



# The Role of Strategic Sourcing in Operational Performance of the Organization: The Case of Ethiopian Airlines

A Thesis Submitted to the Graduate School of Addis Ababa University,  
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Masters of Logistics and Supply Chain Program

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June, 2017

Addis Ababa, Ethiopia

**ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE**

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## DECLARATION

I hereby declare that the thesis entitled: **The Role of Strategic Sourcing in Operational Performance of the Organization– A Case Study of Ethiopian Airlines** which is submitted by me for the partial fulfillment for the award of masters of business in Logistics and Supply chain program at Addis Ababa university, School of commerce is my own original work and has not been submitted earlier either to Addis Ababa university or to any other institution for the fulfillment of the requirement for any course of study.

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## CERTIFICATE

This is to certify that this thesis is prepared by **Asrat Admasu** - a student of Master of Business Logistics and Supply chain Program had been working under my supervision and guidance for his project entitled: **The Role of Strategic Sourcing in Operational Performance of the Organization – A Case Study on Ethiopian Airlines**. He is submitting his genuine and original work and complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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## **ABSTRACT**

**Title:** *The Role of Strategic Sourcing in Organization Operational Performance – A case study on Ethiopian Airlines.*

**Background:** *Strategic sourcing and procurement is a critical challenge faced by many firms involved in the latest innovation of supply chain management. Organizations are operating in an environment characterized by countless economic and political disruptions to their sources of supplies and services. In order to survive in this turbulent market place, these organizations must continually monitor their competitive position as well as their internally controllable processes- especially the procurement process.*

**Objective:** *The purpose of this paper is to critically analyze the role of strategic sourcing in organization performance of Ethiopian Airlines.*

**Methodology:** *Descriptive research design was used in this study. Under this stage, the study fulfills the objectives of descriptive research by getting an in-depth knowledge of strategic sourcing determinants and sourcing current practices within Ethiopian airline and investigating the implications of these variables in the performance of Ethiopian.*

**Result and conclusion:** *The study found out that strategic sourcing has a role to play in organization's performance. The study established that strategic sourcing was affected by various factors which include Supply chain improvement, contract management, supplier relationship management and rationalization of supply base.*

**Further research:** *However further research could investigate strategic sourcing in a different approach using additional variables like procurement plan, effective spend analysis, cost saving, supply chain risk management.*

**Keywords:** *Strategic Sourcing, operational Performance, Suppliers, Strategic items. Competitive advantage .*

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## ACRONYM

AOG	Aircraft on Ground
ET	Ethiopian Airlines
LRU	Line Replaceable part
EDI	Electronic data interchange
JIT	Just in time
ATCG	Air Transport Action Group
TCE	Transaction Cost economics
MRO	Maintenance Repair & Overhaul
MC	Maintenance Cost
CIPS	Chartered Institute of Purchasing and Supply
CEO	Chief Executive officer
P&SCM	Procurement and Supply Chain Management
CFO	Chief Finance Officer
MD	Managing Director
ETB	Ethiopian Birr
SS	Strategic Sourcing
GP	General Purchase
KPI	Key performance indicator
RFQ	Request for Quotation

# CHAPTER ONE: INTRODUCTION

## 1.1. Background of the Study

The current competitive business environment is defined by intense global competition, shortening product life cycles, and increasingly demanding customers. Within this environment, the importance of supply chain management has become more and more recognized, taking into consideration the challenges of reducing costs while improving service levels significantly. Purchasing and supply management is one of the supply chain management areas, which promises better costs control and resources utilization (Kocabasoglu and Suresh, 2006). Strategic sourcing has become a highly recognized business tool, whereby competitive advantage may be gained when products or services are produced more effectively and efficiently by outside suppliers (McCarthy and Anagnostou, 2004; Leavy, 2004).

Strategic sourcing and procurement is a critical challenge faced by many firms involved in the latest innovation of supply chain management. Organizations are operating in an environment characterized by countless economic and political disruptions to their sources of supplies and services. In order to survive in this turbulent market place, these organizations must continually monitor their competitive position as well as their internally controllable processes- especially the procurement process (Burt, Dobler & Starling 2003).

Cost efficiency and better productivity has always been a major issue in procurement but in today's ever increasing competition in the market, strategic sourcing has become an essential area which regularly brings forth some impression of efficiency in various companies. It is important to note that starting sourcing approaches in the contemporary business environment are liable to world class business options which are embraced by the successful companies in the market. Dealing with business complexities has made the buyers to think strategically. The basic premise of this principle is that strategic sourcing and procurement provides the right direction in understanding the amount of effort to be applied to fill the performance gap, compared to competitors (Lyson, 2000).

Strategic supplier partnership for competitive advantage is an important area which can make a company to intensify its market share in the business environment .however, it is the most valuable and difficult type of relationship. The partners have a broad understanding of each other's needs and visions and share important values. There is a high level of trust and mutuality, with open information sharing, gains sharing and concern for mutual wellbeing. Because the partnership shares so much, it is adaptable to change and transcend tactical difficulties. The strategic buyer-supplier partnership philosophy creates a working environment promoting team work, trust and quest for continuous improvement. It is customer-focused, vision-focused and service-providing philosophy in which relationship based on a perception of independent needs creates competitive advantage jointly (Lysons, 2000).

The purpose of this study is primarily based on finding out the role of strategic sourcing in operational performance of the organization, in my case, Ethiopian Airlines (ET). Strategic sourcing, a theory of supply – chain management is a proven best practice and represents Ethiopian airlines preferred approach to acquiring goods and services. It involves increasing focus on pre-award collaboration, acquisition planning and the fostering of enhanced business arrangements to better balance cost, quality, cycle time, performance and sustainment.

## **1.2. Background of the Organization**

Ethiopian Airlines is the flag carrier of Ethiopia. During the past seven decades, Ethiopian has become one of the continent's leading carriers, unrivalled in Africa for efficiency and operational success, turning profits for almost all the years of its existence. Operating at the forefront of technology, the airline has also become one of Ethiopia's major industries and a veritable institution in Africa. It commands a lion's share of the pan African network including the daily and double daily east-west flight across the continent. Ethiopian currently serves 93 international and 20 domestic destinations operating the newest and youngest 84 fleets.

Ethiopian airlines spends multi – Million dollar on the acquisition of different aircraft and non-aircraft related goods and services every year and making it the largest and most complex purchasing organization in Ethiopia. According to ET 2014/2015 annual report, the foremost

expenditures are Aircraft Fuel & Oil and expenses related with Aircraft and Non-Aircraft materials purchase & maintenance costs which accounts for 17,550,849,359 birr and 3,663,198,553 birr respectively. Over the years, the procurement function of the company has remained passive in regard to the acquisition of high value aircraft and non-aircraft goods and services, an attribute that case long cycle times, unaligned logistics system, poor buyer-supplier relationships and also high costs of purchased goods. This continuing problem has caused a decline of procurement /supply performance of the company. Jan, 2015 the company formed an independent strategic sourcing department in seeking out creative ways to reduce costs, assure and improve the quality of the final product and achieve a faster time to market. Until the establishment of the sourcing department, Ethiopian airlines procurement activities were taking place under the buying section in a traditional way. It was reorganized as follows:

- ❖ All corporate functions which are Strategic Sourcing Technical and Non-Technical, General Purchase (GP), Logistics Management and warehouse & Inventory management organized under Director Procurement and supply chain management (PSCM). Director PSCM reports to the chief fiancé officer (CFO).
- ❖ Tactical Purchasing sections established under each major maintenance departments and business units which are under MRO Managing director (MD ETH MRO). These sections have dual reporting responsibility. They functionally report to Dir. P&SCM and administratively report to the business unit they are aligned to. Director PSCM will be responsible to ensure that purchasing transactions are performed according to company policies and procedures and monitor the corporate objectives are met with regard to Training, Coaching will also be managed by the director.

Basic functions of Strategic Sourcing Technical & Non-Technical are as follows:

1. Manage Supplier Relationships, including key supplier governance Provide leadership and direction to Sourcing & Contract Administration officers.
2. Conduct marketplace intelligence to formulate effective commodity strategy. Validate data gathered with supply base and determine major market factors or drivers that should be considered in the formulation of commodity strategy.
3. Initiate purchase consolidation projects including tender and coordinate with users and service providers to keep minimum number of suppliers and optimum stock holding.
4. Identify and attain cost savings. Utilize all means of tools to communicate with suppliers regarding their performance, identify corrective action plans, implement actions, measure results and adjust as/where appropriate.
5. Conduct vendor analysis as required to develop sound sourcing strategies. Perform marketplace intelligence. Analyze supply conditions and evaluate to ET's demand requirements/expectations/requirements.
6. Proactively address procurement-related issues and recommend effective actions to attain top quartile performance of supply base. Conduct effective sourcing to contribute to attainment of operation efficiency and profitability requirements.
7. Create and lead strategic sourcing initiatives to minimize category spend and Provide strategic insights on transactional movements in annual spend associated to the specific category.
8. Responsible for supplier / vendor performance including chairing regular performance reviews, business development and supplier awards programs.
9. Play a pivotal role in the identification and selection of spend Areas that could produce cost reductions or process improvements as well as prioritizing the various spend areas so that the initial areas to evaluate match the goals and objectives of the company.
10. Responsible for continuous improvement of processes in procurement and supply chain division for productivity improvement, quality of work and streamline Procurement process in terms of Delivery, Cost & Quality



### **1.3. Statement of the Problem**

Since the beginning of 1980s, the world airline industry has become to operate more globally. Significant changes in the global business characteristics lead high level of competency. Therefore airline companies are forced to develop their own global strategic sourcing plan to build up variation in lead times to handle the pressure on keeping inventories lean and to be more responsive for operational requirements and meet strategic objectives. After recognizing the importance of global strategic sourcing, a study has been needed combining that both literature issues and nowadays business structures. Furthermore, there is a need of solutions for lack of points regarding to sourcing strategies in order to be adapted to changes and latest trends in the competitive market globally with the mitigation of sourcing risks which were mentioned in different groups; supply risk, process and control risk, environmental and sustainability risk, operation risk and demand risk (Christopher, et al., 2011). These issues can be analyzed in an integrated and synchronized systems and organizations. Based on these, it has been aimed to analyze sourcing practices and challenges within Ethiopian airlines. Moreover, this study aimed at investigating this phenomenon and establishes the role of strategic sourcing on performance of Ethiopian airlines towards operational improvements such as quality, cost, service levels cycle time, logistics (in/outbound) , transaction reduction , inventory turns; and strategic objectives such as profitability, financial stability, competitive positioning.

