in this study. To assess the effect of strategic sourcing practice on operational performance of Logistics main head; the study encompasses various statistical tools (SPSS) for extracting the data and present it in an understandable manner.

3.5 Target population

Target population as described by (Maxwell, 2016) is a universal set of study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the results. The target population in this study was Ministry of National Defense Logistics Main department and Defense procurement main Directorate members. The total populations of the study area are 84 members. The respondents of this study comprises of military personnel and civilian experts who have been working/serving in Ministry of National Defense Logistics Main department and Defense procurement main Directorate for a long period of time and who know the subject matter very well.

3.6 Study population and sample

According to Creswell, A sample is a small portion of a target population. Any statement made

about the sample should also be true of the population. On the other hand Sampling is a process or technique of choosing a sub-group from a population (sample frame) to participate in the study; it is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group of population from which they were selected (Sekaran, 2003). If a target population is large in number, a sample of more than 30% is a representative of the whole population. But, in this study, as the total population working in the selected departments was 84, the researcher was used census survey since the number of the population is small and easy to address in time and resource. In this approach, no attempts were made to create a sample size, as the cases chosen are those that can divulge and illuminate the most about the research area.

3.7 Data source and data collection

The researcher obtained permission from Ministry of National Defense Logistics Main department Head. This organization is an institution that is involved in the study to conduct the research in its selected departments, and the permission was granted. As far as the procedure of data collection is concerned, the researcher had been initially made contacts with respondents to explain the purpose and nature of the study so as to achieve the desired response rate.

In this study, the research employed both primary and secondary data collection methods as a tool to gather the necessary information. The primary data was collected mainly through a survey by administering questionnaires to selected respondents. Secondary data was collected through document review from different written documents.

3.7.1 Primary data source

The primary data source was inculcates most of quantitative. The quantitative data sources which include data that are gathered through closed ended survey questionnaire. Furthermore, questionnaires that were developed by the researcher have been settled based on five- item Likert scale. Responses that given to each statement was by using Likert scale, for which 1 = “strongly disagree” to 5 = “strongly agree.” The responses were summed up to produce a score for the measures.

3.7.2 Secondary data source

The secondary data refers to data that was collected by someone other than the user. This data

source gives insights of the research area of the current state of the art method. It also makes some sort of research gap that needs to be filled by the researcher. This secondary data sources could be internal and external data sources of information that may cover a wide range of areas.

Based on that, to generate secondary data, a literature review and intensive document review were conducted to determine the implications of factors that affect strategic sourcing practices. To achieve the study objectives, the researcher have been conducted excessive document review and reports. These documents are help to see factors affecting strategic sourcing practice on other federal government and private institution. From a methodological point of view, intensive literature reviews have been made. Farther more the researcher used comprehensive quantitative content analysis to assess the subject matter. Structural (descriptive) and explanatory method are also support to give further explanation as content criteria.

3.8 Pilot Study

The questionnaires was reviewed by the researcher's professional peers and by the research supervisor and then tested on a small pilot sample of respondents with similar characteristics. The pilot sample consisted of 10 respondents from members of the defense Logistics main department head who are serving in the organization (logistics main department). The piloting sample was 1 to 10% of study sample depending on the study sample size. The collected data are reviewed to test for validity and further entered into SPSS 23 to test for reliability.

3.9 Validity and Reliability Research Instruments

3.9.1 Validity

According to Creswell, Validity is the quality of a data-gathering instrument that enables the measurement tools to measure what it supposed to measure. Validity is the ability to make meaningful and useful inferences from the instrument's scores and to ensure content validity. The instruments were reviewed by researcher supervisor and other research specialists (Creswell, 2018). Content validity yields a logical judgment as to whether the instrument covers what it is supposed to cover. Content validity ensures that all respondents understand the items on the questionnaire similarly to avoid misunderstanding. Response optioned

provides for most of the questions to ensure that the answers given are in line with the research questions they are meant to measure. For this purpose, the content of the questionnaire have been prepared by referring to scientific texts, theories and the model relevant to the subject and the questions of the research. After doing amendments by advisor the content validity and face, validity of the questionnaire were approved.

3.9.2 Reliability

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trial (Rousson et al., 2002). Reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials. To test the reliability of the questionnaire as a research instrument, a pilot study has been carried out and a Cronbach Alpha Co-efficient was computed. This establishes the extent to which the questionnaire elicits the same responses every time it will administer. If Cronbach's Alpha result is below than 0.7 the questionnaire showed be rejected (Taber, 2018). Thereby, if it can be more than that it proves that the questionnaire will be valid, reliable, and distributed to the population sample.

3.10 Data Analysis Techniques

A careful analysis of the completed questionnaires was done to ensure that the collected data was accurate and consistent with other information gathered. Pre-processing of collected data is done through editing to detect errors and omissions. Based on the data editing and error detection; the researcher take appropriate corrective action. Qualitative data was evaluated utilizing coding to remove redundant and identical responses provided by respondents to a small and acceptable number of classes. After coding, the data was classified according to common traits and properties. The raw data is then compiled and processed in the form of statistical tables to facilitate further study. Quantitative data is evaluated using descriptive statistics, which establish measures of central tendency, such as mean and standard deviation, and present the results in the form of tables.

The data analysis method makes use of descriptive and inferential statistical analysis. The findings were provided in the form of frequency tables, proportions, and mean analyses. The degree of relationship between the variables was determined by correlation and regression analysis using Pearson's correlation coefficient. The validity of the measurement models was

assessed using SPSS. The results of the analysis were provided. For advanced statistical analysis of data the researcher has been aided by the Statistical Package for Social Science (SPSS 23) software.

The multiple regression models used; $Y= \beta0+ \beta1X1+\beta2X2+ \beta3X3+\varepsilon$

Where: Y is the dependent variable organizational performance, β0 is the regression coefficient/constant/ Y-intercept, β1, β2, and β3 are the slopes of the regression equation,

X1: Supplier Development

X2: Developing Supplier Relationship

X3: Supplier Relationship Management (SRM)

ε is an error term normally distributed about a mean of 0 and for purpose of computation, the ε is assumed to be 0.

3.11 Ethical Considerations

Before commencing the field study, the first ethical issue considered in this research was getting the necessary permissions from the all relevant authorities including transmittal letter from the MoND research permit to conduct a research in the organization on the respected subject. Particularly, the researcher ensured that participants are not harmed by their participation in this study or because of their views. Moreover, the researcher has been discussed with participants on the issues of how information gathered have been used and/or protected. Other ethical consideration included in this study was letting the respondents to participate on their own consent without undue influence. Confidentiality have been maintained and supported throughout the research by adopting the doctrine of anonymity and informing the respondents about the purpose of the study's activities in advance. The data collection instrument was designed to ensure respondents confidentiality and privacy. With respondent to data collection, analysis and interpretation, attempts were made to reference and credit all the sources cited. Plagiarism, fabrication of falsification was avoided while honestly have been observed at all levels of study.

CHAPTER FOUR
RESEARCH FINDINGS, ANALYSIS AND INTERPRATION

4.1 INTRODUCTION

Under this chapter, data presentation and analysis were covered. The main objective of the study was to determine and assess the effect of strategic sourcing practice on operational performance of Logistics main department at the Ministry of National Defense. To make the discussions easier to understand, the researcher included tables and figures that compiled the respondents' overall responses and points of view that were gathered from primary and secondary sources and examined in accordance with the goals and research questions. The study evaluated the impact of strategic sourcing practices on the operational performance of the Ministry of National Defense's main department of logistics through the use of a variety of statistical tools, including SPSS, for data extraction.

4.2 Response rate

A sample size of 84 participants was the intended goal while 80 respondents completed and returned the questionnaires, yielding a 95.2% response rate. The targeted sample size was 84 participants. Those filled and returned questionnaires were 80 respondents making a response rate of 95.2%. According (Jack E. Fincham, 2014) a response rate of 50% is sufficient for analysis and reporting, a rate of 60% is good, and a rate of 70% or higher is excellent.in this regard the response rate for this study which was determined as 95.2% was excellent and more enough for data analysis and interpretations.

Table 4.1: Response Rate

Questionnaires	Frequency	Percentage (%)
Response	80	95.2%
Non Response	4	4.8%
Total	84	100%

Source: own survey data 2024

4.3 Validity and Reliability Assumption Test

To set up legitimacy, the investigate instrument was given to two experts who were experienced within the area of impact of strategic sourcing practice on operational

performance of logistics main department at the Service of National Defense and to assess the significance of each thing within the instrument in connection to the destinations. The same were evaluated on the scale of 1 (not very relevant) to 5 (very relevant). Validity was decided by using of content validity index CVI). Content validity index (CVI) was gotten by adding up the things rated 3 and 4 by the specialists and partitioning this entirety by the full number of things within the survey. Oso & Onen, (2009), state that a validity coefficient of at slightest 0.70 is satisfactory as a substantial investigate thus the selection of the investigate instrument as substantial for this study. The surveys utilized had Likert scale things that were reacted to. For unwavering quality investigation, Cronbach's alpha was calculated by application of SPSS. The esteem of the alpha coefficient ranges from 0 to 1 and may be utilized to depict the unwavering quality of variables extricated from dichotomous (that is questions with two possible answers) and/or multi-point organized questionnaires or scales (i.e., rating scale: 1 = strongly disagree, 5 = strongly agree). A higher value appears a more dependable generated scale. (Cooper, & Schindler, 2008), shown 0.7 to be worthy and unwavering quality coefficient. The study involved surveys from 10 respondents, who were selected to take an interest within the pilot study. Since, the alpha coefficients were all more than 0.7, a conclusion was drawn that the instrument were acceptable reliability coefficient were suitable for the study.

Table 4.2: Reliability Statistics test

Reliability Statistics

Dimensions	Cronbach's Alpha	N of Items
Supplier Development	.778	6
Developing Supplier relationship	.947	7
Supplier Relationship Management (SRM)	.704	6
Operational Performance	.756	4
Over all Reliability	.811	23

Source own survey, 2024

The above table shows that for all dimensions of alpha value were higher than the suggested cut off value of 0.7 (Cronbach, 1951) indicating that the instruments reliability in meeting the study was valid. This means that the objects on the separate scales accurately measure the variables of the study objectives.

