



**EFFECTS OF OUTSOURCING PRACTICES ON THE OPERATIONAL
PERFORMANCE THE CASE OF ETHIOPIAN AIRLINES**

By:

NAHOM SEIFU

**A THESIS SUBMITTED TO THE UNIVERSITY, COLLEGE OF BUSINESS AND
ECONOMICS, SCHOOL OF COMMERCE IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTERS OF ART IN LOGISTICS AND
SUPPLY CHAIN MANAGEMENT**

ADVISOR: ZELALEM BAYISA (PH.D.)


JUNE, 2024

ADDIS ABABA, ETHIOPIA

**ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE**

LOGISTICS AND SUPPLY CHAIN POST GRADUATE PROGRAM

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THE CASE OF ETHIOPIAN AIRLINES.**

<u>Zelalem Bayisa (Ph.D)</u>	_____	_____
Advisor	Signature	Date
<u>Kirubel Biruk (Ph.D.)</u>	_____	_____
Internal Examiner	Signature	Date
<u>Gebre Sorsa (Ph.D)</u>		_____
External Examiner	Signature	Date
_____	_____	_____
Dean of Graduate Study	Signature	Date

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DECLARATION

I, the undersigned, declare that this thesis entitled: EFFECTS OF OUTSOURCING PRACTICES ON THE OPERATIONAL PERFORMANCE THE CASE OF ETHIOPIAN AIRLINES is my original work. I have carried out the study with the guidance and support of the research advisor, Dr. Zelalem Bayisa. Any other research or academic sources used here in this study have not been submitted for the award of any degree or diploma program in this or any other institution. All sources of materials used have been acknowledged.

Declared by:

Researcher Name: Nahom Seifu

Enrolment Number: GSE/9473/14

Signature: _____ Date: _____

Addis Ababa, Ethiopia

CERTIFICATION

This is to certify that Nahom Seifu has carried out his research work on the topic entitled, EFFECTS OF OUTSOURCING PRACTICES ON THE OPERATIONAL PERFORMANCE THE CASE OF ETHIOPIAN AIRLINES. The work is original in nature and is suitable for submission for the award of the degree of Master of Arts in Logistics & Supply Chain Management.

Advisor Name: Dr. Zelalem Bayisa

Signature _____ Date: _____

ACKNOWLEDGEMENT

First and foremost, praises and thanks to the God, the Almighty, for his blessings throughout my research work to complete the research successfully.

I would like to gratefully acknowledge my advisor, Dr. Zelalem Bayisa for his advice and feedback in all the ways of doing this thesis work. I would like to thank Addis Ababa University, School of Commerce for hosting me this education program.

I acknowledge my respondents from (Ethiopian Airlines) for their collaboration and friendly approach. While I was conducting my survey, all ET staffs including managers are willing to give their right hands. Finally, I would like to recognize my beloved families for their kind support with their prayer & valuable advice.

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ACRONYMS

- ABC**- Activity-Based Costing
ANOVA-Analysis of Variables
ACS-American Community School
BOA- Bank of Abyssinia
BPO-Business Process Outsourcing
CFO-Chief Finance Officer
EAL-Ethiopian Airlines
EAU-Ethiopian Aviation University
EASA-European Aviation Safety Agency
ECAA-Ethiopian Civil Aviation Authority
EU-European Union
EC- Ethiopian Calendar
ET-Ethiopian
FAA-Federal Aviation Authority
FR-Foreign Repair
ICS- International Community School
IT-Information Technology
KPI- Key Performance Indicator
LT-Lead Time
MLR-Multiple Linear Regression
MRO-Maintenance and Repair Overhaul
NOC-Network Operations Canter
OP-Operational Performance
PLC-Private Limited Company
P&SCM-Purchasing and Supply Chain Management
RBV-Resource Based View
R&D-Research & Development
SLA-Service Level Agreements
SOP- Standard Operating Procedure
SPSS-Statistical Package for Social Studies
TAT-Turn Around Time

TCO-Total Cost of Ownership

TTR-Time to Recover

VIF-Variance Inflation Factor

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ABSTRACT

The concept and practice of outsourcing is growing rapidly all over the world. As organizations see it as an opportunity to achieve strategic goals, improve customer satisfaction, and bring efficiency and effectiveness to operations. This study was based on the following general objectives: to investigate the practice of strategic outsourcing and its impact on the operational performance of ET-MRO. This study used both descriptive and explanatory research designs. The target group for the study was the employees of the Ethiopian MRO business unit working under the CFO of Ethiopian Airlines Group and the purchasing and supply chain management team. For data collection, questionnaire was distributed to 75 employees, management and external individuals were randomly selected for tailored interviews. Data collected from surveys and interviews were analysed using SPSS. In order to verify the validity of the research instruments, the researcher asked for an expert opinion from two senior management employees who were not included in the final study, and a reliability test was also conducted using SPSS. The results of the study were presented in detail using both descriptive and inferential statistics. The finding revealed that there is a gap between the best practices of outsourcing and the current practice of Ethiopian Airlines, especially in relation to company selection and total cost ownership and contract management. Based on the answer to the respondents question and the summary result of the three outsourcings, the study concludes that current outsourcing practices affect the efficiency of ET-MRO operations. The study showed opportunities for improvement in strengthening strategic acidification practices. Based on this, recommendations are made both for practice and for future research aimed at improving performance.

Keywords: Outsourcing Practice, Operational Performance, Company Selection, Contract Management and Total Cost of Ownership

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The concept of outsourcing came from the American terminology “outside resourcing”, meaning to get resources from the outside. The term was later used in the economic terminology to indicate the use of external sources to develop the business, which typically were using their internal resources (Adrian et al., 2012). According to an article published in the Economist, Tim Hindi stated that outsourcing is an old phenomenon that has made its presence felt since the time of the Second World War, knowing a remarkable trend especially after 1990. According to some estimates, in 1946 only 20% of the value added of US goods and services from external sources, 50 years later, the proportion has tripled, reaching 60%. To remain competitive in this complex business environment, business organizations should enlarge their boundaries, creating relationships with others; value creation, in fact, is no longer realized by the only producer, but it is co-created by the entire subject involved in a service network. In this perspective, there is an urgent need for companies to focus on their core competences, delegating entire business processes to specialized service providers.

Outsourcing has grown rapidly during the 1990s (Useem et al., 1998). Some firms outsource the core of their primary activities on the value chain so extensively that they do not engage in ‘production’ as it has been traditionally understood (Tempest, 1996). Other firms, in contrast, are extensively outsourcing secondary activities of their value chains, such as information technology, accounting systems and distribution (Cross, 1995), (Willcocks, 1998). Yet many firms appear to have only a vague understanding as to the risks and benefits of outsourcing, apart from a general idea that it will save resources and allow them to focus on core competencies (Michael Alan Smith, 1998). In spite of the fact that outsourcing is often described as a ‘strategic alliance’, the parties to the outsourcing contract have potentially conflicting interests (Rudy, 1993). In order to outsource intelligently the firm must know both the benefits and risks of outsourcing and the specific determinants of conflict.

The first use of outsourcing in recent history was in the 1950s with time sharing. It lasted for 25 years, but as technology continued to advance, so did new outsourcing ideas. In the 1980s, major consulting firms, such as Arthur Andersen, invented remote management services. As

Alexander Factor writes, “A customer’s systems, networks, and applications were monitored and managed remotely from a Network Operations Center (NOC), and the customer was assured high service guarantees through the implementation of so-called Service Level Agreements (SLAs). Customers liked these services and bought them mostly to ensure availability for their systems and networks. “New models of outsourcing came about in the late 1980s and 1990s with the profound leap in Internet technology and software. Companies could put their resources in other important areas, while leaving outsourced areas to specialize in the area that they found less important; this was sort of a modern “division of labour.”

In Ethiopia, the drill of outsourcing is very low and has been highly subjugated by some noncore functions such as Maintenance, Janitorial, Security and Information Technology Services. Lately, its practice is increasing, and many organizations are using it as one of their management tools. Some of the major companies which are engaged in outsourcing their noncore functions are Ethiopian Airlines, Commercial Bank of Ethiopia, Ethio-telecom, Economic Commission for Africa and many more.

“In April 1964, the Ethiopian Emperor Haile Selassie, by a royal decree, allowed the American Community School (ACS) to be established. The emperor gave the school a 50-year lease on 15 acres of land in Addis Ababa (Sites, 2024). The name of the school was later changed to International Community School of Addis Ababa (ICS) in 1978-79. It is an independent, non-profit, coeducational school, which offers an educational program as its core business from early childhood through grade 12 for students of all nationalities. The school is found in Addis Ababa. The school was founded in 1964 and it has an enrolment of nearly 1,000 students from over 67 nations. ICS is accredited with the Middle States Association of Colleges and Schools under the protocol entitled Pathways. There has been a growing number of students’ enrolment and increased staff. Due to this, there was workload on the internal staff and their performance was minimized and the outcome of the services compromised as well. Therefore, the school decided to outsource non-academic part of its service from another service providers and outsourcing practice was put in place since 2002. The school first started outsourcing its landscaping/gardening service followed by janitorial/cleaning, security, and setup services, respectively. Currently the landscaping/ gardening service is provided by Bora Garden PLC, its janitorial/cleaning service by Fire Works PLC, setup services by Siltun Balemuya PLC (SBACO) and Security and Safety service by Securicor Ethiopia PLC. The school decided to outsource only part of the security and safety service due to highly intensive need in this area.

Ethiopian Airlines (Ethiopian) has had more than 75 years of successful journey which made it the leading Aviation Group in Africa. Of course, Ethiopian is ageing beautifully. Ethiopian was a pioneer in ushering in new aviation technology into Africa including the first jet airplane as well as the first B767, B777-200LR, B787 Dreamliner, and 787-9 in the continent. Ethiopian also led the way in operating Africa's first Airbus A350 XWB. Currently, the airline has a fleet of more than 144 modern aircraft with average fleet age of five years; it also has 31 ultramodern aircraft on order. Living its motto of Bringing Africa Together and Beyond, Ethiopian has created Africa-wide and transcontinental air connectivity networks linking its main hub Addis Ababa to the rest of the world. The airline serves 131 international passenger and cargo destinations, including 63 African cities, with daily and multiple flights with a minimum layover in Addis. Over the years, the multi-award-winning airline has received countless coveted accolades and recognitions for its excellence, including Skytrax's Four-Star Airline Certification and Best Airline in Africa title for 5 consecutive years, and Overall Excellence for Outstanding Crisis Leadership Award in 2020 to mention but a few (Ethiopian Airlines Corporate, 2024).

1.2 Statement of the Problem

Outsourcing maintenance, repair & overhaul activities are becoming very common with many organizations today. Outsourcing is a popular practice in business whereby organizations move some of a firm's internal activities and decision responsibilities to outside providers in order to enhance their productivity in their operations and service delivery (Chase et al., 2004). In an effort to improve production efficiency and to lower costs, firms have begun to look beyond their own boundaries. Specifically, firms appear to be focusing on functions key to competitive advantage and are outsourcing other low-value-added activities to the members in their supply chains (Hilmer, 1994); (Anagnostou, 2004).