### **1.4. Research hypotheses**

The primary intent of the study is to examine the hypothetical statement that strategic sourcing as an independent variable has an influence on operational performance variables depicted by cost, profitability and customer satisfaction.

Specifically the hypotheses are:

**H0:** Strategic sourcing does affect operational performance of the organization.

**Ha:** Strategic sourcing does not affect operational performance of the organization.

## **1.5. Research Questions**

The research objectives can be articulated in the following research questions:

1. To what extent does continuous chain improvement of supply chain activities enhance operational performance at ET?
2. How does contract management enhance operational performance at ET?
3. To what extent does supplier relationship management enhance operational performance at ET?
4. How does rationalization of supply base enhance operational performance at ET?

## **1.6. Objectives of the Study**

### **1.6.1. General Objectives**

Considering the context of the airline industry in terms of strategic sourcing, this study aims to examine the strategic sourcing phenomenon within Ethiopian airlines. Firstly, the study seeks to identify the strategic sourcing determinants: supplier development, contract management, supplier relationship management and rationalization of supply chain base. Secondly, through a better understanding of the strategic sourcing process, the study aims to evaluate the implications of strategic sourcing on the operational performance of ET.

### **1.6.2 Specific objectives**

In order to fulfill this aim, the following specific research objectives were devised:

1. To determine the influence of supply chain Improvement on ET operational performance.
2. To establish the influence of contract management in operational performance of ET.
3. To determine the influence of Supplier relationship management in operational performance of ET.
4. To establish the influence of rationalization of supply base in operational performance of ET.

### **1.7. Significance of the Study**

Strategic sourcing is an important aspect in today's firms, for organizations to achieve competitive advantage. Most of Ethiopian airlines costs is spend on purchasing of aircraft fuel and oil, aircraft materials, finished goods and even services, with this important aspect the researcher is positive that the findings of this research would be of a great help to procurement professionals in all sectors especially for aviation entity where the airline is the regulator for the expenditure, this study enlightened various procurement managers in understanding how sourcing if properly done can immensely cut down on organizational cost, hence improving the overall organizational operation performance and help to achieve strategic objectives.

The researcher is also positive that this study form a basis of which future research can be developed, mostly with practices of aviation entities with respect to strategic sourcing and also it will help Ethiopian airlines recognize sourcing strategically can be of advantageous to company in terms of total cost reduction, hence impacting on organizational performance in general, lastly this study will highly add to the pool of knowledge in the field of strategic sourcing in public entities in general.

### **1.8. Limitation of the Study**

The main limitation of the study includes:

- Due to the complex arrangement & nature of the business and also present researcher work experience, this study focused on only technical and non-technical strategic sourcing area and excludes activities related with fuel and oil purchase and also strategic sourcing related with Catering items.
- Few qualitative data depend on respondents' individual perception and opinion towards the sourcing activities of the ET and the determinant factors as well.

### **1.9. Scope of the study**

The study focused on strategic sourcing and procurement which involved the roles undertaken during the strategic procurement process, departments involved and factors affecting company operational performance.

The research carried out in Ethiopian airlines headquarter (Bole International Airport), specifically at Procurement and supply chain department (P&CSM) and also limited target area in Engine maintenance shop.

### **1.10. Organization of the Study**

Considering the research objectives, the structure of the thesis is defined as follows

- Chapter one introduces the research Topic, Scope and Objectives;
- Chapter two offers a comprehensive literature review on general strategic sourcing concept and review of literature related to the Airline Industry;
- Chapter three illustrates the design of the research methods;
- Chapter four concentrates on data presentation and analysis;
- Chapter five presents conclusion and recommendations on the overall study based on the analysis of data collected.

### **1.11. Ethical Consideration**

In determining the participants of a study, it is ethical to ensure that the research is beneficial for the participants in alleviating a given problem (Cresswell, 2003). Accordingly, this study is aimed at identifying the challenges in targeting and acquiring the right applicant pool and majority of the participants are employees who are directly attached to strategic sourcing activity of the company. Therefore, they are the ones to be benefited from the findings and recommendations of the study.

The researcher will briefly explain the purpose of the study to the employees and then participants will be included in the research if they give their full consent of their willingness to participate in the study.

The researcher will also assure the confidentiality of the recordings of the interview and there will be no record to be kept about the identity of the participants.

The correct reporting of the final study is another ethical issue. The researcher will analyze the data based on the explicit response of the participants, the notes from observation and finding from the secondary data. Therefore, it is minimal to report a finding that is not supported by the analysis.

### **1.12. Definition of Terms**

- ✓ Strategic sourcing is an approach to supply chain management that formalizes the way information is gathered and used so that an organization can leverage its consolidated purchasing power to find the best possible values in the marketplace.
- ✓ Operational Performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives).
- ✓ An aircraft engine is the component of the propulsion system for an aircraft that generates mechanical power.
- ✓ Line maintenance is aircraft maintenance activity carried out whilst the aircraft remains in the operating environment and is substantially fit to fly subject to specific, relatively straight forward, rectification tasks such as replacement of any component designated as an Line Replaceable Unit (LRU).
- ✓ The airframe of an aircraft is its mechanical structure. It is typically considered to include fuselage, wings and undercarriage and exclude the propulsion system.
- ✓ An aircraft part is an article or component approved for installation on a type-certificated aircraft. Approval for these parts is derived from the jurisdictions of the countries that an aircraft is based.

## **CHAPTER TWO: LITERATURE REVIEW**

## **2.1. General Concepts of Strategic Sourcing**

### **2.1.1 Evolution of strategic Sourcing**

Ellram and Carr (1994) provide a history and review of literature related to sourcing's strategic importance. They note that even as the oil crisis of 1973-1974 highlighted the perils of raw material supply shortages, research on industrial buying behavior largely viewed the purchasing function as administrative. It was not until the 1980s when Porter's Five Forces model gained popularity that the strategic role of the interface between suppliers and buyers was better understood. This has led to more contemporary research investigating the strategic impact of sourcing as an integrative link between the firm and its suppliers.

As the interface between suppliers and the firm, purchasing's influence on firm performance increases as supplier contribution to the firm increases. Further, the inclusion of purchasing (sourcing) strategy in corporate strategy is more vital as global competition and the pace of technological change quickens. A firm's supplier management orientation is reflected in its contracting policies for external purchases. Cohen and Agrawal (1999) model the trade-offs between short term and long term contractual relationships. Short term contracts provide more flexibility and avoid fixed investments, but also forgo improvement and price certainty benefits afforded from long term contracts. Their analysis reveals that short term contracting is optimal under a wide range of conditions. In a survey of supply managers they find that management intends to develop long term relationships, but often engage in short term contracting. This conflict over the optimal buyer supplier relationship is not exclusive to the ranks of supply managers.

### **2.1.2 Why Sourcing and Strategic Sourcing are Important?**

## What is Strategic Sourcing?

Defining Strategic Sourcing should be fairly simple. Most companies are already involved with some form of Strategic Sourcing initiative. Typically, when professionals define Strategic Sourcing they limit the scope and therefore the impact of a Strategic Sourcing initiative. However, Strategic Sourcing can go well beyond cutting costs. It can have a profound impact on a company's financials and can strongly influence the purchasing and procurement processes.

For purposes of this paper, Strategic Sourcing will be defined as the process of evaluating, selecting and aligning with suppliers or consortiums of suppliers to achieve operational improvements in support of an organization's strategic objectives. The phrase Strategic Sourcing was coined and is used when the activities of sourcing are directly tied to a sourcing strategy.

<b>Operational Improvements</b>	<ul style="list-style-type: none"><li>• Quality</li><li>• Cost</li><li>• Service Levels</li><li>• Cycle Time</li><li>• Inventory Turns</li></ul>	<ul style="list-style-type: none"><li>• Logistics (In/Outbound)</li><li>• Warranty / Returns</li><li>• Environmental / Disposal</li><li>• Transaction Reduction</li><li>• Asset Utilization</li></ul>
<b>Strategic Objectives</b>	<ul style="list-style-type: none"><li>• Profitability</li><li>• Financial Stability</li><li>• Business Growth</li><li>• Brand Image</li></ul>	<ul style="list-style-type: none"><li>• Competitive Positioning</li><li>• Outsourcing</li><li>• New Products</li><li>• New Services</li></ul>

Table.1 Strategic sourcing platforms

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

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

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

Strategic Sourcing approach to critical success factors

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

### **2.1.3. Supplier Sourcing and Evaluation**



Sourcing decisions should be incorporated into the operating strategies of the purchasing organizations to support or even improve their competitive advantages, Hui et al (2006: 297- 298). They further explained that, an organization's profitability is determined and defined largely, by its sourcing strategy. Thus, sourcing strategically has been considered as one of the key drivers for organization's survival and growth, Hui et al (2006:298). However, Zenz (1990:161) argued that, 'sourcing is a strategic philosophy of selecting vendors in a manner that makes them an integral part of the buying organization for the particular components they are to supply'. He further pointed out that, the most important purchasing decision is concerned with selecting the sources of supply. That is, if the correct source decision is made in a particular instance, the buying organization's needs should be met perfectly. In such circumstances, it would receive the right goods in the right condition, in the right quantity, at the right time and at the right price.

When it comes to the importance of source selection, Dobler et al (1996:212-214) argued that a good supplier is an invaluable resource to the organization requiring its products or service. He further pointed out that, such suppliers make a direct contribution to an organization's success and can therefore assist their customers with product development, value analysis, and timely delivery of the desired level of quality. According to them, "the right supplier is the key to obtaining the desired level of quality, on time, at the right price, the necessary level of technical support and the desired level of service".

The evaluation of suppliers is a continuous undertaking, which means that current suppliers have to be monitored to see if expected performance materialized. According to various literatures on purchasing and supply management (Fearon et al, 1997, Dobler et al, 1996, Farmer et al, 1994) most organizations evaluate supplier performance based on quality, price, delivery and service. They therefore went further in explaining the above-mentioned criteria for evaluating supplier's performances as follows:

**Quality performance:** Quality in the simplest sense refers to the ability of the supplier to provide goods and services in conformance with specifications. It may also refer to whether the item

performs in actual use to the expectations of the original requisitioned, regardless of conformance with specifications. Thus, it is often said an item is “no good” or of “bad quality” when it fails in use, even though the original requisition or specification may be at fault. It is therefore normal of organizations to evaluate supplier performance very closely and in sufficient detail to enable the pinpointing of corrective action.

