ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF COMMERCE
DEP'T OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

ASSESSMENT OF LOGISTICS PERFORMANCE; IN CASE OF THE ETHIOPIAN SHIPPING AND LOGISTICS SERVICE ENTERPRISE (ESLSE)

By: Shimeles Denekew

Advisor; Tariku Jebena (PHD)

A Thesis Submitted To The School Of Commerce Of Addis Ababa University In Partial Fulfillment Of The Requirements For The Degree Of Masters Of Arts In Logistics And Supply Chain Management

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SHIMELES DENEKEW (GSE0058/2011)

APPROVED BY BOARD OF EXAMINERS

Tariku Jebena (Ph.D)	_____	_____
Advisor	*Signature*	*Date*
Busha Temesgen (Ph.D)	_____	_____
Internal Examiner	*Signature*	*Date*
Biniam Berhie (Ph.D)	_____	_____
External Examiner	*Signature*	*Date*

Declaration

I declare that this thesis is the result of my independent research work on the topic entitled "Assessment of Logistics Performance in Case of Ethiopian Shipping and Logistics Service Enterprise" in partial fulfilment of the requirements for the Degree of Master of Art in Logistics and Supply Chain Management at Addis Ababa University School of commerce. It is my original work and all the references used in the study are acknowledged.

Name; Signature and Date

Shimeles Denekew _____

Statement of Certification

This is to certify that this thesis entitled as *"Assessment of Logistics Performance; in case of Ethiopian Shipping and Logistics Service Enterprise",* submitted for the partial fulfillment of the Requirements for the degree of Master of Arts in Logistics and Supply Chain at Addis Ababa university school of commerce conducted by Shimeles Denekew is an authentic work carried by him under our guidance.

Name	Signature	Date
Advisor; Tariku Jebana (PhD)	_____	_____

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Acronym and Abbreviation

CFS	Container Freight Station
CSP	Customer service policy
ESL	Ethiopian shipping lines
ESLSE	Ethiopian shipping and logistics service enterprise
GDP	Gross domestic product
ICT	Information Communication Technology
LIS	Logistics Information System
LP	Logistics Performance
OE	Order Entry
OP	Order Processing
RMG	Rail Mounted Gantry
SMES	Small and Medium Enterprise
SPSS	Statistical Package for Social Science
SSP	Suppliers Service Policy
TAC	Total Acquisition Cost
TOS	Terminal operation system

Abstract

The objective of this research was to assess the performance of logistics at Ethiopian Shipping and Logistics Service Enterprise (ESLSE). Descriptive type of research method was used to analyze the data. The researcher uses non probability random sampling technique, convenience sampling technique was used to select the respondents. 86 respondents are selected as a sample size used to conduct this study. The data was collected from primary and secondary sources through structured questionnaire and interview developed using three logistics performance dimensions (time, quality and cost). The result shows organization logistics performance is neutral in terms of delivery time, good quality of service and cost of logistics is reasonable based on the result from the data collected. But as a monopoly the performance is not expected and works at full capacity. Finally the study recommended the organization to strive and use full capacity to reduce dwell time, increase quality of service especially designing forma ICT infrastructure to expedited information sharing between all staffs with branches and customers to reduce information gap and increase information sharing and know actual status of the shipment.

Key words and phrases; logistics, logistics performance, time, quality and cost

CHAPTER ONE

INTRODUCTION

Logistic is an integral part of any supply chain, considering that this study tries to assess logistic performance in the Ethiopia, specifically in Ethiopian shipping and logistic service enterprise located in Addis Ababa with the objective of assessing logistic performance. Logistics starts for the first time used for military purpose in 1940s during WWII, but through time the concept of logistics applied in business activities starting 1960s. Transport and logistics services facilitate international trade and play an important role in the growth and development of the local economy. The quality and efficiency of logistics services can matter for international trade as a weak logistics infrastructure and operational processes can be a major obstacle to global trade integration (Devlin and Yee, 2005). On the contrary, an improved trade related logistics, combined with a liberalized economic environment, can increase trade volume and economies of scale and scope in distribution and production activities (Lakshman et al. 2001).