4.4 Demographic Profile of Respondents

The study required to find the general information of the respondents involved in the study with consideration to the gender, age, service year, current position, educational status, and rank.

Table 4.3: Background of respondents

Frequencies					
Gender		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Female	3	3.8	3.8	3.8
	Male	77	96.3	96.3	100.0
	Total	80	100.0	100.0	
Age		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	18 - 25 year	4	5.0	5.0	5.0
	26-33 year	16	20.0	20.0	25.0
	34-41 year	29	36.3	36.3	61.3
	42-49 year	23	28.7	28.7	90.0
	>49 year	8	10.0	10.0	100.0
	Total	80	100.0	100.0	
Education back ground		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Below college diploma	5	6.3	6.3	6.3
	College Diploma	16	20.0	20.0	26.3
	BA BSc degree	40	50.0	50.0	76.3
	Above MA. degree	19	23.8	23.8	100.0
	Total	80	100.0	100.0	
Work Experience		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	0-5 yr.	2	2.5	2.5	2.5
	6-10 yr.	10	12.5	12.5	15.0
	11-15	17	21.3	21.3	36.3
	16-20 yr.	28	35.0	35.0	71.3
	>20 yr.	23	28.7	28.7	100.0
	Total	80	100.0	100.0	
Current Position		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Main department head	2	2.5	2.5	2.5
	Department head	4	5.0	5.0	7.5
	Team Coordinator	16	20.0	20.0	27.5
	Logistics Officer	39	48.8	48.8	76.3
	Other	19	23.8	23.8	100.0
	Total	80	100.0	100.0	
Current Position		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Main department head	2	2.5	2.5	2.5
	Department head	4	5.0	5.0	7.5
	Team Coordinator	16	20.0	20.0	27.5
	Logistics Officer	39	48.8	48.8	76.3
	Other	19	23.8	23.8	100.0
	Total	80	100.0	100.0	

Source: Own survey data 2024

Table 4.3 shows that among 80 responders, 77 (96.3%) were male and 3 (3.8%) were female. The study found that male respondents made up the majority of the Logistics Main department in MoND. This indicates that female engagement in the logistics field was very low and it is highly dominated by males.

According to the age category in the table above, 04 (5%) of the respondents were between the ages of 18 and 25, 08 (10%) the ages of above 49, 16 (20%) between the ages of 26 and 33, and 23 (28.7%) between the ages of 42 and 49 and finally 29 (36.3%) were between the age of 34 and 41. This indicates that 68 respondents, or 85% of the total, were primarily between the ages of 26 and 49, which was a productive age range for easily managing strategic sourcing practice, and has expected to do with initiative and sourcing policies at institutions.

Regarding the educational back ground of the respondents in which below diploma 5 (6.3%) Diploma 16(20%) half of them 40 (50%) are with first-degree holder, and while 19 (23.8%) of them were Master's degree. This depicted that majority of the respondents 59 (73.8%) of them can easily able to understand the strategic sourcing concepts and benefits to change to practice and also it is helpful to make their response be free from irrationality for this study since they are easily able to understand.

From the respondents' work experience with 80 employees of these 2 (2.5%) with less than 5 years, 10 (12.5%) with 6–10 years, 17 (21.3%) with 11-15 years, 28 (35%) with 16-20 years followed by 23 (28.7%) with over 20 years of service. The majority of respondents 68 (85%) have more than 10 years of experience in MoND Logistics main department and this implies that they had an extensive experience with strategic sourcing and could provide reliable information on the technique.

From the table 4.3 we see that regarding the current position of respondent 2 (2.5%) Main department head, 4 (5%) Department head, 16 (20%) Team Coordinator, 19 (23.8%) Other and finally 39 (48.8%) of them were placed to work as Logistics Officer Expertise. The majority 55 (68.8%) of respondents were team coordinator and a logistics officer expertise. From this ground, the researcher found that respondents' qualifications, experiences, and

positions allowed them to express accurately their level of agreement, contributing to the study's validity.

The above table shows that 2 (2.5%) were General officer 6 (7.5%) were civilians 12 (15%) were non-commissioned officers 27 (33.8%) were higher officers and 33 (41.3%), were line officers. The survey found that line officers and higher officer made up the majority of respondents 60 (75%). While the rank of military were mostly related with position and long work experience they were able to provide reliable information about this study since they understood how strategic sourcing was implemented.

4.5 Descriptive analysis

The descriptive statics of the dimension of the determinant factor of the effect of strategic sourcing practice on operational performance with their item is represented in the following tables. The researcher has used mean and standard deviation to explain the results of items and dimensions. In order to give responses for the questionnaires the respondent was requested to choose their answer based on the five points scale according to their opinion on each question. According to (Zaidatiol & Bagheri, 2011), standards five point Likert scale (1 for strongly disagree and 5 for strongly agree) the mean score value interpreted as follows.

1.00 to 2.33 is Low

2.34 to 3.66 is Moderate

3.67to 5.00 is High Value

Based on that, the following data analysis was done by using of SPSS 23.

4.5.1 The Supplier Development influence on operational performance

The first objective, the study intended at determining how supplier development influences operational performance of defense logistics department. In order to do this, the respondents were questioned about their involvement in decision-making regarding the operational performance of defense logistics. Table 4.9 provides a summary of the results where5 strongly agree, 4 agree, 3 disagree, 2 disagree, and 1 strongly disagree

Table 4.4: The supplies development on operational performance

Questions Items on supplies development	Mean	Std.	N
Conducting regular visits to suppliers' sites enhance effectiveness	3.29	1.528	80

Rewarding and recognize suppliers matures critical Intel supplier relationships for their best performance	3.30	1.672	80
Encouraging collaborative agreements, with key suppliers develops in materials improvement	3.13	1.694	80
Using supplier certification program in certifying supplier quality encourages continuous improvement throughout the year	3.15	1.780	80
Placing systems to measure suppliers performance in regular basis enables benchmarking of supplier performance	3.01	1.695	80
Supporting our supplier by giving training leads to improve our supplier's performance.	3.50	1.102	80

Source, Survey result, 2024 and SPSS 2023

From the study, it was noted that the involvement of supplier development has influences on the operational performance. The high mean values found in the SPSS analysis of the cost, quality deliverability, and user satisfaction-related statements suggested this. The respondents with a mean score of 3.29 (SD, 1.528), concurred that visiting suppliers' locations on a regular basis is to improves effectiveness.

The respondents' agreement that they reward and recognize suppliers for their best performance was moderately strong (mean of 3.30 (SD, 1.672); they also agreed (mean of 3.13 (SD, 1.694) that encouraging collaborative agreements with key suppliers develops in materials improvement; and they somewhat agreed (mean of 3.15 (SD, 1.780) that using a supplier certification program to certify supplier quality encourages continuous improvement throughout the year; they also agreed (mean of 3.01 (SD, 1.695) that setting up a system to regularly measure suppliers' performance enables benchmarking of suppliers' performance. Finally, the respondents moderately agreed that supporting our supplier with training results in improved performance from our supplier.

In summery the study found that most of the means has over around the 3.0, indicating a general trend of moderate agreement towards the practice of supplier development practice that significantly affect operational performance.

4.5.2 The Developing Supplier Relationship on operational performance

Regarding the second objective of the study, intended at examining how the Developing Supplier Relationship affects operational performance of defense logistics department. To

achieve this, the respondents were asked to indicate whether the Developing Supplier Relationship has its effect on operational performance of defense logistics department. Able to see the summarized findings below in Table 4.10

Table 4.5: The Developing Supplier Relationship on operational performance

Questions Items Developing Supplier Relationship	Mean	Std.	N
We anticipate having longer-lasting relationships with our major suppliers.	4.10	.704	80
With our main suppliers, we have long-term contractual agreements.	3.93	.689	80
We work together with important suppliers to raise their caliber over time.	4.10	.756	80
Our important suppliers are seen as an extension of our business.	4.09	.830	80
Important suppliers view our connections as a long-term partnership.	3.94	.832	80
Our relationship with our major suppliers is practically eternal.	3.98	.826	80
We cultivate benevolence and trust with our suppliers, which uphold our partnership, when a company commits an error that jeopardizes problem-solving strategies.	3.84	.702	80

Source, Survey result, 2024 and SPSS 2023

It was noted that developing supplier relationship has their own influences on the operational performance of defence logistics department. With a mean of 4.10 (SD, 0.704), respondents strongly agreed that they expected their relationships with key suppliers to last longer; they also strongly agreed that they had long-term contractual agreements with key suppliers; and they collaborated with key suppliers to improve their quality over time (mean of 4.10, SD, 0.756). Additionally, respondents strongly agreed that they saw their key suppliers as an extension of our business (mean of 4.09 (SD, 0.830); and finally, respondents strongly agreed that key suppliers saw their relationships as a long-term alliance with a mean of 3.94 (SD, 0.826), with the mean of 3.98 (SD, 0.826); and the respondents were agreed on that they build trust and goodwill, on their suppliers which sustains their relationship when one firm does something wrong to compromise solutions to problems with the mean of 3.84 (SD, 0.702). The study deduced that there is high developing supplier's effect on the Operational performance of defence logistics department.

4.5.3. The Supplier Relationship Management on operational performance

The third objective of the study was aimed to determine how Supplier Relationship Management affects operational performance of defense logistics main department. The study sought to examine the influence of Supplier Relationship Management influences operational performance of defense logistics main department. The survey asked respondents to rate their level of agreement on a scale of 1 to 5, with 1 indicating strongly disagree, 2 indicating disagree, 3 indicating neutral, 4 indicating agreement, and 5 indicating highly agree. The results were summarized in Table 4.11.