**Price performance:** Purchasing materials at the right price is important; it literally can mean the difference between organization’s success and failure. Professional purchasers interpret the right price to mean a price that is fair and reasonable to both the purchaser and the seller. Actual performance of a supplier is evaluated as discrepancies between agreed-to prices and those actually invoiced by suppliers are normally brought to purchasing attention. Price evaluation of suppliers is therefore used against the actual price versus lowest price received from other suppliers supplying the same requirement.

**Delivery performance:** Delivery performance of a current supplier is fairly evaluated if good records exist of the delivery promises and actual receipts and few modifications have been made on an informal basis.

**Service performance:** Service includes before-sales service for some products and after-sales service for others. Accurate quotations, reliable delivery times, ease of contract with persons in authority, technical advice and service, availability of test facilities, willingness to hold stocks; these are some of the varied things that make up the package called service. Good service by the supplier reduces the buyer’s workload, increases the usefulness or availability of the product and diminishes the uncertainty associated with making the buying decision.

In addition to the above mentioned, there are other supplier evaluation criteria use by purchasers to evaluate the performance of potential suppliers. According to Farmer et al (1994:130-131) “most organizations spend 80 percent of their annual budget with 20 percent of their suppliers, and probably on 20 percent of the range of items bought, and these big-spend articles justify thorough investigation”. They therefore pointed out that, the other supplier evaluation criteria and went further to explain them as follows;

**Financial stability:** This is very important because purchasers prefer profitable suppliers since they are interested in continuity and on-time delivery. A supplier with cash-flow problems will have difficulty paying his or her bills and consequently in obtaining materials; his or her delivery times and possibly product quality will probably suffer. A supplier who becomes insolvent can be as big an embarrassment as a customer in similar difficulties can.

**EDI connected:** Electronic data interchange (EDI) is a method of sending information electronically between, for example a purchaser and a supplier (buyer and seller). Some purchasers demand that suppliers should be EDI connected. By this, both parties eliminate paper work, reduce transmission errors, and speed the information flows.

**Good management:** Well-managed suppliers improve methods, reduce costs, develop better products, deliver on time, have fewer defective products, and build high morale in their workforce.

**Environmental concern:** Environmental considerations are affecting every phase of the purchasing cycle. There has been public awareness of the desirability of minimum or zero environmental impact in the last two decades. Most organizations therefore purchase products, materials, or equipment's from sources (suppliers) that have sound environmental practices.

#### **2.1.4 Supplier Sourcing Strategies**

Supplier sourcing is the process and procedures by which the buyer seeks to survey, evaluate suppliers, and determine policies relating to those who can most suitably meet the requirements of the organization. Sourcing is therefore the counterpart of product marketing, Lysons (1992:180).

##### **2.1.4.1. Single Sourcing Strategy**

Single sourcing involves the idea of reducing the number of suppliers with which an organization does business, and hence sourcing from a sole source, Hui et al (2006:299). However, according to Berger et al (2006:250-251) “the concept of single sourcing has evolved with the growing popularity of the just-in-time (JIT) philosophy and many researchers have studied the advantages of this sourcing strategy”.

They further pointed out that the general benefits of single sourcing include higher quality at lower total cost to the buyer and that suppliers are linked to higher levels of buyer/supplier cooperation. According to Court et al (1997:48) “moving to single sourcing will improve attitudes in both long- and short term contracts. They argued that, with long-term single sourcing strategy, the supplier has the confidence to invest capital in efficiency programs and product development. They also pointed out that, the single sourcing strategy allows the supplier to stabilize staffing levels and minimize paperwork.

Multiple sourcing strategy refers to an organization having business relationships with a number of suppliers; each supplier responds to the demands and specifications of a particular quotation from the purchasing organization, Hui et al (2006:299-300). The multiple-sourcing strategy plays one supplier against another and the competition among the suppliers is intense, Berger et al (2006:250). According to Court et al (1997:46-47) “the existence of a second and alternative supplier would enable the buying organization to switch demand with minimal disruption”.

They pointed out that, there is no doubt that the argument has some validity for critical suppliers but it is certainly questionable whether its application in all cases delivers the benefits claimed. When several suppliers are present, since the suppliers responds to the demands and specifications of a particular quotation, the purchaser has the opportunity to receive lower prices and shipping costs.

Berger et al (2006:250) argued that, the suppliers has the burden of being responsible for maintaining the necessary technology, expertise, and forecasting abilities, plus cost, quality and delivery competencies. According to them, “dealing with several suppliers is likely to require longer time in negotiation and in turn, may delay or disturb production schedules”.

#### **2.1.4.2. Partnership Sourcing Strategy**

Partnership sourcing represents a collaborative approach in which a buying organization and a small number of its suppliers work closely together, sharing the risks and rewards of a cooperative relationship that focuses on continuous improvement, McHugh et al (2000:12).

However, Dobler et al (1996:220-221) explained that, ‘partnership sourcing is a collaborative relationship between a purchaser and a supplier which recognizes some degree of interdependence and cooperation on a specific project or for a specific purchase agreement’. According to them, “the partnership calls for the sharing of forecasted demand and cost data, and must contain an element of trust and respect between the parties”. They pointed out further that, the ‘partnership’ implies neither the presence nor the absence of a single-sourcing relationship. That is, the purchasing organization may have one, two, or three partners for the same item, although the trend is toward single sourcing.

However, Court et al (1997:48) stated that, “the rationale behind the partnership sourcing is that, a long-term relationship with a single source provides opportunities for mutual development and improvement, thus benefiting both parties”. Partnership sourcing implies a radical change in the way people work, including teamwork, joint decision-making and collaborative activity, McHugh et al (2000:12).

Dobler et al (1996:220) explained that, long –term partnering agreements encourages suppliers to invest research and development dollars in order to propose technologically current, cost effective and high-quality solutions to the purchasing organization’s needs. However, McHugh et al (2002:12) argued that, many attempts at partnering have failed.

They explained further that, there is evidence to suggest that some organizations have not achieved the desired benefits from partnership sourcing because many of these organizations embark upon the concept without fully understanding it. The diagram below summarizes the principal characteristics of partnership sourcing.

### **2.1.5. Strategic Sourcing Process in the Supply chain**

According to (Graham Smith PhD, 2014) below is a summary of the 7 Step of Strategic Sourcing Process.

#### **Step One – Fully understand the spend category**

Understand everything about the spend category as the first step in the strategic sourcing process. This means defining the category and commodities in it. What is the current quantity used types and sizes. Who are the users, where are they located, what are the processes used and who else is involved in the supply chain. Data must be documented in as much detail as possible as changes may be needed.

Stakeholders at all operating units and physical locations would need to be identified. For example logistics, which may need to know about shipping specifications, or handling, which may need to understand certain quality or environmental characteristics, where applicable.

The five key areas of analysis are:

- Total historic expenditure and volumes;
- Expenditure categorized by commodity and sub-commodity;
- Expenditure by division, department or user;
- Expenditure by supplier;
- Future demand projections or budgets.

#### **Step Two – Supplier Market Assessment**

Concurrently run supplier market assessment for seeking alternative suppliers to existing incumbents. Understand the key supplier marketplace dynamics and current trends. Prepare 'should-cost' information from the major components of the key products. Take a view on the key suppliers' sub-tier marketplace, and analyze for any risks as well as opportunities.

### **Step Three – Prepare a supplier survey**

Next, develop a supplier survey for both incumbent and potential alternative suppliers. This survey will help evaluate the supplier capabilities. At this point, consider verifying spend information using data that incumbent suppliers have from their sales systems.

The survey is to assess the capability and capacity of the market to meet your requirements. It enables you to assess at an early stage whether your proposed project is feasible and can be delivered by the identified supply base. It also provides an early warning of your requirements to the market, and enables suppliers to think about how they will respond. The key aim here is to encourage the right suppliers with the right structure to respond to you.

Look to gather knowledge in these key areas:

- Feasibility
- Capability
- Maturity
- Capacity

### **Step Four – Develop the strategy**

Deciding where to buy while minimizing risk and costs is how you develop the strategic sourcing strategy. Using a cross functional project team is a must. The strategy will depend on what real alternatives there are to the current suppliers, how competitive the supplier marketplace is and importantly, how open the users are to new suppliers.

### **Step Five – Request for Proposal**

Where a competitive approach is used, which is the general case for most spend categories, a request for proposal or bid will need to be prepared (RFP, RFQs, eRFQs, ITTs). This will define and make clear the requirements to all prequalified suppliers. It should include product or service specifications, delivery and service requirements, evaluation criteria, pricing structure, and financial terms and conditions.

### **Step Six – Selection**

This is about selecting and negotiating with suppliers. The sourcing team should apply its evaluation criteria to the supplier responses. If carried out manually, the negotiation process is conducted first with a larger set of suppliers, then narrowed to a few finalists. If the sourcing team uses an electronic negotiation tool, a greater number of suppliers may be kept in the process for longer, giving more diverse suppliers a better chance at winning the business.

Compare outcomes in terms of total value or implementation cost differences. Departments directly affected can be brought into the final selection process. Senior executives should be briefed on the final selection, to gain their approval and also be given the rationale behind the decision, to prepare them for any calls they receive from disappointed suppliers.

### **Step Seven – Communicate with your new suppliers**

Once the winning supplier(s) are notified they should be invited to participate in implementing recommendations. Implementation plans vary depending on the degree of supplier switches. For incumbents, there will be a communication plan that will include any changes in specifications, improvements in delivery, and service or pricing models. These ought to be communicated to users as well. Since the company may have significantly benefited from this entire process, it's important that this be recognized by both company and supplier.

## **2.2. Sourcing concepts in Airline Industry**



While in the preceding section the view was general, there is quite some aviation sourcing literature that is especially relevant to the topic. This section presents an overview of relevant literature related to the airline industry.

### **2.2.1. Air Transportation Industry Outline**

The air transportation industry drives economic and social progress. The industry has a substantial economic impact, both through its own activities and as a facilitator for other industries. Its most important economic contribution is through its impact on the performance of other industries and as an enabler of their growth. In general, the air transport industry plays a vital role in advancing the performance of the world economy (Air Transport Action Group, 2014).