1.1. Background of the study

Logistics come from the word ‘’loge'r’’ a French word, meaning transport and supply of material and troops (Joshi, 2005). Logistics was originally a military term encompassing the processes to supply combat and troop support. In trade, logistics handles the physical movement of products between one or more participants in the supply chain (Donald F. Wood, Anthony P. Barone, Paul R. Murphy, and Daniel L. Wardlow, 2002). Logistics is defined by council of logistics management as the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption for the purpose of conforming to customer requirements. Logistics is a backbone for the global supply chains. Logistics play a key role in both micro and macro perspectives. From a micro perspective, logistics service could fulfill the customer’s expectations through excellent logistics service provision and from a macro perspective; it drives the economic development of a country.

Even though, the governoment of Ethiopia takes different action to develop the performance of logistics in Ethiopia still not developed as expected. Ethiopia is stand 131 from 167 countries logistics performance index annual report (World Bank, 2018). One of the measurements taken

by the government is merging four organizations move by itself previously; these are Ethiopian shipping company SC (ESL), maritime and transit service enterprise (MTSE), dry port and terminal and comet transport and create Ethiopian shipping and logistics service enterprise (ESLSE).The newly amalgamated came in to being following the proclamation by council of ministers under regulation number 255/2011 (ESLSE, 2021).

The objective of this merged organization is to develop logistics performance by increasing coordination, render coastal and international marine and inland water transport service, provide stevedore and shore handling, dry port and ware housing and other logistics service more effectively and efficiently.

According to Töyli, Häkkinen, L., Ojala, L. and Naula, T. (2008), logistic performance includes three components: (1) the service level that aims to characterize the service quality for logistics clients, the level of perfect orders and the duration of the cycle; (2) operational metrics that characterize the logistics performance based on time, including stock rotation and average payment and receipt; (3) the level of logistics costs that characterize the efficiency of logistics operations.

In the context of Ethiopia's topography and pattern of settlement as well as its dependence on other countries' seaport for import and export, transport plays a crucial role in facilitating socio-economic development of the country. Ethiopia is one of the poorest and least developed countries in the world. According to Growth Competitiveness Index of World Economic Forum, Ethiopia stands 119^{th} among 133 countries surveyed (The Global Competitiveness Report, 2011). Its economy is based on agriculture, accounting for 45% of GDP, 80% of exports, and 80% of total employment. The biggest sources of foreign trade are coffee, flowers, oilseeds, grains and leather (Fikadu M Debella 2013).

1.2. Statement of the Problem

Today, world economy is changed every time, firms and countries must know that the world become smaller and smaller because of globalization. So in order to compete in this fast change environment firms and countries must design a great strategy to become a winner. Also, customers seek products that need can serve or respond well greater than others through effective and efficient logistics structure to stay as long-time customer. Building strong and dominant

logistics company in the country particularly and in the world generally create competitive advantage.

The main reason for this study was assessing logistics performance in case of Ethiopian shipping and logistics service enterprise (ESLSE). The organization core activity is rendering logistics service to the customer and play great role for the country even if the country is landlocked. Today effective logistics is the pillars for the economic development and competitiveness of the countries both domestically and international level. In today's fast world the capacity to move goods without damage, at low cost and at the right time is important to compete, dominate and to be successful in a global market

Effective and efficient logistics connects firms domestically and abroad by transporting its good and services on time and cost effectively. But most countries especially African countries are characterized by poor logistics infrastructure that creates obstacles to deliver cargo on time and less cost according to World Bank reports.

Ethiopian logistics is known by low logistics facilities like road quality, old vehicles and complexity of customs procedures and also small amount of fleet in numbers and status as well as poor warehouse in terms of numbers and capacity. Ethiopia uses Djibouti seaport for import and export this creates logistics complexity and reduce the performance. Ethiopia is 131 from 167 countries by World Bank report as of 2018.