Many companies have realized that they simply don't have the required set of skills among their present employees or they don't have luxury of time to train employees to acquire new skills in which case, working with a vendor who could provide required skill sets becomes a preferred option for outsourcing the talent (Katherine et al., 1994). It is also observed that companies believe that the competencies required for the services or tasks are not the part of core services of the company hence outsource those tasks instead of developing those competencies in-house. Maintenance, Repair, and Overhaul (MRO) in the aerospace sector encompasses a range of essential activities. These are focused on preserving and enhancing aircraft cabin interiors and components. These processes are crucial for ensuring the: safety,

comfort, and efficiency of commercial and private aircraft. The aviation industry's dependence on safe and well-maintained aircraft is paramount. MRO plays a pivotal role in achieving this goal (Expo, 2024).

Ethiopian MRO is one of the seven business entities in Ethiopian airlines group owned by Ethiopian government. It is a world class MRO and one of the leading maintenance providers in Africa and in the middle east. It's head quarter is located in Ethiopia, Addis Ababa bole international airport. Ethiopian MRO Services is a division of Ethiopian and is established in 1957 to provide MRO services for aircraft, engines and components of Ethiopian and third party customers. Ethiopian MRO has Six main hangars used for airframe maintenance. A closed-door hangar to accommodate one B767/787/777, a closed door hangar to accommodate two B767/787s or four B737 size airplanes at the same time. The third hangar is open-door and can accommodate three B737 size airplanes and the fourth is an open door hangar that accommodates two Q400s (Ethiopian Airlines Corporate Website, 2024).

Before a newly developed aircraft model enter into operation, it must obtain a type certificate from the responsible aviation regulatory authority (EASA, FAA & ECAA). Since 2003, EASA is responsible for the certification of aircraft in the EU and for some European non-EU Countries. This certificate testifies that the type of aircraft meets the safety requirements set by the European Union (European Union Aviation Safety Agency , 2024). Ethiopian Airlines have six approved maintenance hangars that has secured regulatory authorities approval to conduct repair, maintenance and overhaul activities and same will apply to component repair shops. Those shops who has fulfilled the standard requirements of regulatory authorities have secured in-house repair capability but who has failed to meet the standard requirements like; the required skilled labour force, facilities and equipment/machinery may not be certified and they are forced to look for 3rd party service providers. The researcher wants to examine the effects of outsourcing practices to 3rd party service providers on the overall operational performance of the company.

The main reason that ignites me to conduct this research is to know the effect of outsourcing practices on the operational performance of the company. Thus, the researcher tried to assess the effects of outsourcing practices by using different variables like; supplier selection, contract management and total cost of ownership on the overall operational performance of the company.

1.3 Research Questions

The research aimed to address the following research questions.

- What are the outsourcing practices of EAL?
- To what levels contract management affects EAL's operational performance?
- What supplier selection practice will affect EAL's operational performance?
- To what extent total cost of ownership affects EAL's operational performance?

1.4 Research Objective

1.4.1 General Objective

The general objective of this study is to assess the effects of outsourcing practices on Ethiopian Airlines MRO operational performance.

1.4.2 Specific Objectives

- To assess the outsourcing practice of Ethiopian Airlines.
- To find out the effect of contract management on Ethiopian Airlines operational performance.
- To examine the impacts of company selection on operational performance of the company.
- To assess the effect of total cost of ownership on operational performance of the company.

1.5 Scope of the Study

Ethiopian Airlines have many operational unit's underneath that operates together to achieve the ultimate goals of the company. Some of those business units are; Ethiopian Aviation University (EAU), Ethiopian Cargo and Logistics Service, Ethiopian Ground Service, Ethiopian Maintenance, Repair and Overhaul (MRO), Ethiopian Airports and Ethiopian Catering Service. The researcher preference or study area is on the outsourcing practices which are performed under MRO business unit/division only because most of outsourcing practices has been performed in this unit and the researcher can get the required information in this area. The target populations are located in Ethiopian Airlines, Bole International Airport MRO premises.

1.6 Significance of the Study

The study will contribute by giving insight on the real effects of outsourcing practices on the operational performance of Ethiopian Airlines MRO division. The primary significance of this study is to show readers how does outsourcing practices will affect the operational performance of a company, examine whether the outsourcing practices of Ethiopian Airlines has meet the

intended purpose or not and also enable the case company to consider the pros & cons of outsourcing practice and decide which activities need to be outsourced and which are not. In general, the outcome of this study will help Ethiopian Airlines to evaluate the outsourced activities have brought the desired result on the operation or not. If it has not brought the desired outcome the company need to stand at some point and evaluate its overall impact and take the required action so that to get the benefits from the outsourcing practice. This research will also be used as a reference for the research that will be done on the same fields of area.

1.7 Limitation of the Study

As mentioned on the scope of the study the study is focused on the experience of Ethiopian Airlines MRO division and the findings of the study may not be generalized to different organizational settings or sectors. A larger and more diverse sample of organizations and project teams from different industries and sectors would increase the generalizability of the findings. The researcher has used only three variables to show the effects of outsourcing practices on the overall performance of the company but there are many other variables that need to be considered.

1.8 Terms and Operational Definition

An Operational Definition gives communicable meaning to a concept by stipulating how the concept is measured and applied within a particular set of situations. If operational terms are not defined well that will result inconsistency and might not give the same results when the study is replicated. So, we have defined the key operational terms that has used in this research.

Supplier Selection-Is the process by which companies identify, evaluate and choose the Suppliers to become part of their supply chain (Ciprian et al., 2017).

Contract Management- Is the monitoring and control of contractor performance to ensure optimal outcomes from a contract. It includes preparing fit for purpose tools (mainly the Contract Management Plan), mobilizing relevant human resources, monitoring progress toward delivery of contract deliverables, managing payments, controlling variations, measuring contractor performance, and closing out the contract (Bank, 2021).

Core Competences- According to Yang (2015) core competence is the efficient integration of knowledge, technology, resources, techniques, employee skills, and management skills of an organization.

MRO- It can be defined as "all actions that have the objective of retaining or restoring an item in or to a state in which it can perform its required function. The actions include the

combination of all technical and corresponding administrative, managerial, and supervision actions” (Society, 2013)

Outsourcing- A simple explanation offered for ‘outsourcing’ is work or jobs moving or crossing over (boundaries) to another firm and for ‘offshoring’ it is work or jobs moving or crossing over (boundaries) to another country (Pereira et al. , 2015)

Operational Performance- It is the foundation of quality practices and the general performance of organisations (Sharma & Modgil, 2020). Operational performance measures how well a company performs its core business activities. It's measured using key performance indicators (KPIs), usually quantifiable measures of a process, process step, or program.

Total Cost of Ownership- Is an estimate of the total costs of goods, services or construction works over the whole of their life. It’s the combination of the purchase price plus all other costs you will incur, less any income you receive. For example: the initial purchase price plus installation costs, operating costs and ongoing maintenance less the residual value on disposal (New Zealand Government Procurement, 2013).

1.9 Organization of the Paper

The research has organized as follows;

The research contains five chapters. Chapter one have the introduction part which comprises background of the study, statement of the problem, research questions, research objectives, scope of the study, significance of the study and limitation of the study. In chapter two related literature review about effect of outsourcing practices on operational performance has been discussed. Chapter three the methodology part which contains research approach, research design and sampling size and research techniques. In chapter four research results has presented and analysed. In the last chapter, research summary, conclusion and recommendation has discussed.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.1 Introduction

This section lay a foundation for the discussion by defining outsourcing, discussing its benefit and weakness, and its impact on the operational performance.

2.2 Theoretical Literature Review

2.2.1 Outsourcing Definition

According to David (2004) Outsourcing is defined as the act of obtaining semi-finished products, finished products or services from an outside company if these activities were traditionally performed internally. In the previous sentence, the word ‘product’ may be replaced by ‘service’. The company that outsources is called ‘buyer’, whereas the company that provides the service is known as the ‘vendor’.

According to Power et al., (2006) outsourcing is made up of two words, “out” and “sourcing”; sourcing refers to “the act of transferring work, responsibilities and decision rights to someone else”. Companies must source out work because there are others who can do it cheaper, and faster. There is much debate in the management literature concerning the definition of outsourcing. Many agree that the core idea surrounding the outsourcing concept involves moving some of the firm’s activities to outside providers. William et al., (1999), has also defined this term saying it is the procurement of products or services from sources that are external to the organization.

In addition, many authors go on to emphasize that outsourcing should involve only activities that have been performed in-house. Espino-Rodriguez et al., (2004) explain that the word outsourcing has widely been used, but often as a synonym for the traditional concept of subcontracting, externalization, make-or-buy decision, and disintegration of activities.

However, Fan (2000) stresses the fundamental difference between outsourcing and these other concepts, arguing that outsourcing involves only an existing internal activity. Embleton et al., (1998) and Oates (1998) argue that the creation of a long-term relationship is key to the outsourcing philosophy. Building on the same principle, Greer et al. (1999) maintain that this long-term perspective differentiates outsourcing from subcontracting. They explain that outsourcing possesses a temporal dimension involving long-term and even permanent

arrangements, whereas subcontracting and contracting out are rather short-term or temporary contractual interactions between two parties.

(Chase et al., 2004) explain outsourcing as the act of not only moving some of a firm's internal activities but also including decision responsibility to outside providers. The terms of agreement are established in a contract. It goes beyond the more common purchasing and consulting contracts because not only are the activities transferred, but also resources that make the activities occur, including people, facilities, equipment, technology, and other assets, are transferred as well. This is usually the case when a firm outsources its employee feeding to a contract foodservice company or when a hotel outsources its restaurant to a well-known restaurant brand.

2.2.2 Purpose of Performance measure

The main intent of measuring organizational performance is to know where we are now and taking the required measures on areas that will require some improvements. According to Moullin (2002) Performance measure is about evaluating how well organisations are managed and the value they deliver for customers and other stakeholders. A clear performance measurement definition can help managers go in the right direction and focus on what really matters. Performance measurement provides the information needed to assess the extent to which an organisation delivers value and achieves excellence. This definition also relates well to the balanced scorecard. The usual four scorecard dimensions –financial, customer, internal processes, innovation and learning—are implied: financial aspects are included in “delivering value”, customers and stakeholders are key to the definition, while internal processes, innovation and learning are central to the way organisations are managed.