### **2.2.2. Strategic Sourcing for Competitive Advantage**

According to the study that has been stated by Rieple & Helm (2008); the airline sector can be taken into consideration as segments depending on scope, scale, and type of operation. The concentration in that point is major international, full-service, legacy airlines which are close to comparing within the customer segments.

Five principal conditions exist within Transaction Cost economics (TCE) which is also known as new institutional economics. As regards the outside suppliers information, opportunism is seen a potential risk of sequestration regarding to key assets. There becomes a statement which is asset specificity that refers to the level concerned with which asset is valuable within a specific transaction. In other words, interaction with opportunism takes place at an important level.

Frequency of use implies that transactions carried out only very infrequently do not need to be undertaken within an organization's hierarchy. Bounded rationality refers to the degree of difficulty in forming transactional contracts because of the limitations of managers' knowledge and perceptions. Environmental uncertainty increases the problems arising from bounded rationality. These five dimensions interact to predict whether an activity is most efficiently carried out in-house or outsourced.

Assessing the relative costs or strategic benefits of strategic sourcing in the airline industry is therefore likely to be challenging. Nevertheless, TCE provides an attractive perspective in order to

assess changes in airline industry, and while it is definite that the industry is moving to a networked structure, in which hierarchical management is not higher seen to be the best method of executing business structure, the condition of whether this occurred in the position with estimator theory suggests scope for survey.

### **2.2.3. Collaboration in Spare Parts between Airlines**

Nowadays airlines companies have very huge cost for spare part components of aircrafts. Therefore, they have started to make pooling arrangement to handle that cost. According to this arrangement between airlines, spare part components of the fleet can be changed their on each of them bases. The main point of this arrangement is to reduce inventory cost and to improve service levels. Component availability replaces capital costs with a stable cash flow, increasing business elasticity. Also there are some disadvantages such as increases transaction costs and acceptable lead times (Kilpi & Vepsäläinen, 2004).

### **2.2.4. Global picture on Maintenance, Repair & Overhaul (MRO) Spend**

This section provides some context to the Maintenance Cost (MC) analyses in by presenting an overview of the airline industry, the world fleet count and the Maintenance, Repair and Overhaul (MRO) market for 2015 and MRO market value forecast for year 2016.

In 2015, the world fleet count was over 27K aircraft, with 76% of the fleet manufactured by Boeing or Airbus. Global MRO spend was valued at \$64.3 billion, excluding overhead. Of this, about 70 to 75% of is associated with materials purchase.

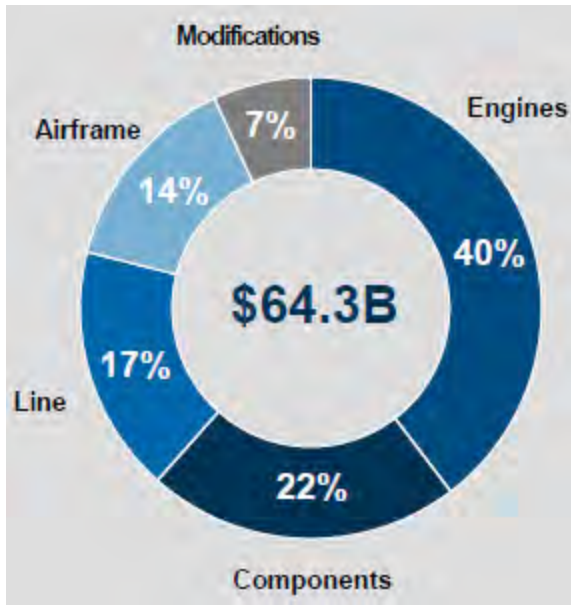


Fig 1. World MRO Spend by Segment (2015)  
Source: ICF International Global MRO Forecast

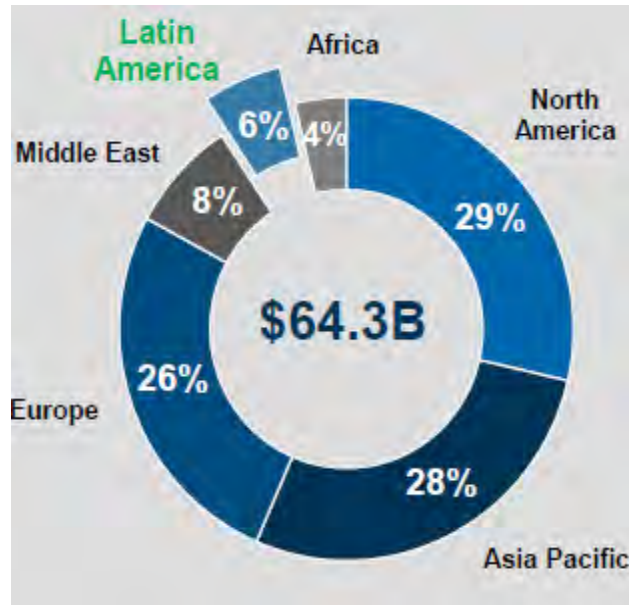


Fig.2. World MRO Spend by region (2015)  
Source: ICF International Global MRO Forecast

### 2.2.5. Maintenance, Repair & Overhaul (MRO) market forecast for 2016

The commercial aviation MRO market value will be \$63.2 billion in 2016, according to Aviation Week's 2016 Commercial Fleet & MRO Forecast. Here are some of the forecast highlights for each region.

#### Africa

- African operators will spend about \$2.5 billion on MRO in 2016.
- In-service fleet will be grown to nearly 1,600 by year-end.

#### Asia-Pacific

- Asia-Pacific operators will spend \$13.3 billion on MRO in 2016.
- Engine MRO demand is around \$3.8 billion in 2016.

#### China

- China's civil aviation MRO market will be worth about \$4.6 billion in 2016.
- Operators expect to receive 273 new aircraft deliveries worth \$29 billion in 2016.

### **Eastern Europe (Including Russia and the Commonwealth of Independent States)**

- The in-service fleet equates to 1,664 aircraft in 2016—up by 83 aircraft from the previous year.
- Expect line maintenance expenses to reach \$764 million in 2016.

### **India**

- Engine maintenance expenditures should be \$472 million in 2016.
- Operators based in India will spend \$1 billion on MRO this year.

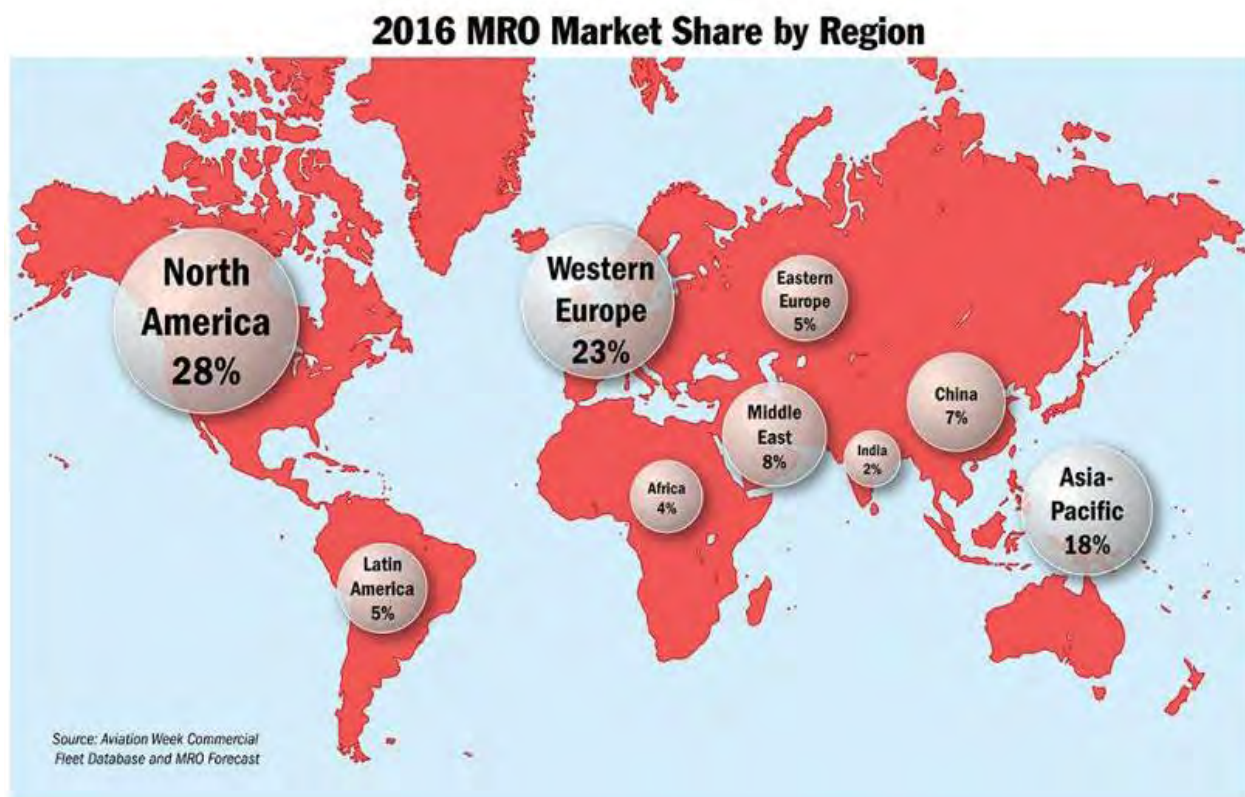


Fig.3. MRO Market share by region

### **Latin America (Including Mexico)**

- Latin America generated more than \$3.4 billion in civil aviation MRO activity in 2016.
- Operators spent \$955 million on component MRO.

## **Middle East**

- Despite downward pressures from oil prices and comparably low load factors, the region shows some of the highest growth in the world. The in-service fleet is expected to grow to a little less than 3,000 aircraft by 2025 from less than 1,800 aircraft in 2016.
- Modifications will account for \$548 million of MRO purchasing.

## **North America**

- The North American fleet should total more than 9,400 aircraft in 2016—about 4,200 of them single-aisle.
- This region will generate \$17.7 billion in civil aviation MRO expenditures in 2016.

## **Western Europe**

- At \$1.7 billion, the region will have the second-highest airframe heavy maintenance expenditures in 2016, after North America.
- Engine maintenance needs will generate \$4.6 billion in 2016.