Table 4.6: The Supplier Relationship Management on operational performance

Question items on Supplier Relationship Management	Mean	Std.	N
We know our partnerships and have a clear data record for our current suppliers.	3.30	1.513	80
We are easily identifying our best suppliers with their competitive rankings.	3.30	1.672	80
We can able to predict our supplier performance with respect to on time delivery, quality and costs.	3.17	1.690	80
We have consistency in suppliers and performance across different locations and facilities.	3.16	1.768	80
We are consolidating our purchasing to achieve greater scale economies.	3.03	1.684	80
We are familiar with the Supplier Relationship Management (SRM) software and the organization use in effective manner.	3.94	.832	80

Source, Survey result, 2024 and SPSS 2023

The findings indicated that respondents agreed that they knew their partnerships and have a clear data record for their present suppliers, with a mean of 3.30 (SD, 1.513) regarding the next question the respondents agreed that they were easily identifying their best suppliers, with their competitive rankings with the mean of 3.30 (SD, 1.672) and they also agreed that they can able to predict their suppliers' performances with respect to on-time delivery, quality, and costs with a mean of 3.17 (SD, 1.690), the respondents agreed that they have consistency in suppliers and performance across different locations and facilities with a mean of 3.16 (SD 1.768); the respondents moderately agreed that they were consolidated their purchasing to achieve greater scale economies with a mean of 3.03 (SD, 1.684); and the respondents were

strongly agreed that they were familiar with the Supplier Relationship Management (SRM) software and the organization use in effective manner with the mean value of 3.94 (SD, .832).

The study found that respondents had a clear understanding of their partnerships, identified their best suppliers, predicted their performance in terms of on-time delivery, quality, and costs, maintained consistency across locations and facilities, consolidated their purchasing for greater scale economies, and were familiar with Supplier Relationship Management software, with a mean value of 3.94.

4.5.4 Achievement of operational performance

The general evaluation of the organization performance with respective measurements of metrics is based on the degree to which respondents agree with the presented assertions. They were used to measure a 1-5 scale where 1 is strongly disagree to the statement and 5 is strongly agreement. The response is as presented in Table4.12

Table 4.7: Operational performance

Question Items of Operational performance	Mean	Std.	N
We were effective in decreasing the cost of acquired supplies.	3.50	1.493	80
We were successful in ensuring the quality of the materials.	3.74	.853	80
Our end consumers are quite pleased with the results of our purchase function.	3.32	1.549	80
We are successful in ensuring the timely delivery of ordered materials.	3.71	.874	80

Source, Survey result, 2024 and SPSS 2023

The above table, shows that the respondents agreed that achieving the Operational performance they were successful in minimizing cost of purchased materials with the mean of 3.50 (SD, 1.493); respondents were agreed that they successful in assuring quality of purchased materials with the mean of 3.74 (SD, 0.853); respondent were agree as their end users are satisfied with the achievements of their purchasing function with the mea of 3.32 (SD, 1.549) and additional respondents were strongly agree that they were successful in assured on time delivery of ordered materials, with the mean of 3.71 (SD, 0.874).

This indicates that the operational performance of defense logistics department is moderately achieved its objective in terms of minimizing costs on purchasing material, assuring quality of purchased materials, satisfying end users in purchasing function and successful delivering of ordered materials within the set limit. This will result that the strategic sourcing practice was positively influence for the achievement of operational performance that leads end users satisfaction and timely assurance of delivery material the stakeholder satisfaction minimizing of cost in defense logistics.

4.6 Inferential statistics

This section presents a discussion of the results of inferential statistics. Correlation analysis was used to measure the strength of the relationship between the independent variables, i.e. the relationship between Supplier Development, Developing Supplier Relationships, Supplier Relationship Management, and Operational Performance. Regression analysis established the relative significance of each of the variables on housing project implementation in the defense army foundation.

4.6.1 Correlation Analysis

The Pearson product-moment correlation coefficient (abbreviated as r) is a measure of the strength of a linear link between two variables. The Pearson correlation coefficient (r) can range from +1 to -1. A value of 0 implies no relationship between the two variables.

A number greater than 0.000 shows a positive correlation, which means that if the value of one variable raises, so does the value of the other variable. A value less than 0.000 show a negative connection, which means that as one variable increases, the value of the other variable declines.

The below table shows measure of association and descriptive adjectives between the predictors variables which was originally developed by (MacEachron1982) as cited by (Tesfaye Nigussie, 2018). Hence, the correlation output of the dependent and independent variables presented on the table below.

Table 4.8: Measure of association and Descriptive adjectives

Descriptive adjectives	Measure of Association
Very weak or very low	> 0.00 to 0.20 <-0.00 to -0.20
Weak or low	>0.20 to 0.40; < -0.20 to -0.40
Moderate	> 0.40 to 0.60 <-0.40 to -0.60
Strong or high	> 0.60 to 0.80 <-0.60 to -0.80

Very strong or very high	> 0.80 to 1:00 <-0.80 to -1:00

Source: (MacEachro, 1982) as cited by (Tesfaye.Nigussie, 2018)

4.6.2 Correlation Coefficient

Table 4.9: The correlation coefficient matrix of the predictor variable

Correlations					
		Supplier Development	Developing Supplier Relationship	Supplier Relationship Management	Operational Performance
Supplier Development	Pearson Correlation	1			
	Sig. (2-tailed)				
Developing Supplier Relationship	Pearson Correlation	.064	1		
	Sig. (2-tailed)	.575			
Supplier Relationship Management	Pearson Correlation	.984**	.002	1	
	Sig. (2-tailed)	.000	.987		
Operational Performance	Pearson Correlation	.719**	.370**	.673**	1
	Sig. (2-tailed)	.000	.001	.000	
**. Correlation is Significant at the 0.01 level (2-tailed)					

Source own survey 2024 from SPSS 2023

The correlation matrix provided in the above table highlights the relationships between four key variables: Supplier Development (SD), Developing Supplier Relationship (DSR), Supplier Relationship Management (SRM), and Operational Performance (OP). The analysis of these relationships reveals several significant insights.

Firstly, the correlation between Supplier Development (SD) and Supplier Relationship Management (SRM) is exceptionally strong, with a Pearson correlation coefficient of 0.984, indicating a nearly perfect positive relationship. This correlation is statistically significant at the 0.01 level (Sig. = 0.000), underscoring the close linkage between Supplier Development practices and effective Supplier Relationship Management (SRM).

Furthermore, the relationship between supplier development and operational performance is also notably strong, with a correlation coefficient of 0.719. This positive correlation is statistically significant at the 0.01 level (Sig. = 0.000), suggesting that robust Supplier

Development efforts are strongly associated with enhanced Operational Performance outcomes. Similarly, Supplier Relationship Management (SRM) and Operational Performance (OP) exhibit a strong positive correlation of 0.673, which is significant at the 0.01 level (Sig. = 0.000). This indicates that effective practice of Supplier Relationship Management (SRM) contributes significantly to operational performance.

In contrast, the Developing Supplier Relationship (DSR) shows different patterns of correlation. The correlation between Developing Supplier Relationship (DSR) and Supplier Development (SD) is weak and not statistically significant (r = 0.064, Sig. = 0.575), indicating that Developing Supplier Relationship (DSR) does not have a meaningful relationship with Supplier Development (SD). Additionally, the correlation between Developing Supplier Relationship (DSR) and Supplier Relationship Management (SRM) is virtually nonexistent (r = 0.002, Sig. = 0.987), further suggesting that Developing Supplier Relationship (DSR) does not align closely with Supplier Relationship Management (SRM) practices. However, Developing Supplier Relationship (DSR) does have a moderate positive correlation with Operational Performance (OP), with a coefficient of 0.370, which is statistically significant at the 0.01 level (Sig. = 0.001). This indicates that while Developing Supplier Relationship (DSR) is somewhat related to operational performance, its impact has less pronounced compared to the influence of Supplier Development (SD) and Supplier Relationship Management (SRM).

In summary, the data suggests that Supplier Development (SD) and Supplier Relationship Management (SRM) are closely interconnected and both significantly enhance Operational Performance (OP). However, Developing Supplier Relationship (DSR) does not significantly correlate with Supplier Development (SD) or Supplier Relationship Management (SRM) but does show a moderate relationship with Operational Performance (OP). These findings underscore the importance of integrated sustainable practices strategic sourcing for achieving high operational performance.

4.6.3 Regression Analysis

According to Julie (2005), multiple regressions are a collection of techniques used to investigate the relationship between a single continuous dependent variable and a number of independent variables or predictors (typically continuous). Multiple regressions are based on correlation but allow for a more comprehensive examination of the connection of a group of

variables. As a result, the researcher investigated the relationship between the dependent variable (operational performance) and the independent factors (supplier development, developing supplier relationships, and supplier relationship management). To accomplish this, the researcher employed numerous regressions analysis models (see table 4.10).

4.6.4 Testing Assumption of Multiple Linear Regressions

4.6.5 Mulit-Collinearity Statistics test

According to (Douglas Altman, 2013), before proceeding with multiple regression analysis, the researcher must first ensure that the following assumptions, such as sample size, outliers, normality, linearity, multi-co linearity, and assumptions related to multiple regression diagnostics, including cut-off values, are valid.

According to Kim (2013), while checking multi-collinearity effects, two things should be checked tolerance and VIF from the coefficient table. If the Tolerance number is very little (less than.10), it suggests that there is a high multiple correlation with other variables, implying the likelihood of multi-collinearity. The second value is the VIF (variance inflation factor), which is simply the inverse of the tolerance value.

If VIF = 1 indicates no association between the predictor and the other predictors. The coefficient's variance is not inflated and if 1 < VIF < 5 indicates moderate association, but not severe enough to warrant corrective action and if VIF > 5 indicates a high correlation, which could be problematic (O'BRIEN, 2007). In this regard the researcher proceeds to test the mulitcollinearity test before proceed to the mulit regression analysis and the result was found that there is high value of two independent variables showed in the table below.

Table: 4.10a Mulit-Collinearity Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Supplier Development	0.028	34.922
Developing Supplier Relationship	0.882	1.134
Supplier Relationship Management	0.028	34.779

Based on the above table result indicate that the mulitcollinearity result of Supplier

development tolerance value of 0.028 with respective VIF 34.922 indicate that very low tolerance extremely high VIF. This show that a high mulitcollinearity issue the predictor Supplier development is highly correlated with other predictors in the model.

Regarding Developing Supplier Relationship the tolerance value of 0.882 is high and the VIF value of 1.134 is low which suggests that there is no mulitcollinearity with Developing Supplier Relationship.