2.3 Theories underpinning the study

2.3.1 Resource dependency theory

The resource-based view (RBV) of the firm indicates that firm behaviour may be interpreted as a look for competitive gain. Within the competitive market structure parties in the supply chain seek to get have an impact on over the elements of production, those can offer them with an aggressive facet over their closest competitors (Ahuja, 2000). In strategic management literature, the RBV of the firm plays dominating role (Halawi et al., 2005). Mitra et al., (2017) states that the implementation of value creating method via a company affords a competitive benefit when it's miles current or capacity competition simultaneously not put into effect a value creating strategy. Resource immobility explains the complexity of accomplishing a resource via competition due to the fact the cost of attainment, improvement, acquisition or use that resource is too immoderate. Because of this, the sustainable competitive benefit depends

on these assumptions via imparting a framework for figuring out whether or not a technique or technology provides a real gain over the marketplace. Therefore, the advent of resource diversity (intellectual human capital and skills) and resource immobility (complicated method of constructing/attainment), fosters the sustainable competitive advantage creation and improvement. In a supply chain relationship, even as numerous resources owned or managed through opposite numbers, there can be a complicated supply chain relational function, then that of direct coordination relationship concerning interdependency context (Touboulic, 2015). The RBV means that the reason for introduction of accepts as genuine with based absolutely collaborative value makes ground of assets pooling to shape supply chain relation. Immobility, inimitability, sustainability are a few traits of resources which emphasize on value creation, and thereby assists in improvement of supply chain alliance. Das et al., (2000) said structural possibilities in terms of key four kinds of supply chain alliances (equity joint ventures, minority equity alliances, bilateral contract-based alliances, and unilateral contract-based alliances) which can be determined by using the useful resource profiles of partnering corporations. Consistent with Ahuja (2000) the resources that could offer advantages have three specific characteristics. First, resources can create value for the firm, i.e. they help firms to either lessen cost of inputs which influence on overall cost of manufacturing, or benefit more values of outputs. Second, they may be often organization specific in nature are both unavailable outside the developing company or undergo an attenuation of their cost if separated from true company. Third, resources are probably to be asset-based whose advent calls for accumulation of inputs through the years i.e. cannot be at once developed.

2.3.2 Transaction-Cost Theory

According to transaction-cost theory, the relative transaction and production costs associated with the process or service determines whether to outsource or internalize the process (Mahnke et al., 2007). The three dimensions of transactions include: frequency of transactions, uncertainty, and degree of asset specificity. If all the dimensions of the transaction are found to be low, then the firm will decide to outsource its business processes. This approach highlights the need for a detailed and specific contract between the client and vendor in order to avoid opportunism and performance measuring problems (Zenger et al., 2002). But such formal and highly specific contracts may lead to distrust and opportunism. This view fosters rigidity and distrust among vendors due to its emphasis on over-specification. Transaction cost theory indicates that firms outsource production in order to reduce costs and to achieve cost efficiency. Production cost is the cost incurred to make the product or to provide the service e.g. labour, material, and capital. Coordination costs include monitoring, controlling and

managing the work internally. If the job is handed over to an external vendor, the coordination costs are called transaction costs. Kulmala (2003) says that externally outsourcing of services or production results in lower production 11 costs than doing it internally due to economies of scale. But in such a case the transaction cost is high because vendors need to be managed and monitored. Transaction costs represent “friction in the market” or “cost of using the price mechanism”. Aubert et al., (2004) basic rule states that when the marginal costs of using markets (transaction costs) are higher than the costs of running a firm (management costs), the transaction should be organized within the firm and vice versa. The reasons behind transaction costs are transaction difficulties. These are bounded rationality, opportunism, uncertainty and complexity, small numbers and asset specificity. Based on transaction cost theory, when a firm has already integrated its operational functions, the decision to outsource such functions to the market should be made if it is necessary to create or protect firm value. Complex supply chains and networks may hide the problem of analysing the actual unit cost accumulation. For example, the lowest price supplier in a certain phase of a supply chain may cause a significant cost increase in other phases due to non-optimal activity structure. Therefore, the activity-based costing (ABC) method should not be limited to single phases of a supply chain, as is too often the case in outsourcing; the total unit cost accumulation in a supply chain should be covered (Kulmala, 2003).

2.3.3 Agency Theory

An agent is a person who acts on behalf of another person, the principal, in dealing with other people. For example, a selling agent acts on behalf of a principal, a manufacturer of goods, to sell goods on the manufacturer’s behalf. Similarly, a stock broker is an agent who acts on behalf of a client (the principal) to buy or sell shares on the client’s behalf. The agent acts on the name of the principal, and commits the principal to agreements and transactions. In company law, the directors act as agents of the company. The board of directors as a whole, and individual director, have the authority to bind the company to contractual agreements with other parties. Since most of the powers to act on behalf of the company are given to the board of directors, the directors (and the management of a company) have extensive powers in deciding what the company should do, what its objectives should be, what its business strategies should be, how it should invest and what its targets for performance should be. The researcher has chosen those theories because of those theories have redirect relation with the research topic.

2.4 Outsourcing Practices

The practice of outsourcing has become an increasingly popular method of cost reduction in the business sector. Outsourcing is the process of sub-contracting services and operations to other firms that can do them cheaper or better or both. Many previous sources of literature have shed light on outsourcing practices at businesses. Ehie (2001) claims that companies that adopt a strategic outlook on outsourcing have a better success rate than those that embark on outsourcing as a short-term cost-cutting decision. Outsourcing should be seen as a method to enable the firm to focus on its core competencies. Competitive and market factors such as increasing manufacturing flexibility, reducing inventory investments, ability to respond quickly to changing market requirements are being recognized as some of the real importance of outsourcing. Linder et al., (2002) also mention that outsourcing is a program to change the way a company works to achieve a rapid, sustainable, radical improvement in enterprise-level performance. Franceschini et al., (2003) observed that cost efficiency and production reorganization are the two most significant factors for outsourcing. Companies may concentrate their efforts by outsourcing on core sector, medium-/long-term objectives, and opportunities for diversification.

2.4.1 Supplier Selection-Supplier selection is the process by which firms identify, evaluate, and contract with suppliers. The supplier selection process deploys a tremendous amount of a firm's financial resources. In return, firms expect significant benefits from contracting with suppliers offering high value (Beil, 2009). Supplier selection involves the qualification screening process of supplier's capacity, their financial status, their quality service and their ability to meet our specification.

2.4.2 Contract Management-Refers to the processes and procedures that companies may implement in order to manage the negotiation, execution, performance, modification and termination of contracts with various parties including customers, vendors, distributors, contractors and employees (Gutterman, 2023).

2.4.3 Total Cost of Ownership-Is an estimate of the total costs of goods, services or construction works over the whole of their life. It's the combination of the purchase price plus all other costs you will incur, less any income you receive. For example: the initial purchase price plus installation costs, operating costs and ongoing maintenance less the residual value on disposal (New Zealand Government Procurement, 2013).

2.5 Reason for Outsourcing

The motives why a company decides to outsource can differ greatly. The growing business, competitive advantage, the inability to excel in all activities and other reasons forced many organizations to outsource some or most of their activities. In order to survive in the face of the competitive pressures that arises from an increasing globalization of corporations, organizations today need to perform their activities in the most effective and cost-efficient manner possible.

This has led companies to adjust the scope of their activities to only include those at which they are particularly efficient, creating need to outsource the remaining activities. Drive to be efficient through business process outsourcing can also mean eliminating business activities which are not part of the core competences of the company or otherwise require in-house specialist. In support of the benefits of outsourcing Duening et al., (2005) affirmed that outsourcing internal activities also frees resources to other projects such as R&D. According to Wang et al., (2002) outsourcing is a viable business strategy since turning non-core functions over to external suppliers enables companies to leverage their resources, spread risks and concentrate on issues critical to survival and future growth.

Studies identified many reasons to outsource and many benefits of outsourcing, some of which are the following: cost saving; improvement of services; the ability to access outside expertise; strategic repositioning; strategic sourcing; greater service integration and/or higher value creation; a search for greater efficiency and increased specialization; faster, cheaper and better support functions; solutions to problems created by business reorganization and restructuring; global supply and de-integration; global competition and the need to have fewer suppliers and higher levels of service and quality from them; and contracts with fewer suppliers and closer, long-term relationships with a smaller number of providers (Waugh et al., 2011).

2.6 Business Process Outsourcing (BPO)

According to Scholl (2003) business process outsourcing (BPO) consists of the outsourcing of supply (moving, storing, making and buying of goods and services) and demand (customer selection, acquisition, retention and extension) management, and certain enterprise services (human resources, finance and regulatory, IT and facilities management).

Business process outsourcing (BPO) is a business practice in which an organization contracts with an external service provider to perform an essential business function or task. An organization typically contracts with another business for such services after it has identified a process that, although necessary for its operations, is not part of its core value proposition. This step requires a good understanding of the processes within the organization and strong business process management. BPO has its roots in the manufacturing industry. Manufacturers hired third-party vendors to handle parts of their supply chains after determining that the vendors could bring more skills, speed and cost efficiencies to those processes than an in-house team could deliver. Over time, organizations in other industries adopted the practice. Today, the use of BPO has expanded with for-profit businesses, non-profits and even government agencies outsourcing a range of tasks to service providers located in the U.S., throughout North America and across the world.

2.7 Outsourcing MRO Activity

According to Knotts (1999) the maintenance, repair and overhaul (MRO) business model for airlines is a combination of an airline's technical capability and logistics configuration, including the degree of supply chain vertical integration and outsourcing practices. The main role of an airline's MRO is to provide a fully serviceable aircraft when it is required by the operators at minimum cost and optimum quality. Principal activities include: servicing, repair, modification, overhaul, inspection and determination of condition. By 1989, United States carriers outsourced 25 percent of their maintenance functions or approximately \$218 million to third party firms (Ott, 1993). Maintenance provides a good example since it is a non-core activity. Non-core activities are items that may provide critical functions to the running of the business, but are "not a unique ingredient of the product." (Gillett, 1994). Maintenance is a necessity, but it should not be a unique product ingredient. Every airline must continuously maintain aircraft to provide safe operations, but maintenance is rarely seen as a unique part of the airline service.

2.8 Benefits of Outsourcing Practice

The most significant advantages of outsourcing are focus on core activities, cost savings, access to experience, improving performance, and flexibility. First, many researchers agree on the fact that by handing over noncore activities to a trusted third party, a company can concentrate on activities central to its value proposition and increase its competitive positioning (Fan et al., 2006), (Quinn, 1998). Second, outsourcing in general is held toward one of the main goals as cost savings (Liao KG. et al., 2002), (Lacity MC et al., 2001). The special necessity arises

when a certain resource, either human or equipment resources, is not needed full time, or the efforts to obtain the resource cannot be justified. For example, for a medium-size business keeping technical expertise and maintenance is needed occasionally. Since the cost of hiring and training an engineer who is competent in computer support is too high, it will be beneficial for the organization to outsource this task. Third, by outsourcing companies have the possibility to access to highly qualified personnel, who may not be available to the client organization (Mcivor R, 2005) and fully exploit the suppliers' investments, innovations, and specialist capabilities (CW., 2004). Fourth, an important reason for outsourcing consideration is achievement of an improvement in performance that the outsourcer company might offer due to economies of scale. Large scale can provide a variety of functions and opportunities which will help to save the best available worker, who might not want to work in a less stimulating consumer environment. Additionally, with service providers the level of operational experience is expected to be higher, because of the greater concentration of staff on tasks as compared to internal operations (Allen J, et al., 2003). Fifth, flexibility is the key reason for outsourcing for many companies. Outsourcers' contracts and the jobs of their employees depend on the degree of flexibility to reflect changing business environments.