### **2.2.6. The need for change to improve organizations operational Performance**

As seen before, Airlines by their very nature combine huge, perpetual fixed costs with inconsistent demand. This makes them extremely vulnerable to any kind of disturbance. Because of these challenges, airlines are faced with the need to rethink their business strategies. Reducing costs and boosting profits top the priority list of major airlines. The years have seen a multitude of economic downturns, wars, acts of terrorism, diseases, aircraft crashes, and strikes suddenly shrink demand for air travel. Meanwhile, the costs of jet fuel and aircraft maintenance go up, up, and up. Survival demands that cost control must be a major ongoing effort for every airline in good times as well as bad maintenance as maintenance costs are out of control. A far better way to control maintenance cost is to reduce the cost of maintenance materials. Savings on spare parts can definitely help an airline's bottom line as it helps to to reduce major costs like material and maintenance, repair and overhaul costs and improve the quality of the services being delivered.

Bisignani (2004) stated that "business processes become complex through time. Our customers want value, not complexity". Although most airlines have taken steps to simplify their processes, more dramatic changes and a supply chain revision are still needed (Taneja, 2004). Therefore, airlines are urged to focus on their core business processes and continue to strategic sourcing (Bisignani, 2003; Feldman, 1997). Wensveen (2007) argued that the top three costs for airlines are fuel, labour and maintenance

### **2.3. Conceptual Frame work**

Gilley *et al.* (2004) stated that the vast majority of the research on strategic sourcing has focused on the understanding of sourcing determinants and the decision-making process, especially in manufacturing firms. Little attention has been paid to the sourcing results in the service sector (Espino-Rodriguez and Padron-Robaina, 2004). A few observations have been made in the literature about the implications and outcomes of strategic sourcing within the airline industry. However, these observations often tend to focus on the scope and nature of strategic sourcing and the type of business model adopted by an airline. There is a notable absence of literature exploring the extent and type of sourcing, and the specific motives and factors behind strategic sourcing decisions in the airline industry. A holistic view of the determinants of strategic sourcing for the airlines, i.e. *external and internal factors and motives*, is deemed necessary. Moreover, sourcing practices and their implications within the airline industry have not been studied in detail. Taneja (2004) has highlighted that restructuring airlines' supply chains has been a poorly examined research field. Although it is generally believed that strategic sourcing has become an attractive option for many airlines, current sourcing practices in the airline industry have not been thoroughly understood. Finally, the implications of strategic sourcing in aviation performance have not been confirmed. Conflicting viewpoints and the scarcity of studies examining this relationship can be identified in the review of literature on sourcing.

The present study seeks to fill in the research gaps by examining the role of strategic sourcing within Ethiopian airlines. In particular, the study aims to identify the determinants of strategic sourcing and examine current sourcing practices within Ethiopian airline.

The independent variables of the study are supplier development, Contract management, Supplier relationship management and rationalization of supply chain while the dependent variable is organizational performance (i.e Ethiopian Airlines).

**Independent Variable**

**Dependent Variable**

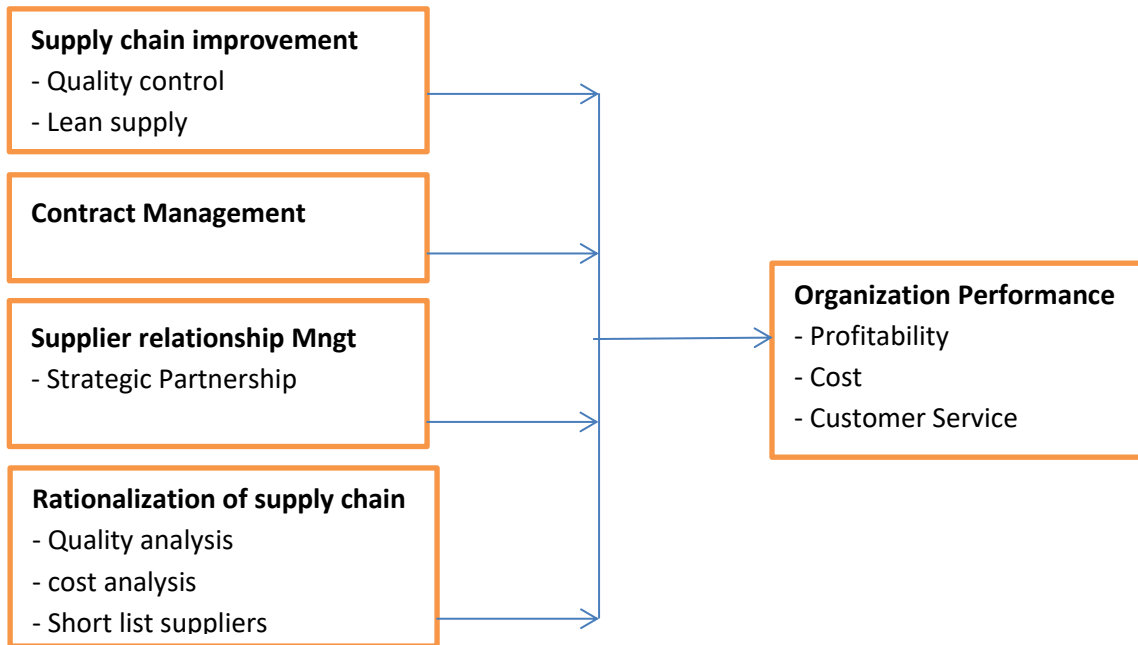


Fig.9. Conceptual Framework

**a- Supply chain Improvement**

The essence of continues improvement in the perfection of supply chain activities between the buyer and the supplier contributes to success of the overall performance of an organization. Ideally, providing a means for identifying best practices, providing a structure for sharing knowledge and earning the methods and techniques partners can use to make improvements, forms the basis of high performance in the supply function, thus a successful organization performance. On the other hand, in cases where there is no room for continues improvement ,the function of supply chain makes minimal progresses in its performance (Sanjay 2000).the distinct activities based on continuous improvements encompasses :quality control, quality assurance ,consolidation of cross functional teams and lean supply .

### **b- Buyer supplier relationship**

Companies that embrace the essence of relationship with suppliers in areas of transaction eventually create room for win-win situation approach in their primary activities. This attribute enables companies in question to increase benefits from each other since every company works for the best of each other. Hence this ensures a high degree of supply performance (Lysons 2000). The main activities under buyer supplier relationship entail: supplier visits, early purchase involvement, long term partnership with supplier and provision of supplier conference forums.

### **c- Rationalization of supply chain base**

This entails the issue of narrowing down the sourcing entities in the procurement function through establishing only the best valuable suppliers to deal with .Reduction of supply base paves way to high degree of efficiency in procurement function and this attribute translates to success in an organization performance (Lyson2000).the activities under this are : quality analysis, technical analysis ;cost analysis and information flow analysis and short listed suppliers and maintenance service providers .

### **d- Contract Management**

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

Contract management includes monitoring and documenting performance. Depending on the organization and goods or services procured, daily/regular monitoring of the contract may be primarily the responsibility of the requisitioner.

The stages of contract management are intended to ensure that the parties work together to achieve the objectives of the contract. Contract management is based on the idea that the contract



is an agreement, a partnership with rights and obligations that must be met by both sides to achieve the goal. Contract management is aimed not at finding fault, but rather at identifying problems and finding solutions together with all contracting parties involved.

Once the contract has been awarded, the responsible procurement officer, or the requisitioner, monitors performance, collects information, and measures actual contract achievement. This is essential for effective control. The resources devoted to these tasks, and the techniques used to perform them, will depend on the nature of the contract work, the size and complexity of the contract, and the resources available.

A sound contract management of a project revolves around control of cost, time, quality and resources. Cost control means the execution and completion of the project within the agreed time schedule; quality control means execution of the project in conformance with technical requirement and specification; resource control refers to the management resources personnel, equipment, and supplies. (CIPS, 2007)

### **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

### **3.1. Research Approaches**

The two basic approaches in social sciences research are qualitative and quantitative orientation. However, the literature suggests a growing interest in a mixed method approach (triangulation) following on from the argument that 'one is used to strengthen the other. Often, combining qualitative and quantitative methods, also known as the triangulation of methods, can capture a more holistic, complete and contextual view of a phenomenon (lick, 1979).

In this study, a holistic analysis of strategic sourcing determinants, current practices and impact on performance is imagined. Even though a qualitative orientation is predominant, the quantitative analysis contributes to produce a more in-depth understanding of strategic sourcing in the airline industry. Considering the emphasis on the understanding of current practices, the main activities being sourced and the implications of strategic sourcing in performance objectives and the overall performance of Ethiopian airlines, it seems appropriate to utilize mixed methods. The study seeks to empirically examine the strategic sourcing phenomenon within Ethiopian airlines.

This study combined published statistical data reports, secondary data, was used as the selected quantitative method, and an exploratory case study and semi-structured interviews used as the selected qualitative method.

### **3.2. Research Design**

Churchill (1999, p. 98) explains research design as "the framework or plan for a study, used as a guide in collecting and analyzing data. It is the blueprint that is followed in completing a study. It resembles the architect's blueprint for a house". However, there is no single perfect design of conducting research. There are different classifications of research design reported in the literature. The most useful classification is based on the objectives of the research: Exploratory, Descriptive, or Causal (Cooper and Schindler, 2008; Churchill, 1999).

Descriptive research design was used in this study. Under this stage, the study fulfills the objectives of descriptive research by getting an in-depth knowledge of strategic sourcing determinants and

sourcing current practices within Ethiopian airline and investigating the implications of these variables in the performance of Ethiopian.

### **3.3. Data Sources and Types**

This study was aimed to draw the borders of strategic sourcing within Ethiopian airlines. At this point, researcher conducted studies on literature review and interviews with the case company. Hence, it can be understood as results were gained by both qualitative and quantitative research methods. First and foremost, it is obvious to get knowledge about global sourcing. Literature search is done and presented in theory part of the thesis to achieve it.

Also, Ethiopian annual reports and different company news letters were reviewed for preparation of finding part of the thesis. According to research of author, questions were prepared to figure out company's strategies on global sourcing, which were also asked to company responsible on interview. Besides, in this thesis, statistical data and graphs were involved from the analyses of different statistical data from strategic sourcing sections.

### **3.4. Data Collection Procedure**

- To disseminate survey questionnaire E-mail was used for those having an access and were delivered the questionnaire in person for those who does not have. The questionnaire was focused on the importance of strategic sourcing and performance related factors that are clarified from literature review and from overall survey.
- Second source of data is collection was interview. In this study, structured interview have been organized. Here workers from various sections within logistics and supply chain management, and engine maintenance participated. The data collection phase of the literature review involved exhaustive search of many of readily accessible international supply chain management journals and books wrote in the area of the supply chain and also Ethiopian airlines newsletters and annual reports, system data's were used .