Similar to Supplier development the tolerance value of Supplier Relationship Management is 0.028 which is very low and the VIF value of 34.779 is extremely high. This result indicates that high mulitcollinearity issue the predictor Supplier Relationship Management is highly correlated with supplier development in the model. These implications of the result show that the predictors Supplier Development and Supplier Relationship Management exhibit severe multicollinearity indicated by their very low tolerance values and very high VIF values.

High VIF values indicate high correlation between predictor variables, leading to instability in coefficient estimates that makes it difficult to assess each predictor's effect on the dependent variable accurately (Michael H. Kutner, etal, 2005). Addition to that the study by (Atoyebi and Obilade, 2024) we can determine that a high VIF indicates detection of multi-collinearity and with a VIF ranging from five to ten indicating potentially problematic levels of association issues and he suggests increasing the sample size is a conventional approach to mitigate the risks associated with multi-collinearity.

However, for moderate to large sample sizes, the technique of dropping one of the associated variables was found to be completely suitable in terms of reducing multicollinearity. Based on several collinearity diagnostics, we can fairly conclude that, without expanding the sample size, the second option of excluding one of the correlated variables can significantly minimize multicollinearity Midi, Sarkar, and Rana (2010).

Based on this ground the researcher decide to reject one variable among the two high value and proceed to made an analysis on the remains variables namely Supplier Development and Developing Supplier Relationship as independent Variables while dependent variable is Operational performance of logistics.

Based on these findings, the model is statistically significant and meets the multicollinearity

assumption.

Table: 4.10b Co-linearity Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Supplier Development	.996	1.004
Developing Supplier Relationship	.996	1.004

a .Dependent Variable: Operational Performance

Source: Survey result, 2024 and SPSS

Based on the above table result indicate that the mulitcollinearity result of Supplier development tolerance value of 0.996 with respective VIF 1.004 value. This indicates that very high tolerance and extremely low VIF almost very close to zero. This show that a none mulitcollinearity issue that the predictor Supplier development is no correlated with other predictors in the model

Regarding Developing Supplier Relationship the tolerance has large value of 0.996, which is high, and the VIF value of 1.004, which is low, and suggests that there is no mulitcollinearity with Supplier Development.

From this, the researcher conclude that both Supplier Development and Developing Supplier Relationship have large value of tolerance level and VIF value, which is almost sounds to say one. This suggests that there is no multicollinearity in the model. Since the predictors have essentially no correlation with one another, their inclusion in the inclusive of regression model has no chance to increase the variance of their respective coefficients. Therefore, multicollinearity is not a concern in this regression analysis based on the data generated.

4.6.6 Test of Linearity

The linearity assumption of multiple regressions was verified using the scatter plot test (Kothari, 2004), which revealed a linear connection between the independent and dependent variables. According to the linearity finding, residual distributions are close to the mean zero.

Linearity test used for determining to what extent operational performance of defense logistics (depends) on the independent variables such as Supplier Development, and Developing Supplier Relationship. Hence, study sought out there is a linearity of dependent variable operational performance of defense logistics with the independent variables Supplier Development and Developing Supplier Relationship respectively. (See annex for descriptions).

4.6.7 Test of Normality

The assumption of normality depicts the distribution of errors for each given set of values on the predictor variables (independent variables) (Williams, 2013). The distribution of scores on the dependent variable should be regularly distributed, resulting in a symmetrical, bell-shaped curve with the highest frequency of scores around the mean and lower frequencies at the extremities.

Skewness and kurtosis are useful descriptive statistics for determining normality test in distributions, supplementing normality tests and providing insights into sample size and normalcy assumption reasonableness (Kim, 2013)

According to George and Mallery (2010) kurtosis value between -1 and 1 is considered acceptable for normality a skewness value between -0.5 and 0.5 indicates approximately symmetric distribution and a skewness value between -1 and -0.5 or between 0.5 and 1indicates moderate skew.

Table 4.11 Normality test

Tests of Normality

	Skewness Value		Kurtosis Value:	
	Statistics	Standardized Error	Statistic	Standardized Error
OP	-.908	.269	0.260	0.532

a. Lilliefors Significance Correction

The skewness value of -0.908 indicates that the variable OP is slightly negatively skewed. This indicates that there are some values below the mean, and the distribution has shifted somewhat to the right. The skewness value of -0.908 compared to its standard error (0.269) results in a skewness z-score somehow outside the range, indicating that the skewness is statistically slightly significant and the distribution is moderately not perfectly symmetric.

The kurtosis score of 0.260 suggests that the distribution is significantly more peaked than average. However, because this value is close to 0, it implies that the tails of the distribution are not much heavier or lighter than those of a normal distribution. When the kurtosis value is 0.260 and the standard error is 0.532, the kurtosis z-score is well within the range indicating that the kurtosis is not statistically significant and is comparable to that of a normal distribution.

In summery a positive kurtosis score of 0.260 shows that the distribution is slightly peaked than normal, but not considerably so. The kurtosis value is not statistically significant,

indicating that the distribution's tails resemble those of a normal distribution. A negative skewness score of -0.908 indicates that the distribution is left-skewed, which means that the left tail is longer and fatter. This skewness is statistically moderately significant, indicating that the data are somehow out of symmetrical around the mean.

On the other hand, the visualized histogram has one way of analyzing the assumption test and the below histogram and P-P plot diagram indicates that the data used in the study is normally distributed, hence it has fulfilled the assumption.

4.6.8 Homoscedasticity test

The observed data implies that the residuals (differences between observed and predicted values) have the same variance regardless of the level of the independent variable.

Homoscedasticity indicates that the residuals, or differences between observed and predicted values, have the same variance. Based on the generated data the assumption of Homoscedasticity was accepted since the observed data were not made a pattern.

4.6.9 Autocorrelation test

Autocorrelation test were observed from the table model summary result and it was suggested that the value of Durbin-Watson result should be recommended to approaches 2. In this case the result observed was 1.86 and it was satisfying the assumptions.

4.6.10 Multiple Regression Analysis

A multiple regression model was applied to determine the relative significance of each of the independent variables with respect to Operational performance of logistics main department. The regression model has stated as follows:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$

Y was the Operational performance,

β_0 is the constant

X_1 = Supplier Development,

X_2 = Developing Supplier Relationship

ε = Error term

β_1, β_2, and β_3 are coefficients

Table 4.12: Regression Analysis Model Summery

Model Summery				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.789[a]	.622	.612	.585
a. Predictors: (Constant), DSR, SD				
b. Dependent Variable: OP				

Source: Survey result, 2024 and SPSS

The model summary table provides a comprehensive evaluation of the multiple regression models, which includes Supplier Development (SD) and Developing of Supplier Relationship (DSR) as predictors, and Operational Performance (OP) as the dependent variable. The multiple correlation coefficients (R) are 0.789, indicating a strong positive correlation between the observed and predicted value of operational Performance (OP). This suggests that the independent variable collectively have a strong relationship with operational performance.

The R square value, at 0.622 signifies that approximately 62.2% of the variance in operational performance is explained by the independent variables Supplier Development (SD) and Developing of Supplier Relationship (DSR). This demonstrates a substantial explanatory power of the model, indicating that these predictors are significant in accounting for the variations in Operational Performance (OP). The adjusted R square value which adjusts for the number of predictor in the model is 0.612. This value suggests that after adjusting for the predictors, about 61.2% of the variance in operational performance is still explained by the model, reflecting a robust model performance even when considering the complexity introduced by multiple predictors.

The standard error of the estimate is 0.585, which measures the average distance that the observed values fall from the regression line. This indicates that, on average, the predicted Operational Performance (OP) values deviate from the actual Operational Performance (OP) values by 0.585 units. This measure provides an indication of the accuracy of the predictions made by the regression model.

In conclusion, the model summary demonstrates that the multiple regression models with Supplier Development (SD) and Developing of Supplier Relationship (DSR) as predictors provides a strong and substantial explanation for the variance in Operational Performance

(OP). The high R and R Square values demonstrate the model's effectiveness, while the adjusted R Square confirms its robustness after accounting for the number of predictors. The standard error of the estimate further indicates a reasonable level of accuracy in the model's predictions. Overall, the model appears to be a good fit for explaining variations in Operational Performance (OP) based on the given predictors. To assess the statistical significance of the result it is necessary to look in to table 4.13 ANOVA.

4.6.11 The ANOVA Analysis

The ANOVA analysis provides insights into the relationship among the independent variables (Developing Supplier Relationship (DSR) Supplier Development (SD) and the dependent variable Operational Performance (OP).

Table 4.13: Analysis of Variance (ANOVA)

ANOVA[a]						
Model		Sum of square	df	Mean Square	F	Sig.
1	Regression	43.392	2	21.696	63.4387	.000[b]
	Residual	26.355	77	.342		
	Total	69.747	79			
a. Dependent Variable: Operational Performance (OP)						
b. Predictors: (Constant), DSR, SD						

Source: Survey result, 2024 and SPSS

a. Predictors: (Constant), Supplier Development, and Developing Supplier Relationship.

b. Dependent Variable: Operational performance of defense logistics main head.

The ANOVA table presents the result of an analysis of variance performed to evaluate the overall fit of a multiple regression model, where Operational Performance (OP) is the dependent variable and the independent variables are Supplier Development (SD) and Developing of Supplier Relationship (DSR).

The regression sum of squares (SSR) is 43.392, indicating the variation in operational performance explained by the model. The residual sum of squares (SSE) is 26.355, representing the variation in Operational Performance (OP) not explained by the model, thus reflecting the error or residual variance. The total sum square (SST) is 69.747; combining both explained and unexplained variations.

The degrees of freedom (df) for the regression are two, which corresponds to the number of predictors in the model. The residual df is 77, calculated as the number of observations minus the number of predictors minus one (N - k - 1), and the total df is 79, calculated as the total number of observations minus one (N). The mean square for regression (MSR) is 21.696, which are calculated by dividing the SSR by the regression df, and the mean square for residuals (MSE) is 0.342, calculated by dividing the SSE by the residual df.

The F-statistic, defined as the ratio of MSR to MSE, is 63.4387. This high F-value suggests a significant link between the dependent and independent variables. The significance level (p-value) of 0.000 demonstrates that the likelihood of this F-statistic occurring by chance is extremely low, showing that the regression model is statistically significant.