2.9 Challenges of Outsourcing Practice

Main disadvantages of outsourcing are loss of managerial control over outsourced operations, threat to security and confidentiality, quality problems, hidden costs and reallocation of existing teams. First, disadvantage related to the loss of control over the outsourced operations stems from the reason that managing external resources requires special skills which is a combination of the skills of people and process management, contract management, and power negotiation. Second, almost every outsourcing contract has terms of security and confidentiality spelled out, but the execution and audit are always difficult. In financial services, requirements keep information known to investment bankers away from traders, brokers, and other individuals who might attempt to use such insider information improperly (Jiang J et al., 2003). Third, one reason to outsource is the expectation of receiving better service from the outsourcer than from internal staff. Outsourcer has to be chosen in that particular way to ensure that there is no bad influence on the quality of goods and services produced. Otherwise, company may lose its position on the market (Anderson, 2001). Fourth, company will sign a contract with the outsourcing company that will cover the details of the service that they will be providing. Anything not covered in the contract will be the basis for the company to pay additional charges. For example, an analyst may intentionally exclude costs

to favour one decision, such as selecting one provider versus another, choosing in-sourcing over outsourcing, or staying in a particular business or not (Liao KG. et al., 2002). Fifth, the outsourcing is often related to the firing in employees' minds. It is also a problem for the organization's top management team to decide how to reallocate the existing employees. Often after outsourcing a part of the original team moves from outsourcing party to the outsourced one Bragg, (2006), which in turn causes major changes. According to Bragg, (2006) sponsoring such a major change and seeing it fail can lead to termination of one or more of a company's management staff (Eyles, 1989).

2.10 Key Performance Indicators (KPI)

The purpose of the KPIs is to enable measurement of project and organisational performance throughout the construction industry (Raynsford, 2000). Key performance indicators (KPI) are financial and non-financial indicators that organizations use in order to estimate and fortify how successful they are, aiming previously established long lasting goals.

2.11 Organizational Performance

Currently there are a variety of definitions attributed to the concept of performance due to its subjective nature. In the literature there are many articles or studies that define the concept of performance closely related to environmental factors. Didier (2002) believes that the performance consists in "achieving the goals that were given to you in convergence of enterprise orientations". In his opinion, performance is not a mere finding of an outcome, but rather it is the result of a comparison between the outcome and the objective. Unlike other authors, Didier (2002) considers that this concept is actually a comparison of the outcome and the objective. The performance of an organization is evaluated by how it reduces cost or increases value. The author's definition is far from clear, as both outcomes and objectives vary, most often, from one field of activity to another. Author Michel, (1995) characterizes the performance as future-oriented, designed to reflect particularities of each organization/ individual and is based on a causal model linking components and products. He defines a "successful" business as one that will achieve the goals set by the management coalition, not necessarily one that achieved them. Thus, performance is dependent as much of capability and future. Unlike other authors, (Michel, L., 1995) noted the difference between "a performance", "performance" and "being performant". "A performance" is subject generally to a measured result, higher than that provided for or arising from the previous results. "A performance" thus indicates always a positive connotation. "Performance" can be both positive and negative and relates to past results.

2.12 Empirical Literature Review

Outsourcing is not a novel concept by which business process like; advertising, freight forwarding, human resource, information technology and firework related activities have been contracted to external suppliers. The purpose of outsourcing practices is not deniable, which is the most critical and mandatory in aviation industries because no countries are self-sufficient in the world. Comparative advantage in line with outsourcing practice refers to the products that a country can produce more cheaply or easily than other countries, in an economic model, a comparative advantage refers to an advantage over others in producing a specific good. So, countries that produce a specific product with a low marginal cost can sell it on international market and they can get a large market share than the other countries. In this case other country that cannot produce is recommended to buy from those countries (Richard, B., 2016).

Study by Bisrat, G. (2022), on the effects of service outsourcing on service quality: in the case of Ethiopian cargo & logistics services. This study has conducted to answer the questions about the impact of service outsourcing on the service quality provided by Ethiopian cargo & logistics services, the influence of outsourcing services on the quality of services provided and the relationship between outsourcing of services and service quality provided by Ethiopian Cargo & Logistics Services. The study was conducted on the entity of selected Ethiopian Cargo & Logistics Services, with a total workforce of 120 for the year 2022. The finding of the study concludes that the outsourcing service in Ethiopia is still in its infancy stage but it has significant contribution for Ethiopian Airlines by enabling them to focus on core business functions that are the bases for the organization to achieve & excel its performance, avoid major investment in HR, and reduce operating cost. So, this shows that how outsourcing practices is very determinant factor for the performance of the organization. When I come to ET MRO, they couldn't have maintenance, repair and overhaul capabilities for all components and because of this reason outsourcing some portion of the company's activity is mandatory in order to remain competitive.

The study by Fiseha (2021), on the benefit and challenges of outsourcing practice. The study was intended to check the benefit and challenges of outsourcing practice in the case of ICS. This study has been designed to answer the primary question about factors that has derive ICS Addis to outsource its non-core functions of the business, which non-core business functions have been successfully outsourced, basic consideration to overcome challenges and problems

and maximize the benefits of outsourced services and the attitude of employees of the ICS Addis and employees of outsourced service providers towards the outsourced services. The finding of the study reveal that, the school has faced with different challenges such as inconsistent service quality, inability to measuring the service quality, unethical behaviour of the employees, loss of direct control over the outsourced services. By sharing the values, beliefs and goals of the school and by providing appropriate training and incentives plus developing and implementing effective relationship management programs to the outsourced employees will assist in overcoming the challenges mentioned above.

A study by Selamawit (2022), on the impacts of outsourcing on organizational performance, a case study of Bank of Abyssinia. This study was designed to answer the implication of outsourcing on Bank of Abyssinia performance via its effect on cost saving/cost effectiveness, the impact of outsourcing on Banks performance via its efficiency effect and the impact of outsourcing security services in BOA via key parameters as service quality and customer trust on business performance of the Bank and whether or not BOA has got competitive advantage to other operators in the industry by virtue of outsourcing its security services.

The findings of the study revealed that outsourcing has positively increases on the performance of organizations, it reduces costs of operation, time saving, quality of service and finally that have positive effect on agility of the operation.

2.13 Conceptual Frame work

According to Kombo et al., (2009) a concept is an abstract or general idea inferred or derived from specific instances. A conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. Mugenda et al., (2003) defined a conceptual framework as a hypothesized model identifying the model under study and the relationship between the dependent and independent variables. Kothari (2004) defined an independent variable also known as the explanatory variable as the presumed cause of the changes of the dependent variable, while a dependent variable refers to the variable which the researcher wishes to explain. The goal of the conceptual framework is to categorize and describe concepts relevant to the study and map relationships among them. Such a framework helps the researcher to define the concept, map the research terrain or conceptual scope, systematize relations among concepts and identify gaps in literature (Creswell, 2003). The conceptual framework was then used to analyse the results of the research. Therefore, the present researcher developed a conceptual framework that clearly depicted the relationship

between the independent and dependent variables based on the insights gained from the theoretical and empirical literature review in order to meet the objectives, hypotheses and research questions of the research.

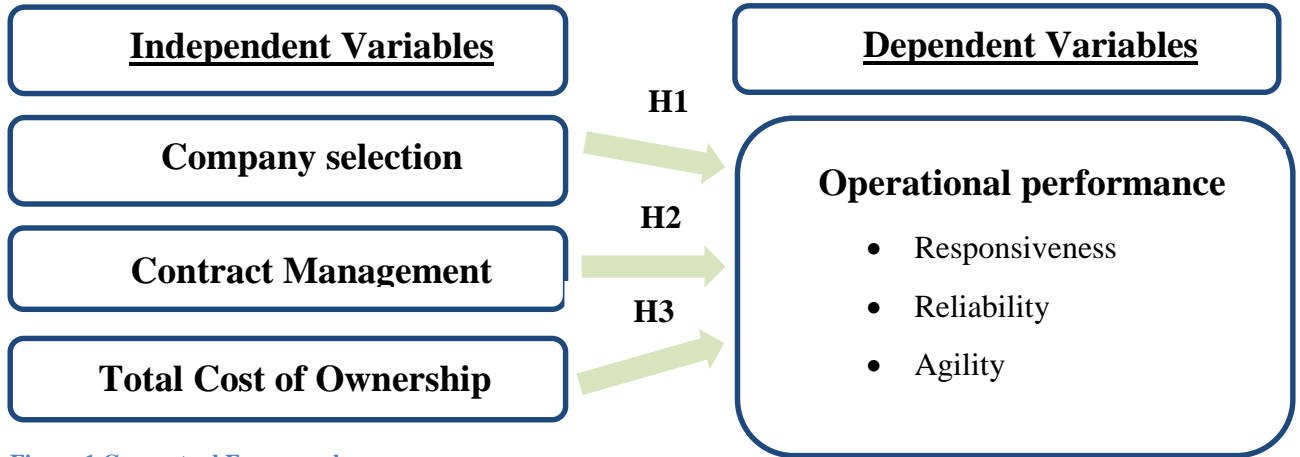


Figure 1 Conceptual Framework

Source: From the above empirical and theoretical researches

2.14 Research Hypothesis

Followed by the above literatures, the following hypothesises are developed to know the significant effect of outsourcing practices used by Ethiopian airlines MRO services on its operational performance.

Table 1 Research Hypothesis

SN	Assumption	Status
1	Outsourcing contract management has a positive effect on operational performance of EAL	Accept
2	Outsourcing company selection has a positive effect on operational performance of EAL	Accept
3	Total cost of ownership (TCO) has a positive effect on operational performance of EAL	Accept

Source: Researchers Assumption

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provide the research design and method of the study. The specific items that are covered under this chapter are research design, sampling and sample size, types of data, data collection and analysis method.