### **3.5. Population and Sample**

The population on focus in this study comprised of the employees of Ethiopian airlines from; Logistics and Supply Chain division and Engine Maintenance especially the management group which has a population size of Two hundred twenty five. These peoples are from seven distinct sections which are from Strategic Sourcing Technical , Strategic sourcing Non-Technical, General purchase, Logistics management, Engine and Mechanical parts purchase, Avionics and Interior parts purchase, and Engine Maintenance.

**Sample Size:** The research will consider a total population of 225 employees as a unit of analysis for this study purpose. From the total population size, a sample size is determined to be 70 of the total population. Thus, a sample of seventy employees will be selected using simple random sampling technique. Questionnaire and interview will be conducted for the selected sample size.

Sample size was calculated using the formula

$$n = (Z \alpha/2)^2 (P(1-p)/Sd^2)$$

$Z_{\alpha/2}$  is the abscissa of the normal curve that cuts off an area  $\alpha$  at the tails;

$(1 - \alpha)$  equals the desired confidence level,

$e$  is the desired level of precision,

$p$  is the estimated proportion of an attribute that is present in the population, and  $q$  is  $1-p$ .

The value for  $Z$  is found in statistical tables which contain the area under the normal curve.

### **3.6. Data Analysis**

The collected data were organized, classified, coded and encoded into a computer. The variety of information collected from questionnaires being tallied and tabulated. Then, it was analyzed using SPSS software to calculate percentages and to produce tables and bar graphs. The qualitative data gathered using the interview then interpreted and presented in a narrative form. After analyzing the data the findings were summarized and then appropriate conclusion drawn with possible recommendations.

## **CHAPTER FOUR: FINDINGS AND ANALYSIS**

#### 4.1.Data Presentation and Analysis

The assessment of this study is based on the sample of 70 respondents. The researcher was able to collect all distributed questionnaires and there are no uncollected questionnaires. In addition, an interview was conducted especially for some management staffs including Dir. Procurement and supply chain management and Dir. Engine maintenance and other staffs form P&SCM and engine maintenance to gather their personal opinion regarding role of strategic sourcing on Ethiopian airlines operational performance.

**Table 5. respondents Statistics**

		Supply chain improvement	Contract management	Supplier relationships management	Rationalization of supply base	Organization Operational performance
N	Valid	70	70	70	70	70
	Missing	0	0	0	0	0

#### 4.2. Characteristics of Sample respondents

**Table 6. Gender composition of respondents**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	46	65.7	65.7	65.7
	2	24	34.3	34.3	100.0
Total		70	100.0	100.0	

From a total of 70 respondents 46 of them which is equivalent to 65.7% are Male and the remaining 24 respondents are Female with 34.3%.

**Table 7. Age status of the respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18-25	7	10.0	10.0	10.0
26-35	45	64.3	64.3	74.3
36-45	13	18.6	18.6	92.9
above 45 years	4	5.7	5.7	98.6
5.00	1	1.4	1.4	100.0
Total	70	100.0	100.0	

As shown in the above table, majority of the respondents are within 26-35 age groups by 64.3 percent and the next highest age group is with 36-45 by 18.6%.

**Table 8. respondents Level of education**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid diploma	8	11.4	11.4	11.4
degree	47	67.1	67.1	78.6
masters	15	21.4	21.4	100.0
Total	70	100.0	100.0	

Majority of the respondents are Degree holders followed by Masters Level and Diploma at last.

**Table 9. respondents work experience**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	12	17.1	17.1	17.1
2	38	54.3	54.3	71.4
3	15	21.4	21.4	92.9
4	5	7.1	7.1	100.0
Total	70	100.0	100.0	

**Note:** 1 = less than 5 years, 2 =5-10 years, 3=10-15 years, 4= above 15 years

The results indicate that majority of the respondents have worked between 5 and 10 years.

#### 4.3. Data Findings on major research Variables

The research questionnaire covered different variables that were expected to explain the objective of the research. In doing so, respondents were asked appropriate questions to assess their respective opinion towards the variables considered regarding the role of strategic sourcing in Ethiopian airlines operational performance. The four independent variables used in this study are Supply chain Improvement, contract management, supplier relationship and Rationalization of supply base.

The respondents were requested to indicate how these four variables influenced organization’s operational performance in a Likert scale and to reply for open ended questions. The range was ‘Strongly Agree’ (SA) equivalent to 1, ‘agree’ (A) (2), ‘Neutral ‘(N) (3), ‘Disagree ‘(D) (4) and ‘Strongly disagree ‘ (SD) (5).

**4.3.1. Findings on supply chain improvement in operational performance of the organization.**

The study sought to find out the influence of supply chain improvement in operational performance of the organization. A majority 55.7% of the respondents strongly agreed that supply chain improvement helps to get a quality product and service delivery. 61.4% also agreed that Ethiopian MRO has supply chain strategy that creates for its operational activities & its customer. 47.1% strongly agreed continues improvement helped in reducing cost by improving the supply chain. 61.4% agreed that current ET MRO supply chain is well integrated. 55.7% strongly agreed that continues improvement in the supply chain increase operational efficiency of the ET MRO. 50% of the respondents agreed that procurement division has a metrics to measure the performance of the supply chain and 31.4% disagreed. 44.3% of the respondents strongly agreed currently ET MRO facing operational disruption due to misalignment across the supply chain.

**Table 10. Supply Chain Improvement**

Item	1	2	3	4	5
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Supply chain improvement helps to get better product quality, lead time and Service delivery.	39 (55.7%)	31(44.3%)	0 (0%)	0 (0%)	0 (0%)
ET MRO has Supply chain strategy for the company and it creates value for the MRO and its customers	23 (32.9%)	43(61.4%)	0 (0%)	4(5.7%)	0 (0%)
Supply chain improvement helps in reducing cost across the supply chain and increased profitability	33(47.1%)	21(30%)	0 (0%)	16(22.9%)	0 (0%)
Existing ET supply chain is well integrated from source to end.	5(7.1%)	43(61.4%)	5(7.1%)	17(24.3%)	0 (0%)
Continues improvement enhances operational efficiency and helps to streamline entire supply chain.	39(55.7%)	31(44.3%)	0 (0%)	0 (0%)	0 (0%)
P&SCM has developed a metrics that is used to measure and/or assess supply chain performance.	13(18.6%)	35(50%)	0 (0%)	22(31.4%)	0 (0%)
MRO experience critical parts supply shortages and operational disruption due to unaligned supply chain?	31(44.3%)	26(37.1%)	13(18.60)	0 (0%)	0 (0%)

Supply chain improvement is also importance to boost customer service , Lower inventory levels and higher inventory turns , reduce operating cost, Shorter lead times, creates visibility into customer demand and supplier performance and enable earlier and quicker decision-making (Joe Andrews , 2014)

#### 4.3.2 Findings on contract management in operational performance of the organization

The study sought to find out the influence of Contract Management in operational performance of the Organization. 61.4% respondents agreed that Key performance indicators were set by strategic sourcing to monitor supplier’s performance. Again, 61.4% agreed contract management let to finalize projects within the budget and time frame. 50 % of the respondents disagreed contract management is not a major factor to ET MRO to get competitive advantage. 51.4% strongly agreed contract management led to reduction of ET MRO Supply chain cost. 52.9% strongly agreed that long term contract helps to avoid critical situation. And finally, 55.70 of the respondents agreed on the fact that Contract management leads to effective supply chain.

**Table 11. Contract Management**

Item	1	2	3	4	5
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Key performance indicators (KPIs) were set to monitor performance of suppliers	3 (4.3%)	43(61.4%)	18(25.7%)	6(8.6%)	0 (0%)
Contract management has led to completion of projects within set budget and period.	24(34.3%)	43(61.4%)	3(4.3%)	0 (0%)	0 (0%)
Contract management has enabled ET achieve its competitive advantage	17(24.3%)	0 (0%)	18(25.7%)	35(50%)	0 (0%)
Contract management has led to reduction on supply chain cost	36(51.4%)	32(45.7%)	2(2.9%)	0 (0%)	0 (0%)
Long term contract helps ET MRO to avoid AOGs situations due to Critical and NO-GO parts shortage	37(52.9%)	27(38.6%)	6(8.6%)	0 (0%)	0 (0%)
Contract management leads to effective supply chain?	24(34.3%)	39(55.70)	7(10%)	0 (0%)	0 (0%)

Contract Management, which can be defined as the execution and monitoring of a contract for the purpose of maximizing financial and operational performance and minimizing risks, involves tracking purchases against contracts to insure preferred suppliers are used, rates adhered to, and discounts and rebates collected. Contract Management is important, because, as mundane as it sounds, it is another part of the sourcing process that can bring a number of benefits to the organization (David bush, 2007).

### 4.3.3 Findings on supplier relationship management in operational performance of the organization

The study sought to find out Supplier Relationship Management in operational performance of the organization. 72.9% strongly agreed ET has strong partnership with suppliers that provides strategic items. 47.1 strongly agreed supplier relationship led to improved lead time. Also, 41.4% of the respondents strongly agreed that partnership with the suppliers helped to get price advantage. 48.6% strongly agreed supply chain integration with partners led to improve customer service. 54.3% are in agreement long term relationship leads for supplier complacency. 60% strongly agreed ET MRO operational performance enhanced by supplier relationship. Finally, 60% of the respondents strongly agreed that supplier relationship help to have proper procurement pan.