In conclusion, the ANOVA findings show that the regression model incorporates Supplier Development (SD) and Developing of Supplier Relationship (DSR), as predictors, significantly explains the variation in Operational Performance (OP). The statistically significant F-statistic confirms that the combination of these predictors meaningfully influences Operational Performance (OP), validating the effectiveness of the model. These variables statistically significantly predicted Operational performance, $F(2, 79) = 63.4386$, $p < 0.05$.

4.6.9 The Regression Coefficient Analysis

Table 4.14: Regression Coefficient

Coefficients[a]					
Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std Error	Beta		
(Constant)	-.178	.434		-.409	.683
Supplier Development	.591	.059	.698	9.940	.000
Developing Supplier Relationship	.460	.099	.326	4.645	.000
a. Dependent Variable: Operational performance of logistics main department					

Source: Survey result, 2024 and SPSS

Y = -0.178+ 0.591 (Supplier Development) +0.460 (Developing Supplier Relationship). The multiple regression analysis results reveal the relationships between Operational Performance (OP) as the dependent variable and two independent variables: Supplier Development (SD) and Developing of Supplier Relationship (DSR). The constant term, with an unstandardized coefficient of -0.178 and a significance value of 0.683, is not statistically significant, indicating it does not meaningfully contribute to the model.

Supplier Development (SD) shows a strong positive effect on Operational Performance (OP) with an unstandardized coefficient of 0.591 and a standardized coefficient (Beta) of 0.698. The significance value of 0.000 confirms this relationship is statistically significant, suggesting that each unit increase in Supplier Development (SD) outcomes in a 0.591 unit increase in Operational Performance (OP), holding other variables constant. Since the p, value is, less than the commonly used significance level of 0.000, the researcher reject the null hypotheses (H0a) and accept the alternative hypothesis (H1a) that Supplier Development has a significant and positive effect on Operational Performance.

Developing of Supplier Relationship (DSR) also positively affects Operational Performance (OP), demonstrated by an unstandardized coefficient of 0.460 and a standardized coefficient of (Beta) of 0.326. The significance value of 0.000 indicates a statistically significant relationship, meaning that each unit increase in DSR leads to a 0.460 unit increase in Operational Performance (OP), controlling for other factors.

Based on the unstandardized coefficient (B) for Developing Supplier Relationship is 0.460 with a standard error of 0.099 t-value is 4.645 and p-value (Sig.) is 0.000 is less than 0.05, the researcher reject the null hypothesis (H0b) and accept the alternative hypothesis (H1b) that Developing Supplier Relationship has a significant and positive effect on Operational Performance.

The t statistic is useful in determining the relative relevance of each variable in the model. As a guideline for relevant predictors, we look for t values that are less than -0.5 or greater than +0.5. In this scenario, supplier development is the most important aspect that influences the operational performance of the defense logistics department. Supplier Relationship Management has the least impact on operational success.

The t-value of constant intercept -0.409 and p-value of 0.683 shows that, the intercept is not significantly different from zero. This suggests that the constant component makes no

substantial contribution to the mode when all predictors are zero.

For X1: $\beta 1 = 0$, $t = 9.940$, $P = 0.000$ is less than 0.05, so X1 (Supplier Development) has a significant influence on Y (operational performance of logistics head department).

X2 (Developing Supplier Relationship) has a significant influence on Y (operational performance), as indicated by $\beta 2 = 0$ and $t = 4.645$ ($p = 0.000$).

This detailed interpretation indicates in determining both variables have a substantial impact on the dependent variable, as well as the strength of their effects.

In summary, the analysis highlights that Supplier Development (SD) and Developing of Supplier Relationship (DSR) are significant predictors of Operational Performance (OP), with SD having a strong positive effect and DSR having a moderate positive effect.

To evaluate the combined effect of these two variables we must examine the overall model significance, which is not given in the above detailed output. In order to evaluate the combined effect of all two variables it would usually entail examining the ANOVA table's F-statistic and corresponding p-value.

Accordingly, the F-statistic, value of this 63.4387 high indicates a significant relationship between the dependent variable and the independent variables. The significance value (p-value) of 0.000 confirms that the probability of this F-statistic occurring by chance is extremely very low, indicating that the regression model is statistically significant.

Therefore, the researcher can suggest that based on the above F-static value given and the significant p-values of both Supplier Development and Developing Supplier Relationships have the significance of the individual predictors the combined effect over the operational performance is significant effect on Operational Performance. This conclusion were supported and verified though using the model summary's F-statistic and p-value support the model's significance.

4.6.10 Discussion

This study sought to examine the impact of strategic sourcing practices on the operational performance of the ENDF Logistics main department. A strategic sourcing method is widely recognized as successful when it is provided on time, within the required quality and quantity, and to the satisfaction of the end user. The study focused on three strategic sourcing

dimensions: supplier development, developing supplier relationships, and supplier relationship management.

The findings of this study emphasized that the relationship among the dependent variable with the independent variables vary across various performance indication operational performance. This section, therefore, concentrates on a full description of the study's primary findings, as well as comparing the study findings to the literature in order to reach a comprehensive conclusion.

From the study, regarding the first objective Supplier Development has a positive effect on operational performance. From the analysis part, this conclusion can be justified through the interpretation of the regression analysis result provided and supported by existing in the literature parts.

Based on the findings result of Unstandardized Coefficient (B) Value 0.591 we conceive that for each unit increase in Supplier Development, the operational performance of the logistics main department increases by 0.591 units holding others variables. Addition to that the t-value of p-value equals to 0.000 which is very low p-value (less than 0.05) indicate that the positive effect of Supplier Development on operational performance is statistically significant which was also supported by different empirical and literature reviewed.

Accordingly, the empirical study (Sani, 2020) on the effect of supplier development on operational performance of Manufacturing firms in Nigeria the study have showed that supplier development activities (supplier financial support, supplier technical support, early supplier involvement, supplier audit) is strong determinant of manufacturing firms on operational performance. Additional study done by (Dalvi and Kant, 2018) there is a substantial relationship between supplier development practice and operational performance (R2 = 0.717), accounting for 71.7% of the variation in operational performance explained by the study's independent factors.

According to (Krause et al., 2006) we can determine that supplier development initiatives lead to significant performance improvements for both suppliers and buying firms. This indicates that developing suppliers can enhance their capabilities, leading to better overall operational performance for the buying firm.

From the study of second objective, it was noted that, developing supplier relationship has a positive effect on organizational performance of logistics main department.

Developing Supplier Relationship has a positive effect on Operational Performance, which

have been the accepted alternative hypotheses in the analysis part. From the analysis part, this conclusion can be justified through the interpretation of the regression analysis result provided and supported by existing in the literature parts.

Based on the findings result of Unstandardized Coefficient (B) Value 0.460 we conceive that for each unit increase in Developing Supplier Relationship, the operational performance of the logistics main department increases by 0.460 units holding other variables constant. Addition to that the t-value of p-value equals to 0.000 which is very low p-value (less than 0.05) indicate that the positive effect of Developing Supplier Relationship on operational performance is statistically significant. This result is reinforced by current academic research, which shows that excellent supplier relationships improve communication, quality, reliability, and operational efficiency, all of which contribute to higher organizational performance. It is crucial to establish and preserve strong supplier relationships in order to improve operational performance and to get the most out of their supplier partnerships, businesses should concentrate on developing collaboration, protecting flexibility, and establishing trust (Li et al., 2022.)

Based on (Kareem & Kummitha, 2020) evidence, strategic developing supplier relationships significantly enhance operational performance by improving supply chain resilience, reducing costs, and fostering innovation through collaborative partnerships. The importance of developing supplier relationship in knowledge sharing and collaboration within effective supplier relationships practices they linked to improved innovation, quality, and operational efficiencies, ultimately boosting organizational performance (Wong et al., 2020).

The analysis excludes Supplier Relationship Management (SRM) from the analysis due to high mulitcollinearity values, which can make it difficult to determine its effect on Operational Performance, leading to unreliable coefficient estimates. According to the research by (Kock and Lynn, 2012) lateral collinearity and misleading results in variance, emphasizes the importance of detecting and addressing multicollinearity, recommending VIF values above 10 as a clear indicator of problematic multicollinearity and suggesting the exclusion of one of the correlated variables.

In the summary, the study examines the effect of strategic sourcing practice on the operational performance of the ENDF Logistic main department. It focuses on Supplier Development, Developing Supplier Relationship, and Supplier Relationship Management. The results show

that Supplier Development positively affects operational performance, with a 0.591 unit increase in operational performance for each unit increase in Supplier Development. This positive effect is statistically significant, supported by empirical and literature reviews. The study concludes that strategic sourcing practices are crucial for enhancing operational performance.

The study by Sani (2020) and Dalvi and Kant (2018) found that supplier development activities significantly impact operational performance in Nigerian manufacturing firms. The research also found that developing suppliers enhances their capabilities, leading to better overall performance for the buying firm. Additionally, the study found that developing supplier relationships positively affects organizational performance in the logistics department. These findings support existing literature and support the hypothesis of supplier development.

Regarding the second objective, the study reveals that a 0.460 unit increase in Developing Supplier Relationship leads to a 0.460 unit increase in operational performance for the logistics main department. This positive effect is statistically significant, indicating that excellent supplier relationships improve communication, quality, reliability, and operational efficiency, contributing to higher organizational performance. To maximize the benefits of supplier relationships, businesses should focus on collaboration, flexibility, and trust.

The study Kareem & Kummitha's (2020) and by Li et al. (2022) indicates that strategic supplier relationship development significantly improves operational performance by enhancing supply chain resilience, reducing costs, and fostering innovation through collaborative partnerships and to enhance operational performance and maximize supplier relationships, businesses should focus on collaboration, flexibility, and trust, as suggested.

CHAPTER FIVE

SUMMERY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The findings on strategic sourcing practice used at Ethiopian National Defense Force Logistics Main Department Head, and their effects on logistics operational performance, were summarized in this chapter. Based on the study's findings summery recommendations were presented after a summary of the overall findings and lastly, recommendations for topics to be looked into for further additional research are covered.