3.2 Research Approach

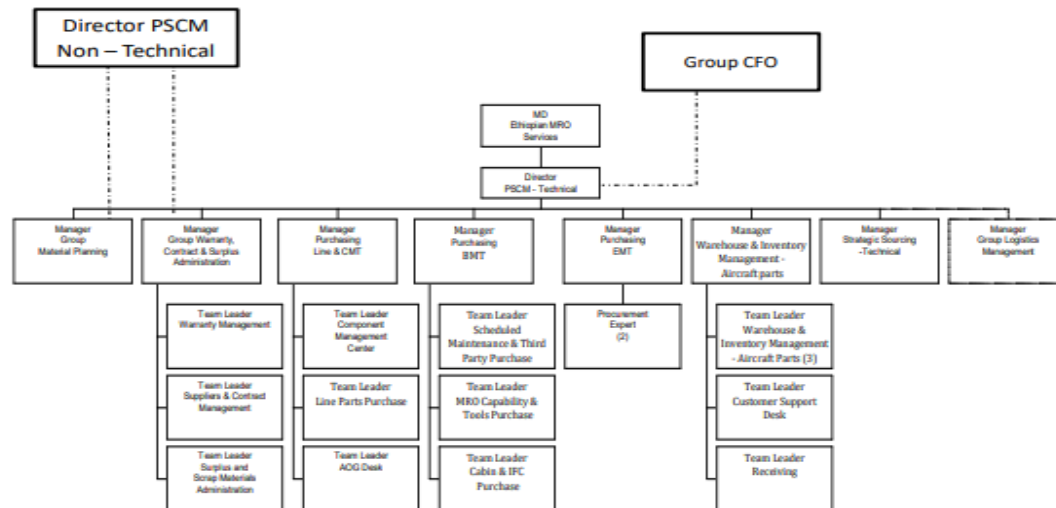
According to Creswell (2009) a type of educational research in which the researcher decides what to study, asks specific, narrow questions, collects numeric (numbered) data from participants, analyses these numbers using statistics, and conducts the inquiry in an unbiased and objective manner. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analysed using statistical procedures. And also states that Quantitative research approach used to determine the relationship between one thing (an independent variable) and another (a dependent variable) in a population. In this study outsourcing practices are independent variables and operational performance is dependent variable. So objective of this study is to assess the relationship between outsourcing practices and operational performance of Ethiopian airlines MRO division. Therefore, the research approach employed for our study is Quantitative research method.

3.3 Research Design

According to University of California (2024) in quantitative research method the research design will be either descriptive or experimental research design. Descriptive study establishes only association of variables and study includes a sample population of hundreds or thousands of subjects to ensure that a valid estimate of a generalized relationship between variables has been obtained. In Experimental design subjects measured before and after a particular treatment, the sample population may be very small and purposefully chosen, and it is intended to establish causality between variables. Quantitative research encompasses a range of methods concerned with the systematic investigation of social phenomena, using statistical or numerical data. Therefore, quantitative research involves measurement and assumes that the phenomena under study can be measured. It sets out to analyse data for trends and relationships and to verify the measurements made (Watson R, 2015). Descriptive and explanatory research designs have been used to show the effects of outsourcing practices on the operational performance of Ethiopian Airlines MRO unit. Explanatory design has been used to show the cause and effects of aforementioned variables and descriptive design has used to analyse the feedback I had received through interview.

3.4 Population and Sample Design

In this study, the researcher uses the census approach to get the targeted group of respondents directly related to the title of the study that is outsourcing practice and operational performance. All employees of the company can't be familiar with how the strategic outsourcing looks like in the company. But the high level managers, middle level managers and experts could have enough knowledge about the companies outsourcing strategy and practice. Therefore, in EAL there are about 75 respondents fitted with the above positions. From these respondents 67 are answered the research questionnaire in a full manner, whereas 8 of the total respondents do not give full and clear answer for the questionnaire. Therefore, this research is a result of 67 respondents' data. The below diagram shows the departments in EAL, sourced from the company portal.



N.B ----- Functional reporting relationship

Revision: August 2022

Figure 2: P&SCM Organizational Structure

Source: Ethiopian Airlines Portal Page

3.5 Data Source and Type

Both primary data and secondary data were used in the study. Primary data has collected through questionnaire and semi-structured interview from senior purchasing and supply chain management (PSCM) staffs and the secondary data has been gathering from the company manual, portal page and brochures.

3.6 Data Collection Procedure

Required data was collected from both primary and secondary sources. Primary data was collected through questionnaire and semi-structured interview was collected from one manager and 2 shop team leaders. Questionnaire was distributed to 75 sample population in person and filled questionnaires were received. Semi-structured interview has been conducted with senior purchasing and supply chain management (PSCM) management teams. And the secondary data was gathered from the company manual, portal page and brochures.

3.7 Method of Data Analysis

Before analysing the data, the researcher was checked the completeness of data collected through questionnaire and interview. After checking the completeness of data the researcher has coded the data & insert into statistical package for social studies (SPSS) software to get the required analysis results for the study and the results has been presented using descriptive statistics such as mean, standard deviation, percentile and frequency.

3.8 Validity and Reliability

Validity and Reliability are a concern every time a single observer is the source of data, because we have no certain guard against the impact of that observer's subjectivity (Babbie, 2010).

3.8.1 Validity

Validity refers to the extent to which an instrument correctly measures what it is intended to measure. Roberta, and Twycross, (2015), stated that validity indicates the degree to which a concept is precisely measured in a quantitative study and whether the instrument comprehensively covers all relevant content related to the variable. In other words, it assesses whether the instrument encompasses the entire domain associated with the variable or construct it was designed to measure.

In order to verify the validity of the research instruments, the researcher asked for an expert opinion from two senior management employees who were not included in the final study and the content validity was verified by the advisor of this research, who has checked the appropriateness of questions and the scales of measurement. Peer discussion was also another way of checking the appropriateness of the questions.

3.8.2 Reliability

According to Wilson (2010), reliability issues are most of the time closely associated with subjectivities and once a researcher adopts a subjective approach towards the study, then the level of reliability of the work is going to be compromised. According to Miles (1994), reliability has to do with the extent to which the items in an instrument generate consistent responses over several trials with different audiences in the same setting or circumstances". The reliability of the instruments and data was established following a pre-test procedure of the instruments before their use with actual research respondents.

Table 2 Reliability Test

Construct	Variables	Cronbach Alpha Value	No of Items Tested
Outsourcing Practice	Outsourcing company selection	0.917	8
	Outsourcing contract management	0.91	7
	Total cost of ownership	0.892	7
	Operational Performance	0.949	19
	Grand Mean	0.917	

Source: SPSS Output

3.9 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 (Creswell, 2003). Accordingly, to ensure ethicality of the research, prior to distribution of the questionnaire the respondents has briefed about the purpose of the study and the data obtained from them will be kept confidentially and it will only have used for research purpose only. After getting the willingness of respondents the prepared questionnaire has distributed and collected. The purpose of the research has clearly communicated to the respondents, interviewees and the company's data owners in order to get accurate information.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSION AND INTERPRETATION

4.1 Introduction

In this chapter the finding from collected questionnaire and interviews are presented in a way it helped to generate the conclusion and recommendation from the findings. This chapter has focused on presenting the findings of the study, as well as analysing each findings so as to enable the user of the study to thoroughly understand the results regarding the research topic.

4.2 Demographic profile of respondents

Questionnaires were distributed to a total of 75 respondents and except eight of them, 67 questionnaires were filled and returned for the analysis.

Age of Respondents

As shown in the table the age mix of the respondents revealed most of them were below 45 years of age, which is 93% of the respondents. The rest 9% of the respondents are above the age of 46 years.

Table 3 The Age of Respondents

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25 years	3	4.5	4.5	4.5
	26-35	49	73.1	73.1	77.6
	36-45 years	9	13.4	13.4	91.0
	>46 years	6	9.0	9.0	100.0
	Total	67	100.0	100.0	

Source: Survey, 2024

Education Background of Respondents

The literacy status of the respondents indicates that 58.2% of the respondents are degree holders and 40.3% of them have also masters and above degree. Only 1.5 % of respondents are still in diploma level.

Table 4 Education Background of Respondents

		Education			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma and below	1	1.5	1.5	1.5
	Bachelor Degree	39	58.2	58.2	59.7
	Masters degree and above	27	40.3	40.3	100.0
	Total	67	100.0	100.0	

Source: Survey, 2024

Work Experience of respondents

Three respondents are experienced up to 2-5 years, which is 4.5% of the total. In the same scenario 42% of them are also experienced for 6-10 years in the industry. 10.4% of them are experienced below two years and only 20.9% are experienced for more than 11 years. One respondent missed this question

Table 5 Work Experience of Respondents

		Experience			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	1.5	1.5	1.5
	< 2 years	7	10.4	10.4	11.9
	2-5 years	3	4.5	4.5	16.4
	6-10 years	42	62.7	62.7	79.1
		14	20.9	20.9	100.0
	Total	67	100.0	100.0	

Source: Survey, 2024

4.3 Outsourcing Practice

4.3.1 Company Selection

The first practice analysed was company selection practice. As mentioned earlier the main routine practice that matter outsourcing in the sector is company selection.

The below table tells us that company selection is highly impact in the company studied in this paper with a mean of 4. Companies are usually approached in a way that long term partnership and company strategy is taken in to consideration; Companies selection is based on periodical spend analysis data and considering different volume of purchases, Negotiation as one process of outsourcing has given due attention and properly applied in a timely manner during company selection and higher level strategies are properly streamlined and applied to enable the outsourcing activity more effective and efficient scored above agree level or a mean of above

four. The remaining four questionnaires are answered with a mean of three. The results are showing the positive impact and practice of outsourcing selection for the outsourcing. With the standard deviation value ranging from 0.776-1.048.

Table 6 Company Selection

Descriptive Statistics		
Indicators, N=67	Mean	Std. Deviation
Companies are usually approached in a way that long term partnership and company strategy is taken in to consideration	4.06	.776
Companies selection is based on periodical spend analysis data and considering different volume of purchases	4.00	.853
The standard parameters used by the Outsourcing team for Companies selection are complete and useful	3.85	1.048
The vendor management tool which is used to measure vendors performance per agreement is well defined and properly applied	3.75	.927
Collaboration with the company is usually considered while selecting outsourcing company	3.99	.807
Negotiation as one process of outsourcing has given due attention and properly applied in a timely manner during company selection	4.33	.860
Timely and proper actions taken on poor vendor performance benefits EAL-MRO in getting the right parts from the right source	3.99	.913
Higher level strategies are properly streamlined and applied to enable the Outsourcing activity more effective and efficient.	4.04	.860
Grand Mean	4.00	0.88

Source: Survey, 2024

4.3.2 Contract Management

As mentioned earlier one of the main routine practice that are involved in outsourcing practice is contract management.