**Table 12. Supplier relationship management**

Item	1	2	3	4	5
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ET has partnered with suppliers who supply strategic items	6(8.6%)	51(72.9%)	0 (0%)	13(18.6%)	0 (0%)
Strategic alliance with our suppliers has led to reduction on lead time	33(47.1)	29(41.4%)	8(11.4%)	0 (0%)	0 (0%)
Arm's length relationship with our suppliers enables us take advantage of the best available prices	29(41.4%)	28(40%)	13(18.6%)	0 (0%)	0 (0%)
Vertical integration with supply chain partners has led to improve customer service	34(48.6%)	32(45.7%)	4(5.7%)	0 (0%)	0 (0%)
Long term relationship has led to supplier complacency	24(34.3%)	38(54.3%)	8(11.4%)	0 (0%)	0 (0%)
Supplier relationship management enhances ET MRO operational performance.	42(60%)	28(40%)	0 (0%)	0 (0%)	0 (0%)
Supplier relationship helps to have effective procurement plan	42(60%)	28(40%)	0 (0%)	0 (0%)	0 (0%)

Companies that embrace the essence of relationship with suppliers in areas of transaction eventually create room for win-win situation approach in their primary activities. This attribute enables companies in question to increase benefits from each other since every company works for the best of each other. Hence this ensures a high degree of supply performance (Lysons 2000). The main activities under buyer supplier relationship entail: supplier visits, early purchase involvement, long term partnership with supplier and provision of supplier conference forums

**4.3.4 Findings on rationalization of supply base in operational performance of the organization.**

The study sought to find out Supplier Relationship Management in operational performance of the organization. 47.1% of the respondents strongly agreed rationalization of supply base plays a very good role to enhance the efficiency of the procurement function. 67.1% strongly agreed rationalization of supply chain is the right approach for ET MRO. 64.3% strongly agreed large supplier list results in inefficiencies in the operation. 52.9% are in agreement rationalization of supply base helps to better manage the suppliers. Lastly, 44.3% agreed rationalization of supply base have positively affects the supply performance.

**Table 13. Rationalization of supply base**

<b>Item</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
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Narrowing of supply base and dealing with selected suppliers enhance the efficiency of procurement function?	33(47.1%)	30(42.9%)	0 (0%)	7(10%)	0 (0%)
A short listing supplier is effective way for ET MRO operational requirements.	7(10%)	47(67.1%)	0 (0%)	16(22.9%)	0 (0%)
Having a large supplier base results in inefficiencies being built into the process	45(64.3%)	25(35.7%)	0 (0%)	0 (0%)	0 (0%)
Rationalization supply base helps in better management of suppliers	33(47.1%)	37(52.9%)	0 (0%)	0 (0%)	0 (0%)
Rationalization of supply base positively affects supply performance	18(25.7%)	31(44.3%)	21(30%)	0 (0%)	0 (0%)

Reduction of supply base paves way to high degree of efficiency in procurement function and this attribute translates to success in an organization performance (Lyson2000).the activities under this are: quality analysis, technical analysis; cost analysis and information flow analysis and short listed suppliers and maintenance service providers.

#### 4.3.5. Operational performance of the organization

**Table 14. Operational performance**

Item	0-20%	21-40%	41-60%	61-80%	81-100%
Strategic sourcing results in increased profitability by the following percentage	0 (0%)	24(34.3%)	46(65.7%)	0 (0%)	0 (0%)
Strategic sourcing has helped reduce the cost by the following percentage	0 (0%)	0 (0%)	44(62.9%)	26(37.1%)	0 (0%)
Strategic sourcing has helped to improve our product quality by the following percentage	0 (0%)	15(21.4%)	39(55.7%)	16(22.9%)	0 (0%)
Strategic sourcing has contributed to the competitive advantage ET by the following percentage.	0 (0%)	18(25.7%)	37(52.9%)	15(21.4%)	0 (0%)
Customers have been satisfied due to improved product and service delivery by the following percentage.	1(1.4%)	23(32.9%)	28(40%)	18(25.7%)	0 (0%)
Timely delivery of goods and services affects organizational performance by the following percentage.	1(1.4%)	11(15.7%)	34(48.6%)	24(34.3%)	0 (0%)

#### 4.4. Inferential Statistics:

#### 4.4.1 Correlation Analysis

Table 15. Correlations

Control Variables		supply chain improvement	contract management	supplier relationships management	rationalization of supply base	
organization performance	supply chain improvement	Correlation	1.000	.267	.114	.025
		Significance (2-tailed)	.	.027	.350	.839
		Df	0	67	67	67
	contract management	Correlation	.267	1.000	.053	.069
		Significance (2-tailed)	.027	.	.666	.573
		Df	67	0	67	67
	supplier relationships management	Correlation	.114	.053	1.000	.051
		Significance (2-tailed)	.350	.666	.	.680
		Df	67	67	0	67
	rationalization of supply base	Correlation	.025	.069	.051	1.000
		Significance (2-tailed)	.839	.573	.680	.
		Df	67	67	67	0

- Supply Chain improvement is positively and significantly correlated with contract management with  $r=0.267$  and  $P\text{-Value}=0.027 < 0.05$
- Supply Chain improvement is positively correlated with supplier relationships management with  $r=0.114$ .
- Supply Chain improvement is positively correlated with contract management with  $r=0.025$

- Contract management is positively correlated with supplier relationships management with  $r = 0.053$
- Contract management is positively correlated with rationalization of supply base  $r=0.069$
- Supplier relationships management is positively and significantly correlated with rationalization of supply base with  $r= 0.051$

#### 4.4.2. Reliability

**Table 16. Case Processing Summary**

		N	%
Cases	Valid	70	100
	Excluded <sup>a</sup>	0	0
	Total	70	100.0

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

**Table 17. Reliability Statistics**

Cronbach's Alpha	N of Items
.85	5

Cronbach 'Alpha>0.70

Sins: High Reliability

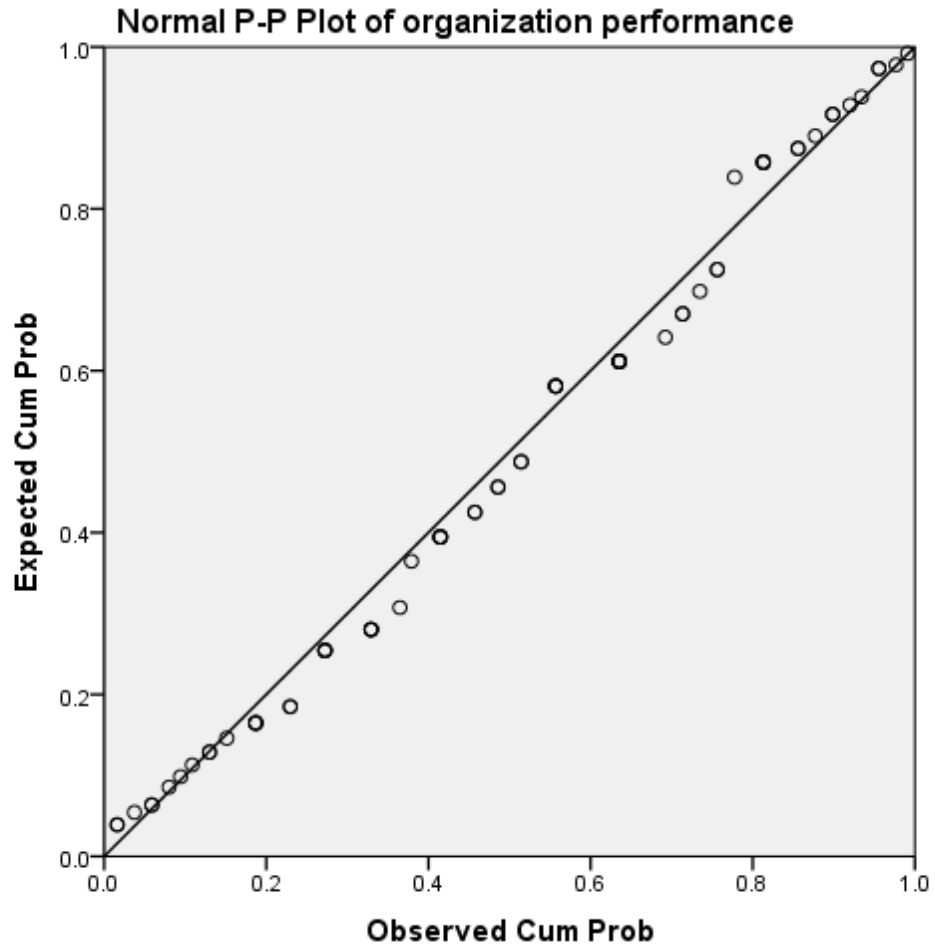


Fig. 10. Probability chart

#### 4.4.3. Regression Analysis

Table 18. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.551 <sup>a</sup>	.323	.039	0.58211

a. Predictors: (Constant), rationalization of supply base, supplier relationships management, supply chain improvement, contract management

**Table 19. ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	857.889	4	14.472	3.288	.049 <sup>b</sup>
	Residual	6093.311	65	3.743		
	Total	6951.200	69			

a. Dependent Variable: organization operational performance

b. Predictors: (Constant), rationalization of supply base, supplier relationships management, supply chain improvement, contract management

The ANOVA table indicates that the overall model was a good fit since (F-Value=3.288) and P-Value=0.049<0.05)

Therefore, **H0**: Strategic sourcing does affect operational performance of the organization.

**Table 20. Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.340	.415		3.935	.000
	supply chain improvement	.719	.563	.213	3.934	.004
	contract management	.405	.086	.189	3.361	.021
	supplier relationships management	.809	.790	.391	3.772	.002
	rationalization of supply base	.286	.290	.058	3.307	.016

a. Dependent Variable: organization operational performance

*The Model Becomes*

**Organization operational Performance= 0.340 + 0.719** supply chain improvement **+0.405** contract management **+0.809** supplier relationships management **+0.286** rationalization of supply base.

Supply chain improvement is found to have a positive linearly significant on organization operational performance since ( $\beta=0.719$ ,  $\rho =0.004<0.05$ ). One unit of increase in supply chain management results in 0.719 unit increases in organization operational performance.

Contract management positively and significantly affected organization operational performance ( $\beta=0.405$ ,  $\rho =0.021<0.05$ ) Implying one unit change in contract management results in 0.405 unit increase in organization operational performance

Supplier relationships management positively and significantly affected organization operational performance ( $\beta=0.809$ ,  $\rho =0.002<0.05$ ) Implying one unit change in contract management results in 0.809 unit increase in organization operational performance.

Rationalization of supply base positively and significantly affected organization operational performance ( $\beta=0.286$ ,  $\rho =0.016<0.05$ ) Implying one unit change in contract management results in 0.286 unit increase in organization operational performance.

The beta coefficients indicate the relative importance of each independent variable (Supply chain improvement, Contract management, Supplier relationships management and rationalization of supply base) in influencing the dependent variable (Organization operational Performance). Supply relationship management is the most important in influencing the dependent variable since the beta value is high ( $\beta=0.391$ ). Rationalization of supply case is the least influential on the dependent variable with the least beta value ( $\beta=0.058$ ).