ESLSE plays a great role for the country economic development by rendering logistics service, even though there is poor logistics management system and lack of coordination of goods transport, low level of development of logistics infrastructure and inadequate fleets of freight vehicles in number and outdated in terms of year of service (Old aged vehicles), as well as warehouse in Ethiopia (Fekadu M Debela, 2013*)*.The constraints related to the performance of logistics is lack of coordination, ICT, skilled man power, standard of road infrastructure,

Even if there is a gap related to logistics facilities in Ethiopia, according to (Fekadu. 2013) and World Bank report. Ethiopian shipping and logistics service enterprise do their responsibilities by resisting the above gaps.

The purpose of the study was to assess the performance of Ethiopian shipping and logistics service enterprise by thinking the above gaps.

1.3. Research questions

This study was tried to answer the following basic research questions;

- What looks like is the level of logistics performance of ESLSE related with delivery time?
- What looks like is the level of logistics performance of ESLSE related with cost of logistics?
- What looks like is the level of logistics performance of ESLSE related with service quality?

1.4. Objectives of the study

1.4.1 General objective

The general objective of the study was to assess logistics performance of ESLSE.

1.4.2 Specific objectives

The study has the following specific objectives**;**

- ✓ To assess logistics performance of ESLSE in terms of delivery time.
- ✓ To assess logistics performance of ESLSE in terms of cost of logistics.
- ✓ To assess logistics performance of ESLSE in terms of service quality.

1.5. Significance of the study

The study has the following significances, used as a Source for making change based on the result to improve the performance the organization and to see how this performance indicator affects their performance. The academic significance of the study is to expand the body of knowledge of the researcher and used as an inputs to other researchers for further study on this area. The study also used for future researchers incite and source for further research. Moreover, in Ethiopia the study of logistics performance is crucial at this time because in Ethiopia the performance of logistics is week according to World Bank report so the study used to make a policy to upgrade the performance by taking action on weakness.

1.6. Scope of the study

Even though logistics is a wider scope, geographically, the study focuses on assessment of logistics performance on Ethiopian shipping and logistics service enterprise. Performance assessment is made on the basis of logistics performance indicators namely time, cost and quality of logistics performance delivered. Methodologically, the scope of the study was limited to descriptive type of research design because the research focuses on assessment of logistics performance in case of Ethiopian shipping and logistics service enterprise (ESLSE).

1.7. Limitation of the study

Even if the concept and scope of logistics is broad, the study focus on Ethiopian shipping and logistics service enterprise assessing logistics performance this creates study area restrictions at head office. Time and cost are the limitations that the researcher faces to conduct a more expanded research. Respondent's willingness to share exact and on time information as a profession also the other limitations that encounter on the study.

1.8. Definition of terms

Logistics; is part of supply chain that plans, implements and controls the efficient, effective forward and reverse flow and storage of goods and services and related information between the point of origin and point of consumption in order to meet customers' requirements (council of logistics management).

Logistics performance; according to Chow, G., Heaver, T.D. and Henriksson, L.E.,(1994) logistics performance is a subset of a larger organizational performance. According to Fugate B. S., Mentzer, J. T. and Stank, T. P (2010), the concept by highlighting that logistics performance positively impacts organizational performance. According to Green (2008) logistics performance as the "ability to deliver goods and services in the precise quantity and at the precise times as required by the customers".

Time; according to Töyli et al. (2008), stock rotation and average payment and receipt of goods. It is the average cycle time that takes to deliver the cargo to the customers. Assesses the ability to respond to customers and helps to promote product requirements in a short time cycle

Cost; according to Töyli et al. (2008), operations costs that a customer is charged to deliver the cargo to final destination includes transport cost, warehouse cost, port and terminal dues, loading and unloading cost, and custom clearance cost.