The table below tells us that contract agreement is significantly entertained in the company studied in this paper with a mean of 3.8. The contract review system allows technical points and corresponding terms to be reviewed by a responsible section with a technical knowhow is scored a mean above 4 point. Standard Operating Procedures (SOP) enables the outsourcing team to manage all the agreements in a right manner and there is a clear section wide understanding and good practice that contract management is a key to gain all agreed benefits from outsourcing both score with 3.9 the remaining five questions are with the score 3.7-3.9. The results are showing the positive impact and practice of contract management for the company. With the standard deviation value ranging from 0.75-0.99

Table 7 Contract Management

Descriptive Statistics		
Indicators, N=67	Mean	Std. Deviation
Standard Operating Procedures (SOP) enables the Outsourcing team to manage all the agreements in a right manner	3.99	.862
The Outsourcing team is authorized and responsible to enforce and control proper application of sourcing agreements.	3.88	.962
There is a clear section wide understanding and good practice that contract management is a key to gain all agreed benefits from Outsourcing	3.99	.879
Outsourcing is Well-defined & legally reviewed standard terms are usually used for the common legal related articles while reviewing contractual terms	3.88	.879
KPI's and Service Level (SL's) are periodically reviewed by Outsourcing to insure the agreed support is provided by the suppliers	3.66	.993
The information system is created and practiced in a way that performance feedback can be easily communicated to Outsourcing team for timely and appropriate action	3.87	.919
The contract review system allows technical points and corresponding terms to be reviewed by a responsible section with a technical knowhow	4.03	.758
The system design is useful in a way that it creates awareness and allows Ovisibility of all concluded agreements by all user sections.	3.81	.875
Grand Mean	3.89	0.891

Source: Survey, 2024

4.3.3 Total Cost of Ownership

In the outsourcing concept total cost ownership is the big deal that parties negotiated. In this research respondents replied that in the Ethiopian Airline they have positive practice with the score mean value of 3.9. From the questionnaires TCO usually considered during the company selection and TCO consideration usually includes indirect costs of the part like quality, after sales service, handling or operating cost scored with four points and above. TCO consideration throughout the supply chain process generates a better result; there is a good understanding of TCO by P & SCM as a whole that adds value on the Supply Chain process, Transaction costs related to purchasing activities like ordering, freight, logistics, quality control and the costs related to poor quality are considered on the company outsourcing process and when TCO is considered in company selection, storage, order fulfilment & quality costs are reviewed in detail were all scored 3.9 mean value. Finally, weakly a consolidation approach is considered in terms of cost as well as partnership advantage without compromising quality score with 3.85, which is a minimum of all.

The result revealed this TCO is highly vital thing in the outsourcing industry and even though in the Ethiopian Airline MRO unit.

Table 8 Total Cost of Ownership

Descriptive Statistics		
Indicators, N=67	Mean	Std. Deviation
TCO usually considered during the company selection	4.06	.936
TCO consideration throughout the supply chain process generate a better result	3.99	.961
There is a good understanding of TCO by P & SCM as a whole that adds value on the Supply Chain process	3.93	.942
A consolidation approach is considered in terms of cost as well as partnership advantage without compromising quality	3.85	1.158
Transaction costs related to purchasing activities like ordering, freight, logistics, quality control and the costs related to poor quality are considered on the company Outsourcing process	3.97	.953
When TCO is considered in company selection, storage, order fulfillment & quality costs are reviewed in detail	3.91	1.041
TCO consideration usually includes indirect costs of the part like quality, after sales service, handling or operating cost	4.12	.930
Grand Mean	3.97	0.989

Source: Survey, 2024

4.4 Outsourcing performance/Measurements

4.4.1 Responsiveness

In this section the research details are about how the interactions and responsiveness among outsourcing team.

Questions with highly significant based on respondent’s responsiveness were: The system allows part requests to be sent to P& SCM team usually received in good time to process purchase order and Sourcing the outsourced parts by P& SCM team usually done with in expected time frame scored a mean of 3.9. Respondents weakly responded on the maintenance personnel is well trained and fully aware about the information required by the P& SCM team for timely support and outsourced parts are usually received within expected Lead Time (LT) and Turn Around Time (TAT) and get ready for use with average score 3.7. In the middle, rejected parts due to different reason like quality, different part or excess part are returned on time and replacements can be processed as required and a performance measure is implemented and periodically taken by each section where on time delivery is the major Key Performance Indicator (KPI) scored 3.8.

This show there is sophisticated response among the system and the P&SCM team.

Table 9 Responsiveness

Descriptive Statistics		
Indicators, N=67	Mean	Std. Deviation
The system allows part requests to be sent to P&SCM team usually received in good time to process purchase order	3.99	.826
Sourcing the outsourced parts by P&S CM team usually done with in expected time frame	3.91	.883
Sourced parts are usually received with in expected Lead Time (LT) and Turn Around Time (TAT) and get ready for use	3.75	.943
Rejected parts due to different reason like quality, different part or excess part are returned on time and replacements can be processed as required	3.84	.963
A performance measure is implemented and periodically taken by each section where on time delivery is the major Key Performance Indicator (KPI)	3.87	.886
The maintenance personnel is well trained and fully aware about the information required by the P&SCM team for timely support	3.76	1.074
Grand Mean	3.85	0.929

Source: Survey, 2024

4.4.2 Reliability

Reliability measure was one of the researcher’s point to be verified in the company. Therefore, the respondents are reacted the reliability as follows.

Questioners about the reliability are answered with a total mean score of 3.78, when we came to the detail quality control and assurance is properly applied for all outsourced parts and parts requirements are fulfilled perfectly and accurately as ordered scored with 3.9 significant of all in the reliability measurement. The weaker is ordered parts are usually received in perfect condition without any deviation or defects with a mean scored 3.6, the remaining are in between.

Table 10 Reliability

Descriptive Statistics		
Indicators, N=67	Mean	Std. Deviation
Parts requirements are fulfilled perfectly and accurately as ordered.	3.94	.795
Among periodically requested parts, the majority of them are fully available all the time.	3.76	1.088
Aircrafts and Aircraft components repair works are not usually delayed due to the quality of sourced parts.	3.66	.930
Ordered parts are usually received accurately with all necessary documents for timely receipt and use of parts as planned.	3.75	.910
Ordered parts are usually received in perfect condition without any deviation or defects.	3.61	1.029
Quality Control and Assurance is properly applied for all outsourced parts	3.99	.879
Rejection of parts due to poor quality properly recorded and feedbacks are periodically given to P&S CM section	3.79	1.067
Grand Mean	3.78	0.957

Source: Survey, 2024

4.4.3 Agility

Outsourcing team plays a big role in creating and participating in supply chain alliances. Strongly impacted with mean 4. There is good plan and practice on the Time to Recover (TTR) for a network point (within the supply chain, companywide and also between ET and suppliers) to become fully functional after disruption and There is good plan and practice on the Time to Recover (TTR) for a network point (within the supply chain, companywide and also between ET and suppliers) to become fully functional after disruption scored 3.8. the rest are the weaker compared to the above scores.

The Outsourcing team is always ready to adopt changes in requirement where demand goes up than expected and avoid unnecessary costs related ordering, The Outsourcing team has a good risk management practice for sourcing parts for any deviations from expected (deviation can be due to time, quality, quantity, damage etc...) and The system applied by ET-MRO with P& SCM to address planned part requirements, shortages and part related issues is well streamlined and properly applied to address issues in a timely manner are with score 3.7-3.8.

Table 11 Agility

Descriptive Statistics		
Indicators, N=67	Mean	Std. Deviation
The Outsourcing team is always ready to adopt changes in requirement where demand goes down than expected and able to avoid unnecessary costs related to inventory carrying	3.79	.930
The Outsourcing team is always ready to adopt changes in requirement where demand goes up than expected and avoid unnecessary costs related ordering	3.78	.918
The Outsourcing team has a good risk management practice for sourcing parts for any deviations from expected (deviation can be due to time, quality, quantity, damage etc...)	3.81	1.062
The system applied by ET-MRO with P&S CM to address planned part requirements, shortages and part related issues is well streamlined and properly applied to address issues in a timely manner	3.78	.885
There is good plan and practice on the Time To Recover (TTR) for a network point (within the supply chain, companywide and also between ET and suppliers) to become fully functional after disruption.	3.88	.879
Outsourcing team plays a big role in creating and participating in supply chain alliances.	4.06	.851
Grand Mean	3.85	0.921

Source: Survey, 2024

4.5 Correlation Analysis

A Pearson product-moment correlation was run to determine the relationship between outsourcing practice and the operational performance of the company. There is a relatively strong and positive correlation between them, which was statistically significant with the minimum ($r = 0.607$, $n = 67$, $p = .000$). However, the correlation result between operational performance and practice of outsourcing practice is statistically significant. Further check up to see if there is any causal relationship between the dependent and the independent variables.

In order to answer this question, a multiple regression model was developed with a rigorous check on its assumptions.

Table 12 Correlation with Dependent and Independent Variables

Correlations					
		Total Cost Ownership	Company Selection	Contract Management	operational Performance (OP)
Total Cost Ownership	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	67			
Outsourcing Company Selection	Pearson Correlation	.721**	1		
	Sig. (2-tailed)	.000			
	N	67	67		
Outsourcing Contract Management	Pearson Correlation	.565**	.729**	1	
	Sig. (2-tailed)	.000	.000		
	N	67	67	67	
Outsourcing operational Performance (OP)	Pearson Correlation	.607**	.704**	.563**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	67	67	67	67

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

Source: SPSS Output

4.6 Regression Analysis

Multiple linear regression (MLR), often known as multiple regression, is a statistical technique that use numerous explanatory variables to forecast the result of a response variable. Multiple regressions are an extension of linear regression that only considers one explanatory variable. As a result, a multiple regression was utilized to confirm the statistical viability of the variables after testing for assumptions.

4.6.1 Multiple Regression Assumptions

Assumption 1: Continuous variables: Because all variables are combined to their average, they are presented in a continuous fashion.

Assumption 2: There should be a linear relation among the two variables. The dispersed dot plot showed that there is a linear relationship among variables. The term "linearity" refers to a straight-line representation of the correlation among two variables. It is crucial to understand the degree of correlation between variables while analysing data. To identify any variations that may have an impact on the correlation, examine the relationships between the variables.

In statistics, linearity is determined using the P-P plot, scatter plot, and Pearson's correlations (Francis 2019).

Assumption 3: Normality Test: "normality" can be expressed in tabular and bell shape curve as shown in the diagram below symmetrical middle high and low frequencies of the data (Pallant, 2020). In the diagram result tells a normal curve placed with affair normality distribution. This also tells us that there is no normality assumption failure. This assumption is tested using the Q-Q plot for the model. As the closer the dots lie to the diagonal line, the closer to normal the residuals are distributed which is the case for this model.