5.2 Descriptive Analysis

The study reveals that the effect of supplier development on operational performance is positively and significantly high with cost minimization, high quality deliverability, and end user satisfaction with regard to the strategic sourcing activities investigated under the study like regular visits, rewards, collaborations, certification programs, and performance measurements can run within the specified framework.

In case of developing supplier relationships, can also significantly influences the operational performance of the defense logistics department in terms of building trust and goodwill sustains relationships even when problems can occur there are compromises and find solutions for better long term relationship.

The study found that respondents were skilled at understanding partnerships, recognizing top suppliers, projecting performance, maintaining consistency, streamlining purchases, and using Supplier Relationship Management software.

Regarding the practice of strategic sourcing performance indicator the defense logistics department's operational performance is moderately achieved, focusing on minimizing costs, ensuring quality, satisfying end users, and delivering ordered materials within set limits, indicating the positive influence of strategic sourcing practices.

5.3 Correlation Analysis

The correlation matrix demonstrates the relationship between Supplier Development, Developing Supplier Relationships, and Operational Performance. Strong positive correlations demonstrate their importance in developing effective supply chain procedures and improving

operational performance. However, Developing Supplier Relationship shows unique association patterns, indicating that it is less closely aligned with Supplier Development and Supplier Relationship Management. Despite this, it has a moderate positive connection with operational performance, indicating a potential, albeit minor, impact on operational performance.

5.4 Multiple regression analysis

In conclusion, the regression analysis results demonstrate the overall strengthens and relevance of the correlation between the independent variables of supplier development and developing supplier relationships (DSR, SD) and the dependent variable operational performance (OP). The coefficients for each predictor provide precise information on how they contribute to explaining the variance in operational performance.

5.5 The ANOVA Analysis

The ANOVA results show that the regression model, including Supplier Development and Developing of Supplier Relationship, significantly influences Operational Performance, with a significant F-statistic confirming and validating its effectiveness of the model.

5.6 The coefficient analysis

The analysis reveals that Supplier Development (SD) and Developing of Supplier Relationship (DSR) are significant predictors of Operational Performance (OP), with SD having a strong positive effect and DSR having a moderate positive effect. The combined effect of these two variables can evaluated using the ANOVA table's F-statistic and p-value. The F-statistic value of 63.4387 and a p- value of a 0.000, indicates a significant relationship between the dependent and independent variables, confirming the statistical significance of the regression model.

The researcher decide that the combined effect of Supplier Development and Developing Supplier Relationships on operational performance is significant, supported by the F-statistic and p-values.

5.7 Conclusion:

The defense logistics department's operational performance is moderately achieved, focusing on minimizing costs, ensuring quality, satisfying end users, and delivering ordered materials within set limits, indicating the positive influence of strategic sourcing practices.

According to the findings strong positive correlation between Supplier Development and Supplier Relationship Management, emphasizing the importance of aligning these strategies for efficient strategic sourcing practice and operational excellence, resulting in improved quality, cost efficiency, and delivery reliability of operational performance of ENDF logistics main department were observed.

The strong positive correlation between supplier Relationship Management (SRM) and Operational Performance indicates that effective management of supplier relationships significantly improves overall operational performance. Developing Supplier Relationship (DSR) also plays a moderate positive correlation with operational performance, albeit to a lesser extent.

The separate inquiries of the relationship between the dimensions of strategic sourcing practice and operational performance found that all of the factors have a statistically significant and positive relationship with operational performance.

In terms of the predicting power of the dependent variable's dimensions it has been determined that supplier development and developing supplier relationship have statistically significant Beta value that influence the dependent value which is operational performance of ENDF Logistics main department. It has also discovered that all elements of strategic sourcing procedures have a statistically significant positive correlation with operational success.

Additionally, the Supplier Development (SD) and Developing of Supplier Relationship (DSR) are significant predictors of Operational Performance (OP), with SD having a strong positive effect and DSR having a moderate positive effect. The combined effect of these two variables is statistically significant with an F- statistic of 63.4387 and p- value of 0.000, confirming the relationship between the dependent and independent variable.

Overall, the study findings indicate that the level of strategic practice and operational effectiveness in ENDF logistics main department are moderate, and it indicates a positive correlation between strategic sourcing practice and operational performance, within the predetermined variables, and the relationships are statistically significant predictors of operational performance of logistics main department.

5.8 Recommendations

- As the study result revealed on the analysis part the existing strategic sourcing practice was moderate it recommended, that investing in supplier development efforts and developing supplier relationship metrics can improve operational performance. This could include training programs, quality improvement initiatives, and the use of technology to enhance supplier capabilities and processes.
- To enhance the operational performance in terms of improved quality instant delivery of time reduced overall cost and end user satisfactions the logistics main department has advised to develop strategies and prioritize trust, communication, and collaboration with suppliers in order to increase operational performance.
- Organizations should allocate resources towards enhancing supplier capabilities, processes, and performance through targeted development programs. Collaborative efforts with suppliers to implement best practices, innovation, and quality improvement initiatives can yield tangible benefits in terms of cost reduction, quality enhancement, and supply chain resilience.
- Organizations should enhance operational performance by optimizing internal processes, resource utilization, and performance metrics alignment, and continuously monitoring Key performance indicators and they should review strategies for developing supplier relationships to strengthen their contribution.

References

Ahmed, M. and Hendry, L. (2012). Supplier Development Literature Review and Key Future Research Areas. International Journal of Engineering and Technology Innovation, 2(4), pp.293–303. Available at: https://core.ac.uk/download/pdf/228833389.pdf

Anbanandam, R., Banwet, D.K. and Shankar, R. (2011). Evaluation of supply chain collaboration: a case of apparel retail industry in India. International Journal of Productivity and Performance Management, 60(2), pp.82–98. doi:https://doi.org/10.1108/17410401111101449.

Atoyebi, S.B. and Obilade, T. (2024). Effect of Increasing Sample Size on Multi-Collinearity in Multilevel Non-Linear Model. Asian Journal of Probability and Statistics26(1), pp.104–128. doi:https://doi.org/10.9734/ajpas/2024/v26i1587.

Application of Strategic Sourcing Practice in Public and Private Sectors: Literature Review. In European Journal of Business and Management www.iiste.org ISSN (Vol. 7, Issue 24). Online. www.iiste.org

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. Journal of Management, [online] 17(1), pp.99–120. doi:https://doi.org/10.1177/014920639101700108.

Bullen, C.V., Chittenden, J., Lefave, R. and Selig, G.J. (2010). Implementing strategic sourcing: a manager's guide to world class best practices. Zaltbommel Van Haren C.

Chaneyalew Wondemalem , T.B.Z. (2022). Journal of Supply Chain Management Systems Volumes And Issues, Journal Information, Editorial Team, Guidelines, Pricing Info, Sample Article - Publishing India. publishingindia.com. Available at: http://publishingindia.com/jscms/.

Chen, I.J., Paulraj, A. and Lado, A.A. (2004). Strategic purchasing, supply management, and firm performance. Journal of Operations Management, 22(5), pp.505–523. doi:https://doi.org/10.1016/j.jom.2004.06.002.

Choy, K.L., Lee, W.B. and Lo, V. (2003). An intelligent supplier relationship management system for selecting and benchmarking suppliers. International Journal of Technology Management, 26(7), p.717. doi:https://doi.org/10.1504/ijtm.2003.003453.

Cousins, P.D., Lamming, R.C. and Bowen, F. (2004). The role of risk in environment-related supplier initiatives. International Journal of Operations & Production Management, 24(6), pp.554–565. doi:https://doi.org/10.1108/01443570410538104.

Cooper,, D., & Schindler , P. (2008, July 16). Business research methods. Creative Education, , Vol.4 (No.7B).

Creswel W John . l, J. David Creswell . (2018). Qualitative, Quantitative, and Mixed Methods Approaches Fifth Edition . United Kingdom : SAGE Publications India Pvt. Ltd. .

Cronbach, L.J. (1951). Coefficient Alpha and the Internal Structure of Tests. Psychometrika, 16(3), pp.297–334. Available at: https://link.springer.com/article/10.1007/bf02310555.

Dalvi, M.V. and Kant, R. (2018). Effect of supplier development activities on performance outcomes: an empirical study. Benchmarking: An International Journal, 25(2), pp.489–516. doi:https://doi.org/10.1108/bij-07-2016-0107.

Davids, C., Beeres, R. and van Fenema, P.C. (2013). Operational defense sourcing: organizing military logistics in Afghanistan. International Journal of Physical Distribution & Logistics Management, 43(2), pp.116–133. doi:https://doi.org/10.1108/ijpdlm-11-2011-0198.

De Toni, A., Nassimbeni, G. and Tonchia, S. (1994). Service Dimensions in the Buyer-Supplier Relationship. International Journal of Physical Distribution & Logistics Management, 24(8), pp.4–14. doi:https://doi.org/10.1108/09600039410071235.

Douglas Altman. (2013). Statistics with Confidence. England: John Wiley & Sons.

Dyer, J.H. and Singh, H. (1998). The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage. The Academy of Management Review, 23(4), pp.660–679. doi:https://doi.org/10.2307/259056.

Ekström, T., Hilletofth, P. and Skoglund, P. (2020). Differentiation strategies for defence supply chain design. Journal of Defense Analytics and Logistics, 4(2), pp.183–202. doi:https://doi.org/10.1108/jdal-06-2020-0011.

Ganesan, S. (2022). Determinants of Long-Term Orientation in Buyer-Seller Relationships. Journal of Marketing, 58(2), p.1. doi:https://doi.org/10.2307/1252265.

Gorringe, P. (1987). The Economic Institutions of Capitalism: Firms, Markets and Relational Contracting by Oliver E. Williamson. Australian Journal of Management, 12(1), pp.125–143. doi:https://doi.org/10.1177/031289628701200109.

Galloway, L., Rowbotham, F., & Azhashemi, M. (2020). Purchasing and supply chain management. In Operations Management in Context. https://doi.org/10.4324/9780080513157-15

Gewald, H., & Lammers, M. (2006). The Strategic Sourcing Decision - An Extension of the

Classical Make or Buy Decision. 7th Annual Global Information Technology Management Conference (GITMA); Orlando, Florida, USA, January 2006.