Quality; according to Töyli et al. (2008) the service level that aims to characterize the service quality for logistics clients, the level of perfect orders and the duration of the cycle. Quality,

1.9. Organization of the study

Generally, the paper is organized by five chapters. The first chapter contains background of the study, statement of the problem, objective of the study, research question, and significance of the study, scope of the study and organization of the paper. The second chapter covers literature review which shows a review of related topics for the research and conceptual framework of the study with operational definition. The third chapter is a research methodology which includes research design, source population, study population, sample design, data collection instrument and administration, data management, data processing procedures and ethical consideration. The fourth chapter handles data analysis, result and discussion. The fifth chapter wind ups the paper by summarizing the major findings giving conclusion, recommendation, by listing limitation of the study and by giving suggestions for further study.

CHAPTER TWO

2. THEORETICAL AND EMPIRICAL LITERATURE REVIEW

2.1. Introduction

This chapter briefly introduced and provided a systematic literature review on the works of various scholars in the area of logistics performance. Transport and logistics services facilitate international trade and play an important role in the growth and development of the local economy. According to Edward Frazelle, 2002, global cost expenditure exceeds $3.5 trillion annually and represents 20% of the sum of total of the world GDP and in USA logistics cost represents about 10% of the country GDP and approximately $1 trillion annually. The quality and efficiency of logistics services can matter for international trade as a weak logistics infrastructure and operational processes can be a major obstacle to global trade integration (Devlin and Yee, 2005).On the contrary, an improved trade related logistics, combined with a liberalized economic environment, can increase trade volume and economies of scale and scope in distribution and production activities (Lakshman et al. 2001).

Logistics was initially a military activity concerned with getting soldiers and arms to the battlefront in time for fight, but it is seen as an integral part of the modern production process.
The term, logistics, was initially developed in the context of military activities in the late 18th and early 19th Before the 1950s, logistics was under the dormant condition. Production was the main part of the managers concerned and industry logistics was once regarded as ‘necessary evil’ in this period. Lewis’s study (Cited in Chang, 1998) in 1956 on the role of air transportation in physical distribution was the application of “total cost concept” and it pointed out the notions of Trade-off between inventory and transportation.

From the 1970s ahead, more and more applications and researches of logistics appeared. Due to the petroleum price rise in 1973, the effects of logistics activities on enterprises grew Centuries and it launched from the military logistics of World War II. And now, a number of researches were taken and made logistics applications from military activities to business activities. The further tendency of logistics on the early 21st century is logistics alliance

2.2. Definition of logistics

The term logistics is defined by different scholars and institutions. Logistics is the flow of material, information, and money between consumers and suppliers (Edward Frazelle, 2002). According to Hesket, Glaskowsky and Ivie, (1973) defined Logistics is the control of each activities important to facilitate movement of goods and the collaboration of supply and demand of the customers to create time and place utility.

According to Chartered Institute of Logistics and Transport UK, (2012) Logistics is the placement and delivery of resource at the right time, in the right place, at the right cost, at the right quality.

According to The Council of Logistics Management (1998), Logistics deals with the process of planning, implementing and controlling the efficient and the effective flow and storage of goods from point of origin to point of consumption for the purpose of confirming the customer requirement.

According to Tilanus (1997) logistics is the process of forecasting the needs and wants of customers, arrange the capital, materials, peoples, technologies and information communication system important for the accomplishment of activities in order to satisfy the needs and wants of customers..

Logistics is defined by council of logistics management as the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption for the purpose of conforming to customer requirements.

2.3. Phases of logistics

The military was the only entity that used the term logistics in the 1950s and 1960s. In private enterprise at the time, there was no true concept of logistics. Material handling, warehousing, machining, accounting, marketing, and other departmental silos were the norm instead. Workplace logistics, facility logistics, company logistics, and supply chain logistics are the five stages of logistics development (Edward frazelle 2002).

Work place logistics; the flow of materials at a single workstation is referred to as work place logistics. The goal of workplace logistics is to make it easier for someone working at a machine or on an assembly line to move about. Industrial engineers working in WWII and post-WWII production operations discovered and developed it. Ergonomics is a common term for workplace logistics nowadays.

Facility logistics; the flow of material between work stations within the four walls of a facility (inter-work station and intra-facility logistics) is referred to as facility logistics. Material handling has become a more frequent term for facility logistics. The origins of facility logistics and material handling may be traced back to the mass manufacturing and assembly lines of the 1950s and 1960s.