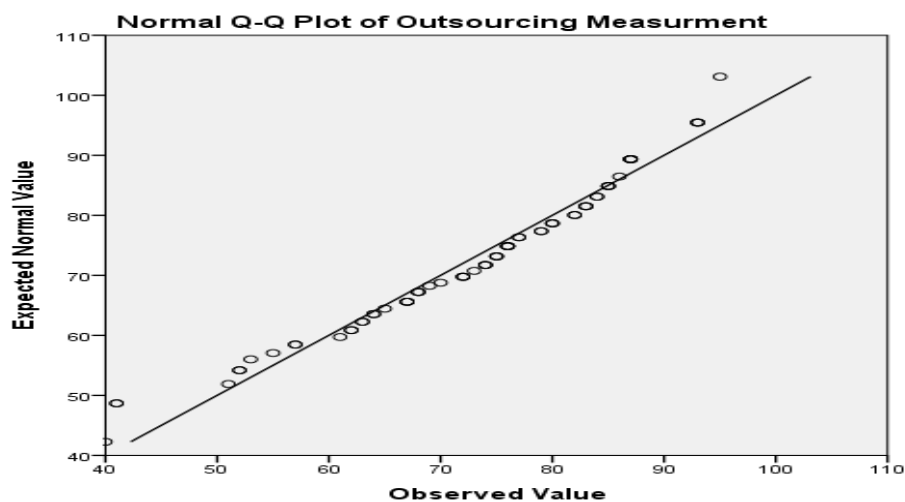


Figure 3 Normality Test

Source: SPSS Output

Assumptions 4: Homoscedasticity Test

In homoscedasticity, all IV levels have unique amount of error variance. When the error variance changes at various IV levels, heteroscedasticity occurs. Mild heteroscedasticity, according to Francis (2019), has little effect on significance testing. However, when heteroscedasticity is high, it can substantially impair research and skew results, increasing the likelihood of a Type I mistake. The most prevalent assumption is that homoscedasticity errors have a known, limited variance that remains constant across all predictor variable levels.

In the homoscedasticity test points are scattered, it indicates errors are not accumulated at one point.

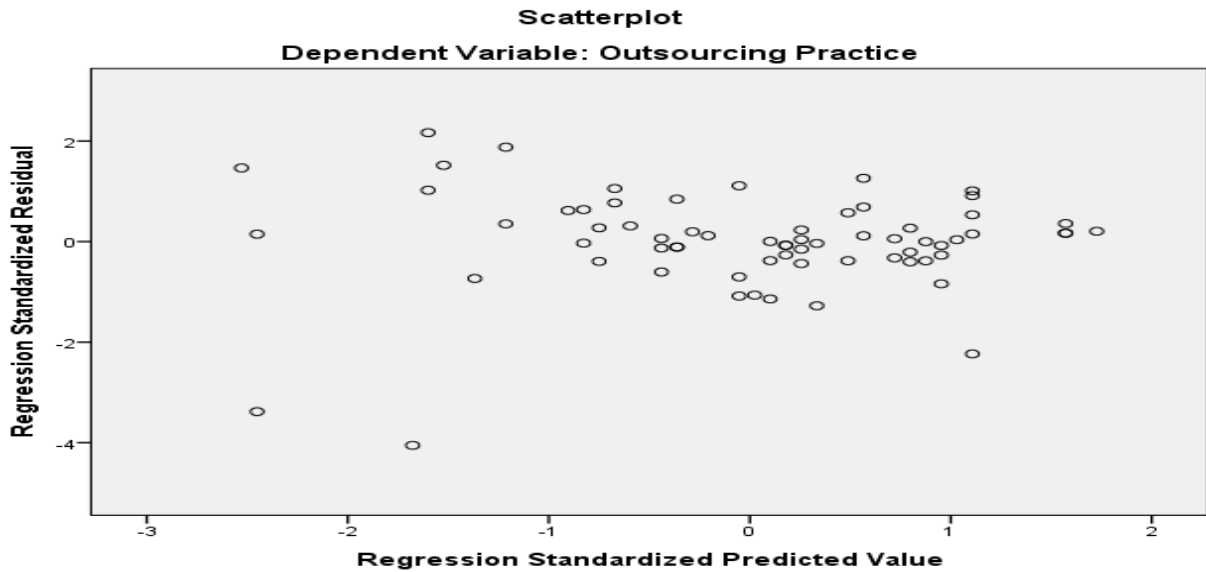


Figure 4 Scattered Plots

Source: SPSS Output

In the homoscedasticity test points are scattered, it indicates errors are not accumulated at one point.

Assumptions 5: Durbin Watson Test

The Durbin Watson value should be between 1-4, here in this case it is in the middle with a value of 2.143. This shows better result.

Table 13 Durbin Watson

Model Summary ^d											
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson	
					R Square Change	F Change	df1	df2	Sig. F Change		
1	.721 ^a	.519	.497	9.17132	.519	22.697	3	63	.000		
2	.718 ^b	.516	.500	9.13516	-.004	.496	1	63	.484		
3	.704 ^c	.495	.487	9.25630	-.021	2.735	1	64	.103	2.143	

a. Predictors: (Constant), Total Cost Ownership, Outsourcing Contract Management, Outsourcing Company Selection
b. Predictors: (Constant), Total Cost Ownership, Outsourcing Company Selection
c. Predictors: (Constant), Outsourcing Company Selection
d. Dependent Variable: Outsourcing operational Performance (OP)

Source: SPSS Output

Assumption 6: Multi-Collinearity Test

Multi-Collinearity, indicates a relation among two predictor variables, which refers to a relationship among more than two predictor variables, it also indicates the presence of correlation among the predictors. When multi-collinearity VIF (Variance inflation Factor) is more than ten it tells the variables has multi-collinearity, in this research the value of VIF is 3.027 with corresponding significance below 1 (Hair Jr et al., 2020). Multi-collinearity values are shown below.

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	16.597	7.085		2.343	.022		
	Outsourcing Company Selection	1.134	.351	.493	3.234	.002	.328	3.050
	Outsourcing Contract Management	.208	.296	.090	.705	.484	.465	2.149
	Total Cost Ownership	.479	.302	.200	1.584	.118	.477	2.098
2	(Constant)	18.136	6.713		2.702	.009		
	Outsourcing Company Selection	1.273	.289	.554	4.409	.000	.480	2.084
	Total Cost Ownership	.496	.300	.208	1.654	.103	.480	2.084
3	(Constant)	20.928	6.583		3.179	.002		
	Outsourcing Company Selection	1.617	.203	.704	7.981	.000	1.000	1.000

a. Dependent Variable: Outsourcing operational Performance (OP)

Figure 5 Multi Collinearity

Source: SPSS Output

ANOVA Test

ANOVA test result shows that there is no statistically significant difference between the means of the independent variables.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5727.296	3	1909.099	22.697	.000 ^b
	Residual	5299.122	63	84.113		
	Total	11026.418	66			
2	Regression	5685.549	2	2842.775	34.065	.000 ^c
	Residual	5340.869	64	83.451		
	Total	11026.418	66			
3	Regression	5457.275	1	5457.275	63.694	.000 ^d
	Residual	5569.143	65	85.679		
	Total	11026.418	66			

a. Dependent Variable: Outsourcing operational Performance (OP)

b. Predictors: (Constant), Total Cost Ownership, Outsourcing Contract Management, Outsourcing Company

c. Predictors: (Constant), Total Cost Ownership, Outsourcing Company Selection

d. Predictors: (Constant), Outsourcing Company Selection

The significance level is $p=0.000$, with lower residual level.

Figure 6 ANOVA

Source: SPSS Output

4.6 Regression Result

The result of the test indicates that only the Outsourcing company selection statistically significant to determine the better operational performance with p value 0.002 which is below 0.05. This implies that basically the finding due diligent and best fit company to the outsourced activities has impacted EAL. Factors that are contract management and total cost ownership

are not significant but still positively affect the operational performance of EAL with p value 0.48 and 0.11 respectively. Therefore, overall, the researcher accepted all independent variables based on their correlation and a less statistically significant relationship but positive impact to operational performance.

Table 14 Regression Result

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721 ^a	.519	.497	9.17132

a. Predictors: (Constant), Total Cost Ownership, Outsourcing Contract Management, Outsourcing Company Selection
b. Dependent Variable: Outsourcing operational Performance (OP)

Source: SPSS Output

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	16.597	7.085		2.343	.022		
	Outsourcing Company Selection	1.134	.351	.493	3.234	.002	.328	3.050
	Outsourcing Contract Management	.208	.296	.090	.705	.484	.465	2.149
	Total Cost Ownership	.479	.302	.200	1.584	.118	.477	2.098

a. Dependent Variable: Outsourcing operational Performance (OP)

Figure 7 Regression Analysis Result

Source: SPSS Output

4.7 Hypothesis Testing

Based on the literature part of this study it is clearly stated that Operational Performance is dependent on outsourcing contract management, outsourcing company selection and outsourcing total cost ownership are the independent variables that affect operational performance (dependent variable).

As a result of the above multiple regression analysis the three variables are significantly and positively affecting the operational performance. The VIF Result below 10 enables the researcher to the decisions of positive relationship between the dependent and independent variable.

Table 15 Verified Assumptions/Hypothesis

SN	Assumption	Status
1	Outsourcing contract management has a positive effect on operational performance in EAL	Accept
2	Outsourcing company selection has a positive effect on operational performance in EAL	Accept
3	Total cost of ownership (TCO) has a positive effect on operational performance in EAL	Accept

Source: From research findings

CHAPTER FIVE

SUMMARY OF KEY FINDINGS, CONCLUSION AND RECOMMENDATION

This chapter presents the summary of the study findings, conclusions and recommendations drawn from the study findings based on the research objectives.

5.1 SUMMARY OF KEY FINDINGS

This study tried to address the outsourcing practice in the Ethiopian Airline. In the research census method (purposive sampling) was been applied for sample size of 75 senior staffs, higher level managers, middle Level managers and experts in the companies. Data were collected with 11% attrition rate, with 98.5% of the respondent's literacy level is bachelor degree and above. 88% respondents are experienced for more than 2 years in the field/study area.

Respondents were asked to answer two sections that are how the outsourcing practice looks and what are the measurements that could exactly show outsourcing operational performance.

The data analysis tells that outsourcing practices (company selection, contract management and total cost ownership) all are best performed can be an indication of operational performance measures. Followed by total cost of ownership company selection is the most impactful practice that could be more focused in the company. Thirdly the role of contract management is not negligible in the performance measurement. Responsiveness, reliability and agility are the main performance indicators among the outsourcing team.

To identify the relation and effect of variables over the other, correlation and regression test were analyzed. Different regression assumptions, linearity, homoscedasticity, ANOVA and Durbin tests are checked. The result reveals that outsourcing practices are sound to the operational performance of Ethiopian airline's' MRO division. Analysis indicates that all the practices in the study positively impacted the operational performance of outsourcing. This leads the researcher to conclude focusing on the practices studied enable to decision making and other dramatic changes related to outsourcing in the MRO's of Ethiopian Airline.

5.2 CONCLUSION

The researcher has conducted research with the title effects of outsourcing practices on operational performance of Ethiopian Airlines. EAL outsource most of its maintenance, repair and overhaul activities due to different reasons. One of the main reasons is lack of maintenance capabilities, certified personnel, lack of standard maintenance machineries and lack of facilities. Because of this and other factors most of the Airlines maintenance, repair & overhaul activities are outsourced to third party service providers. Based on the analysis and the summary of findings in line with the research questions the following conclusions are forwarded.