Harvard Business Review Press. (n.d.). HBR's 10 must reads 2017 : the definitive management ideas of the year from Harvard Business Review. 166. Retrieved March 26, 2024, from https://www.barnesandnoble.com/w/hbrs-10-must-reads-2017-harvard-business review/1123517712

Hang, L.T.M. and Hang, N.T. (2018). Supply Chain Collaboration (SCC) - A Pilot Study of Small and Medium Enterprises (SMEs) in Danang. Asian Economic and Financial Review, 8(3), pp.353–365. doi:https://doi.org/10.18488/journal.aefr.2018.83.353.365.

Hellberg, R. (2023). Swedish public procurement and the defence industry: obstacles and opportunities. Journal of defense analytics and logistics, 34. doi:https://doi.org/10.1108/jdal-12-2022-0015.

Humphreys, P.K., Li, W.L. and Chan, L.Y. (2004). The impact of supplier development on buyer–supplier performance. Omega, 32(2), pp.131–143. doi:https://doi.org/10.1016/j.omega.2003.09.016.

Hung, W.-H., Ho, C.-F., Jou, J.-J. and Tai, Y.-M. (2011). Sharing information strategically in a supply chain: antecedents, content and impact. International Journal of Logistics Research and Applications, 14(2), pp.111–133. doi:https://doi.org/10.1080/13675567.2011.572871.

Huo, B., Zhao, X. and Lai, F. (2014). Supply Chain Quality Integration: Antecedents and Consequences. IEEE Transactions on Engineering Management, 61(1), pp.38–51. doi:https://doi.org/10.1109/tem.2013.2278543.

Jackson Kimanthi Nyamai and Ismail, N. (2018). Role of Strategic Procurement Practices On Procurement Performance in State Corporations in Kenya. Social Science Research Network.

Jack E. Fincham. (2014). Response Rates and Responsiveness for Surveys, Standards, and the journal. American Journal of Pharmaceutical Education, 2.

Joel Wisner, Keah-Choon Tan, G. Keong Leong . (2017). Principles of Supply Chain Mnagement, Fifth Edition. Printed in the United States of America: Cengage Learning 20 Channel Center Street.

Kocabasoglu, C. and Suresh, N.C. (2006). Strategic Sourcing: An Empirical Investigation of the Concept and Its Practices in U.S. Manufacturing Firms. The Journal of Supply

Chain Management, 42(2), pp.4–16. doi:https://doi.org/10.1111/j.1745-493x.2006.00008.x.

Kock, N. and Lynn, G. (2012). Lateral Collinearity and Misleading Results in Variance-Based SEM: An Illustration and Recommendations. Ssrn.com. Available at: https://ssrn.com/abstract=2152644.

Krause, D.R. and Ellram, L.M. (1997). Critical elements of supplier development The buying-firm perspective. European Journal of Purchasing & Supply Management, 3(1), pp.21–31. doi:https://doi.org/10.1016/s0969-7012(96)00003-2.

Krause, D.R., Handfield, R.B. and Tyler, B.B. (2006). The relationships between supplier development, commitment, social capital accumulation and performance improvement. Journal of Operations Management, 25(2), pp.528–545. doi:https://doi.org/10.1016/j.jom.2006.05.007.

Li, X., Wu, Q., Goldsby, T.J. and Holsapple, C.W. (2022). Enduring buyer–supplier relationship and buyer performance: the mediating role of buyer–supplier dyadic embeddedness and supplier external embeddedness. European Journal of Management Studies, 27. doi:https://doi.org/10.1108/ejms-03-2022-0020.

Maxwell, J.A. (2012). The Importance of Qualitative Research for Causal Explanation in Education. Qualitative Inquiry, 18(8), pp.655–661.

Medina-Serrano, R., González, R., Gasco, J. and Llopis, J. (2021). Do risk events increase supply chain uncertainty? A case study. Economic Research-Ekonomska Istraživanja, pp.1–19. doi:https://doi.org/10.1080/1331677x.2021.2016462.

Medina-Serrano, R., González-Ramírez, R., Gasco-Gasco, J. and Llopis-Taverner, J. (2020). Strategic sourcing: Developing a progressive framework for make-or-buy decisions. Journal of Industrial Engineering and Management, 13(1), p.133. doi:https://doi.org/10.3926/jiem.2858.

Midi, H., Sarkar, S.K. and Rana, S. (2010). Collinearity Diagnostics of Binary Logistic Regression Model. Journal of Interdisciplinary Mathematics, 13(3), pp.253–267.

Milliken, F.J. (1987). Three Types of Perceived Uncertainty About the Environment: State, Effect, and Response Uncertainty. Academy of Management Review, 12(1), pp.133–143. doi:https://doi.org/10.5465/amr.1987.4306502.

Misni, F. and Lee, L.S. (2017). A Review on Strategic, Tactical and Operational Decision Planning in Reverse Logistics of Green Supply Chain Network Design. Journal of

Computer and Communications, 05(08), pp.83–104. doi:https://doi.org/10.4236/jcc.2017.58007.

Moh'd Anwer Al-Shboul (2023). Investigating the quality of the relationship, supply risk mitigation on medium and large-sized manufacturing firms' supply chain performance in the developing countries: the moderating effect of supplier involvement. doi:https://doi.org/10.1108/tqm-01-2023-0014.

Michael H. Kutner, Christopher J. Nachtsheim, John Neter, William Li. (2005). Applied Linear Statistical Models . Americas, New York, NY,: McGraw-Hill!Irwin, a.

Oso, W., & Onen, D. (2009). A general guide to writing research proposal and report. (Vol. Volume 14). (J. K. Foundation, Ed.) Uganda, Kampala, : Makerere University.

Paulraj, A. and Chen, I.J. (2005). Strategic Supply Management and Dyadic Quality Performance: A Path Analytical Model. The Journal of Supply Chain Management, 41(3), pp.4–18. doi:https://doi.org/10.1111/j.1055-6001.2005.04103002.x.

Pires, C. (2023). Strategic, Performance, and Competency Management Models in Higher Education. Advances in human resources management and organizational development book series, pp.301–327. doi:https://doi.org/10.4018/979-8-3693-0235-4.ch013.

Ribas, I., Lusa, A. and Corominas, A. (2021). Multi-step process for selecting strategic sourcing options when designing supply chains. Journal of Industrial Engineering and Management, 14(3), p.477. doi:https://doi.org/10.3926/jiem.3391.

Richard, K., Ojino, D.J. and Ayoo, P.N. (2019). EFFECTS OF STRATEGIC SOURCING ON ORGANIZATIONAL PERFORMANCE: A CASE OF ACACIA PREMIER HOTEL, KISUMU. Scientific Research Journal, VII(VIII). doi:https://doi.org/10.31364/scirj/v7.i8.2019.p0819681.

Rousson, V., Gasser, T. and Seifert, B. (2002). Assessing intrarater, interrater and test-retest reliability of continuous measurements. Statistics in Medicine, 21(22), pp.3431–3446. doi:https://doi.org/10.1002/sim.1253.

Sani , H. (2020). Effect of Supplier Development on Operational Performance of Manufacturing Firms in Nigeria. International Journal of Managerial Studies and Research, 8(6). doi:https://doi.org/10.20431/2349-0349.0806002.

Sathit Parniangtong (2016). Strategic Sourcing: The Supplier Strategy. Management for professionals, Vol. Part F497., pp.59–63.

doi:https://doi.org/10.1007/978-981-10-1723-0_5.

Sekaran, U. (n.d.). Research methods for business: a skill business approach. ResearchGate. Availableat:https://www.researchgate.net/publication/40943010_Research_methods_for_business_a_skill_business_approach.

Simatupang, T.M. and Sridharan, R. (2004). A benchmarking scheme for supply chain collaboration. Benchmarking: An International Journal, 11(1), pp.9–30. doi:https://doi.org/10.1108/14635770410520285.

Slone, R.E., J Paul Dittmann and Mentzer, J.T. (2010). The new supply chain agenda : the five steps that drive real value. Boston, Mass.: Harvard Business Press.

Stobbe, M. (2008). Supply Chain and Supply Chain Management. Wiley-VCH Verlag GmbH & Co. KGaA eBooks, pp.1–18. doi:https://doi.org/10.1002/9783527622771.ch1.

Shiferaw, T. (2021). Assessment of Strategic Sourcing Implementation Practice: The Case Of Ethio Telecom. Addis Ababa: Addis Ababa University.

Tesfaye, B. (2019). The effect of Strategic sourcing on organizational performance in the case of MOHA. Addis Ababa: Addis Ababa University.

Tesfaye.Nigussie. (2018). The Determinants of Customers Attitude Toward Services ofEthiopian Electric Power Corporation: A Case of Addis Abeba, Ethiopia. Journal of Marketing and Consumer Research, Vol.50 , 63. Retrieved from www.iiste.org

Taber, K.S. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. Research in Science Education, 48(6), pp.1273–1296. doi:https://doi.org/10.1007/s11165-016-9602-2.

V, K. and Baral, R. (2014). Supply Chain Integration - A Competency Based Perspective. International Journal of Managing Value and Supply Chains, 5(3), pp.45–60. doi:https://doi.org/10.5121/ijmvsc.2014.5304.

Williamson, O.E. (2000). The New Institutional Economics: Taking Stock, Looking Ahead. Journal of Economic Literature, 38(3), pp.595–613. doi:https://doi.org/10.1257/jel.38.3.595.

Williams, M. N. (2013). Assumptions of Multiple Regression: Correcting Two Misconceptions. A peer-reviewed electronic journal., Volume 18, Number 11.

Zaidatiol, A., & Bagheri, A. (2011 , October 04). Entrepreneurial leadership: towards a model for learning and development. Human Resource Development International, Volume 14(Issue 4), 451.doi:10.1080/13678868.2011.601594

Annexure

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

POSTGRADUATE PROGRAM

"The Effect of Strategic Sourcing Practice on Logistics Operational Performance: The Case MoND Logistics Main Department

Dear Respondent, My name is **Temesgen Bekele,** from ENDF. Currently I am conducting my Master thesis entitled "***The effect of strategic sourcing practice on Logistics operational performance***, the case of MoND Logistics Main Department".