## **CHAPTER FIVE: CONCLUSION AND RECOMMENDATION**

### **5.1. Conclusion**

The broad research questions relating to the role of strategic sourcing in organization operational performance was conducted and the findings were analyzed so as to draw conclusions. The study found out that strategic sourcing has a role to play in organization's performance. The study established that strategic sourcing was affected by various factors which include Supply chain improvement, contract management, supplier relationship management and rationalization of supply base.

The research concluded that supply chain improvement an important thing to improve ET MRO operational performance. Also the study concluded that existing supply chain is well integrated and that results in improved product quality, lead time and Service delivery but it still needs continues improvement to enhance the efficiency of supply chain by developing a metrics to control and measure the performance of the supply chain.

The research concluded that ET has key performance indicator to monitor performance of the suppliers. Also, Contract Management has led to completion of projects and within the budget and time frame. It is also concluded that contract management helped ET MRO to have smooth operation by avoiding Critical parts shortages. The research also concluded that contract management is not one major area to focus on to get competitive advantaged.

The research concluded that supplier relationship management is well performed activity in ET and enhanced ET MRO operational performance and led to supplier complacency. Also, rationalization of supply base helped ET to have proper procurement function and control the suppliers. The research also concluded that supply base positively affects supply performance

Finally, the research concluded that rationalization of supply base highly affect the operational performance of ET MRO and followed by supplier relationships management, supply chain improvement, and contract management at the end.

## 5.2. Recommendations

From the finding originating from this study, the followings are researcher recommendations that Ethiopian Airlines has to adhere in order to maximize the benefits of strategic sourcing:

- The study found out that most of signed strategic sourcing contracts are not properly utilized by Tactical purchasing due to various reasons like due to dynamism of the market in regards price. Also, quality difference between what is in the agreements and physically received parts. The company needs to ensure proper contract management.
- The study revealed that currently strategic sourcing section is doing to increase contract coverage for capital items as well as different repetitively purchased aircraft & non aircraft items but existing contract coverage is seen very minimal as compared with the number of line items and the demand from the user and tactical purchasing side. So, that it needs to work towards that.
- Tactical purchase team buying strategic items checking the whole markets across the globe. Rationalization of supply base is necessary as quality of suppliers is more important than the quantity of suppliers.
- The research established that a supply chain management company that is exclusively focused on creating client value through the efficient and effective management of the MRO supply chain process. In order to effectively manage the supply chain there must be a Supplier relationship management strategy.
- Weak follow-up on the execution of strategic signed agreements. This has its own impact in the operation. For instance, engine maintenance agreements need serious follow-up before the agreement is expired because it takes longer time to conclude the agreements. Same for component parts agreements. Researcher recommends automated contract management system that enables contract administration, usage and compliance.

- The research found out that most of the bid requests come late. When product/service are actually required; this creates unnecessary urgency, and affect quality as well as cost. So, the section need to take the lead in initiating projects ahead of time based on user's approved budget.
- The research found out that currently there is a serious problem with incoming and outgoing shipments Logistics management. Long term agreements with different global freight forwarders, customs clearing agents and ground transportation service providers need to be signed in order to streamline the logistics management and the supply chain as whole so that the operation will be supported efficiently.
- The study found out that strategic items coming from China are with inferior quality and not similar with the original sample. The division should not focus on price only or need to clearly define the specification and quality needed when dealing with them. Trying to build long-term partnership in that market is also advantageous.
- Supply chain management should have clear Key performance indicators, so that they can actively monitor the performance of their suppliers. Supply chain management should also be strict with those suppliers who do not finish their contract on time by threatening cancellation of future business or either rewarding those who finish in time for purpose of motivation of suppliers.
- Finally, the study found out that there is a bridge unlinked between the buying section and strategic sourcing division in doing strategic sourcing activities. Because of this gap, some the strategic signed agreements are not worthy and are not strategic items. Inversely, items that need strategic agreements are not done yet. Team work is important to bridge this gap and for betterment of procurement function. The researcher further recommends that procurement should take advantage of transactional kind of relationship especially with those suppliers who supply routine items like aircraft consumables, stationeries in order to take advantage of best available price in the market.

### **5.3. Future Research**

This study is mainly focused on Supplier relationship management, contract management, rationalization of supply base and supply chain improvements in operational performance of the organization. From the research findings, it was noted that there are other aspects affecting organization operational performance and this study can be improved by considering other factors

Future researchers can investigate on other variables that affecting operational performance of the organization like procurement plan, effective spend analysis, cost saving, supply chain risk management.

Also, this research should be tested replicating in other airlines and the results can be compared so as to establish whether there is consistency among the airlines on the role of strategic sourcing in operational performance of the organization. Then new comparisons can be generated in the future. In this manner, new concepts can be generated by analyzing the different airlines and this also provides a big picture for the subject to observe similarities and diversities on the implications. This is because different airlines have different practices in strategic sourcing.



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## **Appendix A – Questionnaire**

**Part A: Demographic related Information**

- 1. Gender : Male  Female
- 2. Age : 18-25  26-35  36-45  above 45 years
- 3. Department \_\_\_\_\_
- 4. Current Position \_\_\_\_\_
- 5. Level of education
  - a) Certificate
  - b) Degree
  - c) Diploma
  - d) Masters
  - e) Other (please specify) \_\_\_\_\_
- 6. How long have you worked with Ethiopian Airlines
  - a) Less than 5 years
  - b) 5-10 years
  - c) 10-15 years
  - d) Above 15 years

**Part B: General Questions about Strategic sourcing and Purchase**

- 1. Does the procurement officer purchase capital equipment's or it is in consultation with strategic sourcing division?  
Without consultation  In consultation with Strategic sourcing
- 2. Who purchases aircraft and non-aircraft materials in ET?
  - a. Procurement officer
  - b. Department that needs it
  - c. Accountant
- 3. How do you source parts in ET?
  - a) Request for proposal (RFP)
  - b) Original equipment manufacturers (OEMs) Catalogue



- c) Surplus market quotation (RFQ)
- d) Search angles (Internet)

4. What sourcing method does the procurement division use?

- a. Single sourcing
- b. Partnership sourcing
- c. Multiple sourcing

5. What are the motives behind strategic sourcing strategies in ET?

- a) Reduce costs
- b) Improve quality
- c) Improve supply chain

6. What factors does ET preferably considers when choosing suppliers?

- a) Price
- b) Quality
- c) Delivery performance
- d) Service performance

7. Do you check regularly and use strategic sourcing signed agreements before placing an order to any other sources?

Yes  No

8. Does ET evaluate and monitor supplier's performance?

Yes  No

9. If the answer for the above is yes, pls, describe the evaluation criteria's and who perform supplier evaluation and monitor their performance?

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**PART C: Supply Chain Improvement.**

	Supply Chain Improvement	1	2	3	4	5
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1	Supply chain improvement helps to get better product quality, lead time and Service delivery.					
2	ET MRO has Supply chain strategy for the company and it creates value for the MRO and its customers.					
3	Supply chain improvement helps in reducing cost across the supply chain and increased profitability.					
4	Existing ET supply chain is well integrated from source to end.					
5	Continues improvement enhances operational efficiency and helps to stream line entire supply chain.					
6	P&SCM has developed a metrics that is used to measure and/or assess supply chain performance.					
7	MRO experience critical parts supply shortages and operational disruption due to unaligned supply chain?					

- 1 = strongly agree (SA)**
- 2= Agree (A)**
- 3= Neutral (N)**
- 4= Disagree (D)**
- 5= Strongly Disagree (SD)**

**PART D: Contract Management**

	Contract Management	1	2	3	4	5
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1	Key performance indicators (KPIs) were set to monitor performance of suppliers.					
2	Contract management has led to completion of projects within set budget and period.					
3	Contract management has enabled ET achieve its competitive advantage					
4	Contract management has led to reduction on supply chain cost					
5	Long term contract helps ET MRO to avoid AOGs situations due to Critical and NO-GO parts shortage					
6	Contract management leads to effective supply chain?					

**Additional related questions**

1. How does contract management leads to reduction of supply chain cost and improves operational efficiency?

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**PART E: Supplier Relationship Management**

Supplier Relationship Management		1	2	3	4	5
1	ET has partnered with suppliers who supply strategic items.					
2	Strategic alliance with our suppliers has led to reduction on lead time					
3	Arm's length relationship with our suppliers enables us take advantage of the best available prices					
4	Vertical integration with supply chain partners has led to improve customer service					
5	Long term relationship has led to supplier complacency.					
6	Supplier relationship management enhances ET MRO operational performance.					
7	Supplier relationship helps to have effective procurement plan					

**Additional related question**

What need to be done to improve buyer supplier relationships? What are the challenges to maintain it?

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How do you see the importance of supplier performance evaluation in line with relationship management?

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**PART F: Rationalization of Supply Base**

	Rationalization of supply base	1	2	3	4	5
1	Narrowing of supply base and dealing with selected suppliers enhance the efficiency of procurement function?					
2	A short listing supplier is effective way for ET MRO operational requirements.					
3	Having a large supplier base results in inefficiencies being built into the process					
4	Rationalization supply base helps in better management of suppliers.					
5	Rationalization of supply base positively affects supply performance					

**Additional Related questions**

What are ET Supply base rationalization criteria's?

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What are the benefits that ET derives from the use of short listed suppliers?

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### **PART G: Operational Performance**

This part of the questionnaire is prepared to obtain views on how strategic sourcing affects operational performance of the organization using the below percentile.

	Organization Performance	0-20%	21-40%	41-60%	61-80%	81-100%
1	Strategic sourcing results in increased profitability by the following percentage					
2	Strategic sourcing has helped reduce the cost by the following percentage					
3	Strategic sourcing has helped to improve our product quality by the following percentage					
4	Strategic sourcing has contributed to the competitive advantage ET by the following percentage.					
5	Customers have been satisfied due to improved product and service delivery by the following percentage.					
6	Timely delivery of goods and services affects organizational performance by the following percentage.					

### **PART G: Final Thoughts**

1. What do you think the benefits of strategic sourcing for ET?

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2. In your opinion, what are the weaknesses and strengths of ET sourcing strategies?

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**Thank you!**

## **Appendix B - Interview Questions**

1. How do you source parts in ET?
2. What are the motives behind strategic sourcing strategies in ET?
3. What factors does ET preferably considers when choosing suppliers?
4. What is the role of Tactical purchase team in sourcing strategic items?
5. What are the challenges in getting strategic items from the markets and how strategic sourcing division is tackling it?
6. Please explain strategic sourcing division possible deliverables to the buying section?
7. Finally, what do you think the strength and weakness of existing sourcing strategies of the company?