The first objective of this research was to assess the outsourcing practice of Ethiopian airlines MRO division; the researcher concludes that Ethiopian Airlines outsource its maintenance, repair and overhaul activities to the one who will perform better and the result revealed that the outsourcing practices has significant effect on the operational performance of Ethiopian airlines MRO services.

The second research objective of this thesis work was to find out the effect of contract management on the operational performance of Ethiopian airlines MRO division and from the finding; the researcher concludes that contract management has a positive and significant effect on the operational performance of Ethiopian airlines MRO services.

The third research objective of this research work was to examine the effect of company selection of outsourcing practice on the operational performance of Ethiopian airlines MRO services and from the finding, the researcher concludes that supplier selection takes the lead from the rest variables showing it has a positive and significant effect on the operational performance of Ethiopian airlines MRO services.

The last research objective of this thesis work was to investigate the effect of total cost of ownership of outsourcing practice on the operational performance of Ethiopian airlines MRO services and from the finding, the researcher concludes that TCO has also positive and significant effect on the operational performance of Ethiopian airlines MRO services.

The study concludes that supplier selection; contract management and total cost of ownership (TCO) of outsourcing practices have positive and significant effects on the operational performance of Ethiopian Airlines MRO division. So, parties involved in outsourcing practice

may need to emphasis on those key outsourcing practice variables to improve the operational performance of Ethiopian Airlines MRO service.

5.3 RECOMMENDATION

Recommendations are sated as a result of conclusions reached in this study, the researcher has pointed out the following recommendations to be considered and applied as required in order to maximize the operational performance benefits that can be gained from outsourcing practices.

Now, Ethiopian airline's' MRO identifies to what extent its operational performance is being affected by practices of company selection, total cost of ownership and contract management handling. Therefore, as a researcher the recommendation will be assessing other variables could also enable the company to overcome the outsourcing operational challenges. To clarify it more: for example, total cost of ownership indicates it has a significant role in the operational performance, but still there are some other small variables in the total cost of ownership that need to be clearly studied.

Respondents weakly responded on the maintenance personnel is well trained and fully aware about the information required by the P& SCM team and which will have negative effect on the responsiveness of the company. If maintenance personnel lack the required information they will not consider the long purchasing process that will take to bring the part. So, it is recommended to create sufficient awareness to maintenance teams on basic information which are required for purchasing activities so that to improve the responsiveness of the company.

In order to get reliable quality, the procurement team should need to go through all quality check parameters like; checking the certification of the unit, condition of the unit, traceable documents to get quality products.

Consolidation approach in terms of cost as well as partnership advantage without compromising quality has scored the lowest result. We recommend the company to consider the consolidation of parts by keeping the quality of the products because of consolidation will lower the overall costs of the unit.

Preparation of a written document that will be used as a policy to outsource activities, this document may have detail history of the past performance so that to take a lesson from the past outsourcing trends and enables the company to develop best outsourcing practices.

This study was limited to some variables, but the researcher highly recommends to study the due diligence and especially skilled man power capability and related infrastructures of outsourcing company before handed activities to the company. Our quality assurance team need to evaluate the capability lists, approval certificates and check all quality parameters before the company will going start business 3rd party service providers. If it is possible visiting the maintenance, repair and overhaul facilities of service providers for whom the activities will be

5.4 Recommendation for Further Studies

To address part supply issues, this study focused mainly on company selection, contract management and total supply chain costs and examined the corresponding current practices and the impact on ET-MRO operational performance. There are many other factors affecting performance that are not covered in this study. Additional researchers can investigate other variables that affect performance and make recommendations to make the results more valuable in solving the operational gaps. In addition, different MROs have different availability, capabilities, and characteristics, so the recommendations of this study for ET MROs may not apply to all other MROs. Future research could consider other measures of principal refinancing to provide an overall result that could easily be adopted by other principal refinancing operations. If this is possible, other MROs can easily evaluate their own practices and implement research recommendations as needed.

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ANNEX- QUESTIONNAIRE

**Addis Ababa University
College of Business and Economics
School of Commerce
Department of Logistics and Supply Chain Management**

Questionnaire to be filled by Ethiopian Airlines MRO Staffs.

Dear Sir/Madam

Without your diligent assistance in completing this questionnaire, the research could not have been carried out. Please accept my sincere gratitude.

I am Nahom Seifu, student from Addis Ababa University, college of Business and Economics: School of Commerce, currently carrying out research in partial fulfillment of the requirements for the award of a Master's degree in logistics and supply chain management.

This survey is intended to gather information on ‘‘The effects of outsourcing practices on the operational performance of the Company: The case of Ethiopian Airlines’’. The goal of the study is to ascertain the degree to which your company has embraced outsourcing practices. Information obtained will be used only for academic purposes and will be handled with the utmost confidentiality. Dear responded, your participation is voluntary, and I can guarantee that the data we collect will be kept private and anonymous. Your involvement will be greatly valued. In case of any questions, please call me on +251916095999.

Thank you once again for your cooperation!

SECTION 1: Respondents Demographic Profile

The following questions are about the respondent 's profile in the organization. Kindly indicate the appropriate characteristics of the respondent profile using √

1. Age

- Below 18 years 18-25 years 26-35 years 36-45 years 46 years and above

2. Educational background

Outsourcing Practices		Scale				
A	Outsourcing Company selection & supplier management	1	2	3	4	5
1	Companies are usually approached in a way that long term partnership and company strategy is taken into consideration					
2	Companies selection is based on periodical spend analysis data and considering different volume of purchases					
3	The standard parameters used by the Outsourcing team for Companies selection are complete and useful					
4	The vendor management tool which is used to measure vendors performance per agreement is well defined and properly applied					
5	Collaboration with the company is usually considered while selecting outsourcing company					
6	Negotiation as one process of outsourcing has given due attention and properly applied in a timely manner during company selection					
7	Timely and proper actions taken on poor vendor performance benefits EAL-MRO in getting the right parts from the right source					
8	Higher level strategies are properly streamlined and applied to enable the Outsourcing activity more effective and efficient.					
B	Contract Management issues	1	2	3	4	5
1	Standard Operating Procedures (SOP) enables the Outsourcing team to manage all the agreements in a right manner					
2	The Outsourcing team is authorized and responsible to enforce and control proper application of sourcing agreements.					
3	There is a clear section wide understanding and good practice that contract management is a key to gain all agreed benefits from outsourcing					
4	Outsourcing is Well-defined & legally reviewed standard terms are usually used for the common legal related articles while reviewing contractual terms					
5	KPI's and Service Level (SL's) are periodically reviewed by Outsourcing to insure the agreed support is provided by the suppliers					
6	The information system is created and practiced in a way that performance feedback can be easily communicated to Outsourcing team for timely and appropriate action					

7	The contract review system allows technical points and corresponding terms to be reviewed by a responsible section with a technical knowhow					
8	The system design is useful in a way that it creates awareness and allows visibility of all concluded agreements by all user sections.					

- Diploma and below
 Bachelor Degree
 Master 's degree and above

3. Work experience

- Below 2 years
 2-5 years
 6-10 years
 Above 11 years

SECTION 2: Effects of Outsourcing Practice

The following questions are about the existence of effects of outsourcing practice in your Organization. Please indicate the level of your agreement or disagreement using (√) on the following statements based on your experience in your company on the following outsourcing practices. (1=strongly disagree, 2=Disagree 3=Neutral 4= Agree 5= strongly agree)

Do you have any to explain contract management consideration and its impact during supplier selection?

C	Total Cost of Ownership (TCO)	1	2	3	4	5
1	TCO usually considered during the company selection					
2	TCO consideration throughout the supply chain process generate a better result					
3	There is a good understanding of TCO by P & SCM as a whole that adds value on the Supply Chain process					
4	A consolidation approach is considered in terms of cost as well as partnership advantage without compromising quality					
5	Transaction costs related to purchasing activities like ordering, freight, logistics, quality control and the costs related to poor quality are considered on the company Outsourcing process					
6	When TCO is considered in company selection, storage, order fulfillment & quality costs are reviewed in detail					
7	TCO consideration usually includes indirect costs of the part like quality, after sales service, handling or operating cost					

Do you have any to explain TCO consideration and its impact during supplier selection

SECTION 3: - Operational Performance

Please indicate the level of your agreement or disagreement using (√). (1=strongly disagree, 2=Disagree 3=Neutral 4= Agree 5= strongly agree)

A	Responsiveness	1	2	3	4	5
1	The system allows part requests to be sent to P&SCM team usually received in good time to process purchase order					
2	Sourcing the outsourced parts by P&S CM team usually done with in expected time frame					
3	Sourced parts are usually received with in expected Lead Time (LT) and Turn Around Time (TAT) and get ready for use					
4	Rejected parts due to different reason like quality, different part or excess part are returned on time and replacements can be processed as required					
5	A performance measure is implemented and periodically taken by each section where on time delivery is the major Key Performance Indicator (KPI)					
6	The maintenance personnel is well trained and fully aware about the information required by the P&SCM team for timely support					
B	Reliability	1	2	3	4	5
1	Parts requirements are fulfilled perfectly and accurately as ordered.					
2	Among periodically requested parts, the majority of them are fully available all the time.					
3	Aircrafts and Aircraft components repair works are not usually delayed due to the quality of outsourced parts.					
4	Ordered parts are usually received accurately with all necessary documents for timely receipt and use of parts as planned.					
5	Ordered parts are usually received in perfect condition without any deviation or defects.					
6	Quality Control and Assurance is properly applied for all outsourced parts					
7	Rejection of parts due to poor quality properly recorded and feedbacks are periodically given to P&S CM section					
C	Agility	1	2	3	4	5
1	The Outsourcing team is always ready to adopt changes in requirement where demand goes down than expected and able to avoid unnecessary costs related to inventory carrying					
2	The Outsourcing team is always ready to adopt changes in requirement where demand goes up than expected and avoid unnecessary costs related ordering					
3	The Outsourcing team has a good risk management practice for sourcing parts for any deviations from expected (deviation can be due to time, quality, quantity, damage etc...)					
4	The system applied by ET-MRO with P&S CM to address planned part requirements, shortages and part related issues is well streamlined and properly applied to address issues in a timely manner					
5	There is good plan and practice on the Time To Recover (TTR) for a network point (within the supply chain, companywide and also between ET and suppliers) to become fully functional after disruption.					
6	Outsourcing team plays a big role in creating and participating in supply chain alliances.					

Do you explain the extent of EAL-MRO's operation affected by failure to avail the required parts?

SECTION 4: Open Ended Interview Questions

1. What is the Outsourcing process practiced under EAL?
2. How do you measure its performance towards supporting MRO?
3. What are the KPIs of Outsourcing?
4. Does EAL have predefined criteria used for selecting an Outsourcing Company?
5. How difficult is the Company/supplier selection process?
6. How do you describe the contract management practices of EAL?
7. How is TCO considered in Outsourcing?

Thank You!