The information I collect will help me to know the effect of strategic sourcing on organizational performance and forward recommendation based on results. All of the answers you give will be confidential and will not be shared with anyone other than the researcher. I hope you will agree to answer the questions since your views and answers were crucial for my study. If there is any question you don't want to answer, just skip it go on to the next question and please call for detail information on ***+251911830024*** at any time.

Thank you in advance.

- ✓ No need of writing your name.
- ✓ Indicate your answer with a check mark (√) on the appropriate block/cell both for multiple choice and Likert scale questions.
- ✓ If you need further explanation you can contact me and discuss the matter freely via E-temesgenbekele51@gmail.com.

Section I: Respondents Profile:

1.1 Gender: Female □ Male □

1.2 Age: 18-25 Year □ 26-33 Year □ 34-41 Year □
42 -49 □ above 49 years □

1.3 Educational Qualification: Below college diploma □ College diploma □
First Degree (BSc, BA) □ Second Degree and above (MSc, MA) □

1.4 Year of service in the current position: 0 to 5 years □ 6 to 10 years □
11 to 15 years □ 16 to 20 years □ above20 years □

1.5 Current Position Assigned

Main dep't head □ Department head □ Team Coordinator □
Logistics Officer □ Civil Experts' □ Other □

1.6 Military Rank: General officer □ Higher officer □
Line officer □ NCO (Non- commissioned Officer) □ Private □ Civil □

Section II: Main Questionnaire

- ✓ Please indicate your choice by putting the tick mark (√) on the appropriate cell. **Where, 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.**

2 Please indicate the degree to which you agree with the following statements regarding the practices of collaborative buyer-supplier relationship in Logistics Main department. (Please take your key suppliers of critical items in mined while rating the statements).

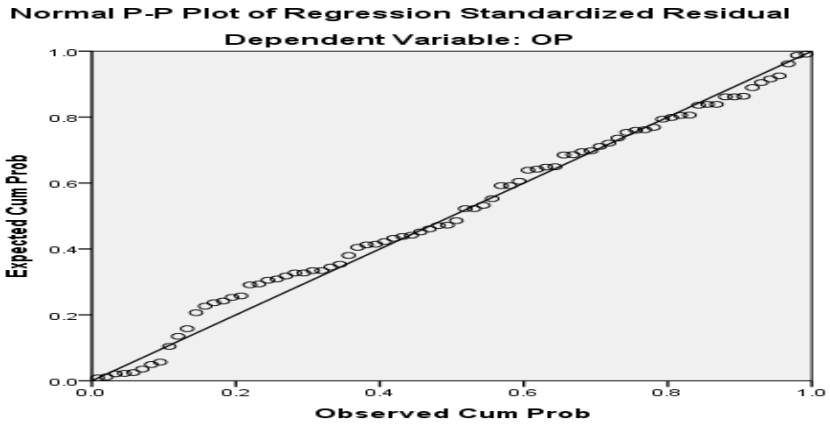
No.	Measurement Items	Score				
		1	2	3	4	5
Supplier Development						
2.1	Conducting regular visits to suppliers' sites enhance effectiveness					
2.2	Rewarding and recognize suppliers matures critical Intel supplier relationships for their best performance					
2.3	Encouraging collaborative agreements, with key suppliers develops in materials improvement					
2.4	Using a supplier certification program to certify supplier quality encourages continuous improvement throughout the year					
2.5	Placing a system to measure suppliers performance in regular basis enables benchmarking of supplier performance					
2.6	Supporting our supplier by giving training leads to improve our supplier's performance.					
Developing supplier relationships						
2.7	We expect our relationships with key suppliers to last a longer time					
2.8	We have long-term contractual agreements with key suppliers					
2.9	We collaborate with key suppliers to improve their quality in the long run					
2.10	We view our key suppliers as an extension of our company					
2.11	Key suppliers see our relationships as a long-term alliance					
2.12	The relationship we have with key suppliers is essentially evergreen					
2.13	We build trust and goodwill, on our suppliers which sustains our relationship when one firm does something wrong to compromise solutions to problems.					
Supplier Relationship Management (SRM)						
2.14	We know our partnerships and have a clear data record for our current suppliers.					
2.15	We are easily identifying our best suppliers, with their competitive rankings					
2.16	We can able to predict our suppliers' performances with respect to on-time delivery, quality, and costs.					
2.17	We have consistency in suppliers and performance across different locations and facilities.					

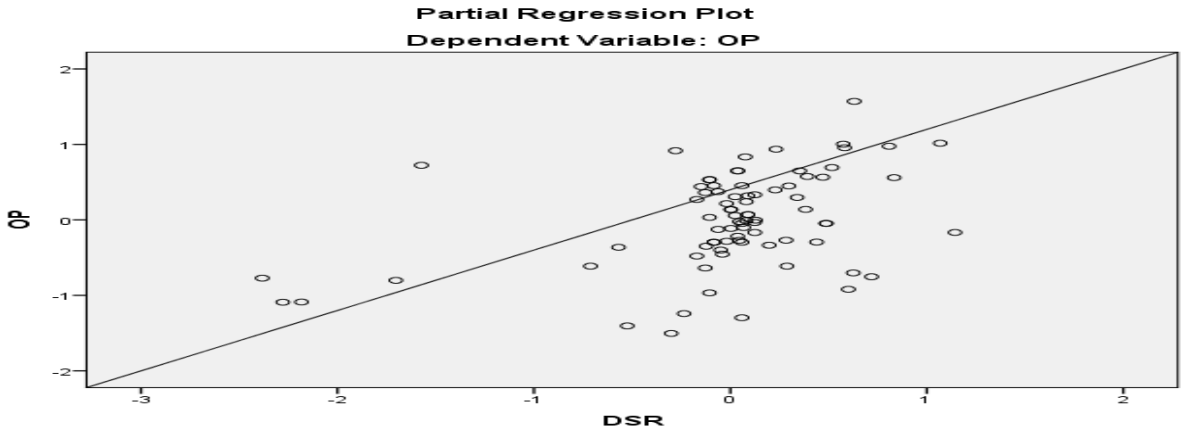
2.18	We are consolidating our buying to achieve greater scale economies.					
2.19	We are familiar with the Supplier Relationship Management (SRM) software and the organization use in effective manner.					

3. Please indicate the degree to which you agree with the following statements regarding the purchasing performance of Logistics Department.

No.	**Measurement Items**	Score				
		1	2	3	4	5
Operational Performance						
2.20	We are successful in minimizing cost of purchased materials,					
2.21	We are successful in assuring quality of purchased materials,					
2.22	Our end users are much satisfied with the achievements of our purchasing function					
2.23	We are successful in assuring on-time delivery of ordered materials,					

Figure 2Partial Regression Plots of Variables





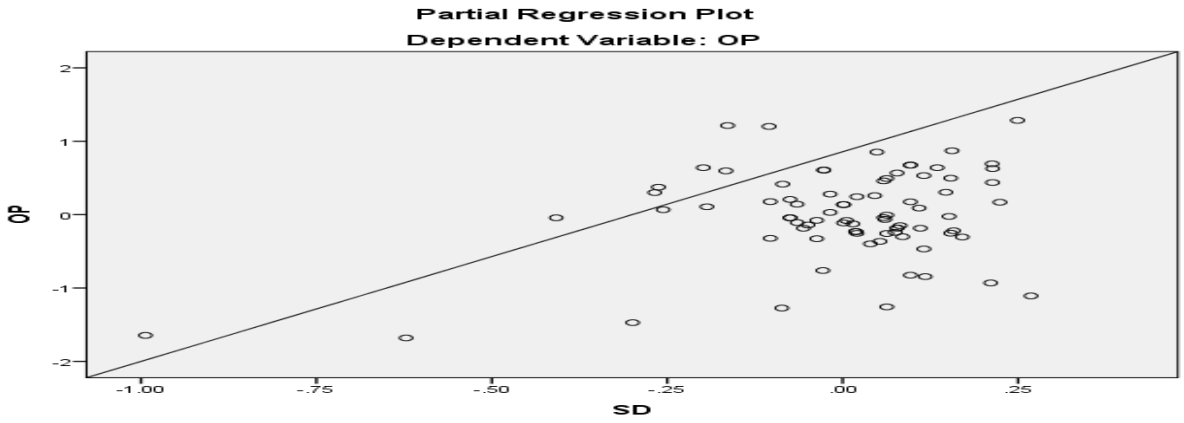


Figure 3Histogram of Regression Standardized residual

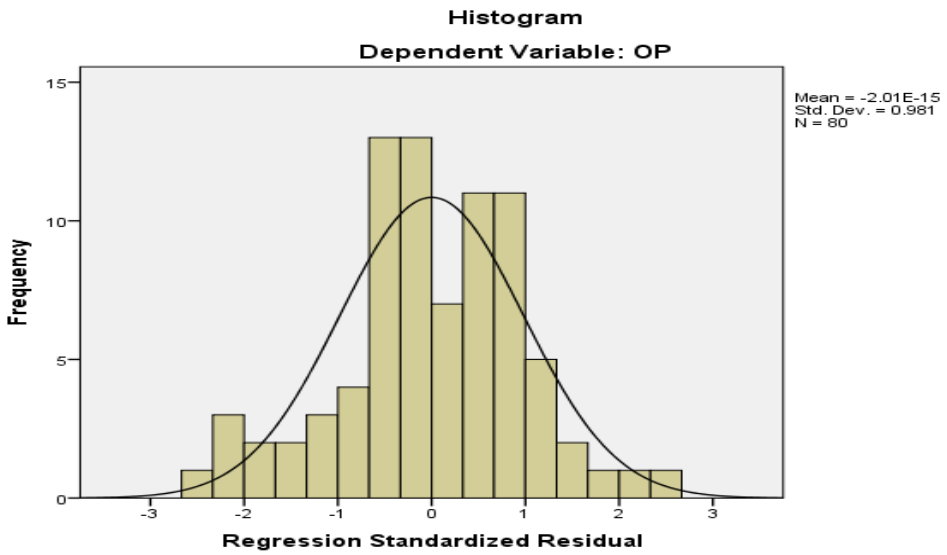


Fig Homoscedasticity test graph