Corporate logistics; Corporate logistics; as time passed and technology advanced, the ability to assimilate and synthesize departments (material handling, warehousing, and others) into functions (physical distribution and business logistics) ushered in the first application of true logistics within a corporation in 1970. The flow of materials and information in a company is known as corporate logistics.

Supply chain logistics; the transfer of materials, information, and money between organizations (inter-workstation, inter-facility, inter-corporate, and intra-chain) is known as supply chain logistics. The words logistics and supply chain management are sometimes used interchangeably. I separate the two by stating that the supply chain is a network of facilities (warehouses, factories, terminals, ports, etc.) that work together to deliver goods.

What happens in the supply chain is logistics. Customer service, inventory management, supply, transportation, and warehousing are all logistics operations that link and activate the supply chain's items. Logistics, to use a sports comparison, is the sport that takes place in the supply chain arena.

Global logistics; the flow of materials, information, and money between countries is referred to as global logistics. Internationally, global logistics connects our suppliers' suppliers with our clients' customers. Due to globalization in the international economy, growing usage of trading blocs, and global access to Web sites for buying and selling merchandise, global logistics flows have risen substantially in recent years.

Because worldwide commerce involves so many different handoffs, actors, languages, papers, currencies, time zones, and cultures, global logistics is far more complicated than domestic logistics.

Next-Generation Logistics; Logistics of the Future Many hypotheses exist on the next phase of logistics development. Collaborative logistics, logistics models developed with continuous and real-time optimization, and communication between all supply chain stakeholders, according to several logisticians, will be the next phase of evolution.

2.4. Logistics activities

Customer response, inventory planning and management, supply, transportation, and warehousing are all interconnected operations, according to Edwared Frazelle (2002).

Customer response, inventory planning and management, supply, transportation, and warehousing Customer Response;

Customer response; Consumer response connects logistics to the customer base on the outside and sales and marketing on the inside. When the customer service strategy (CSP) that yields the lowest cost of missed sales, inventory carrying, and distribution is determined and implemented, customer reaction is optimized

The logistics of customer response includes the activities of;

- Creating and maintaining a customer service policy
- Keeping track of client happiness.
- Entry of Orders (OE).
- Order Fulfillment (OP).
- Billing and collection services.

Inventory Planning and Management; The goal of inventory planning and management (IP&M) is to establish and maintain the lowest feasible inventory levels while still meeting the customer service policy's criteria.

The logistics of inventory planning and management includes;

• Forecasting Order
• Quantity engineering.
• Improving the service level.
• Planning for replenishment.
• The distribution of inventory.

Supply; Supply is the process of accumulating inventory (through manufacture and/or acquisition) to meet inventory planning objectives. The goal of supply management is to reduce total acquisition costs (TAC) while satisfying the customer service policy and inventory master plan's availability, reaction time, and quality criteria.

The logistics of supply include;

- Establishing and adhering to a Supplier Service Policy (SSP).
- Sourcing.
- Integration of suppliers.
- Processing of purchase orders.
- Purchasing and making a payment.

Transportation; Transportation connects the supply sources identified during sourcing with the consumers we've opted to serve as part of our customer service philosophy. We put transportation in fourth position on the logistics activity list because the customer service policy's deliver-to locations and reaction time criteria, as well as the supply plan's pick-up sites, must be in place before a transportation scheme can be established. The goal of transportation is to connect all pick-up and delivery sites at the lowest feasible cost while adhering to the customer service policy's reaction time criteria and the transportation infrastructure's limits.

The logistics of transportation includes;

- Shipment management
- Network design and optimization.
- Container and fleet management.
- Management of the carrier.
- Transportation management.

Warehousing; The goal of warehousing is to reduce the cost of personnel, space, and equipment in the warehouse while satisfying the customer service policy's cycle time and shipment accuracy criteria, as well as the inventory play's storage capacity needs.

The logistics of warehousing includes

- accepting
- Disposal
- Keeping everything in order.
- Picking up orders.
- Transport.

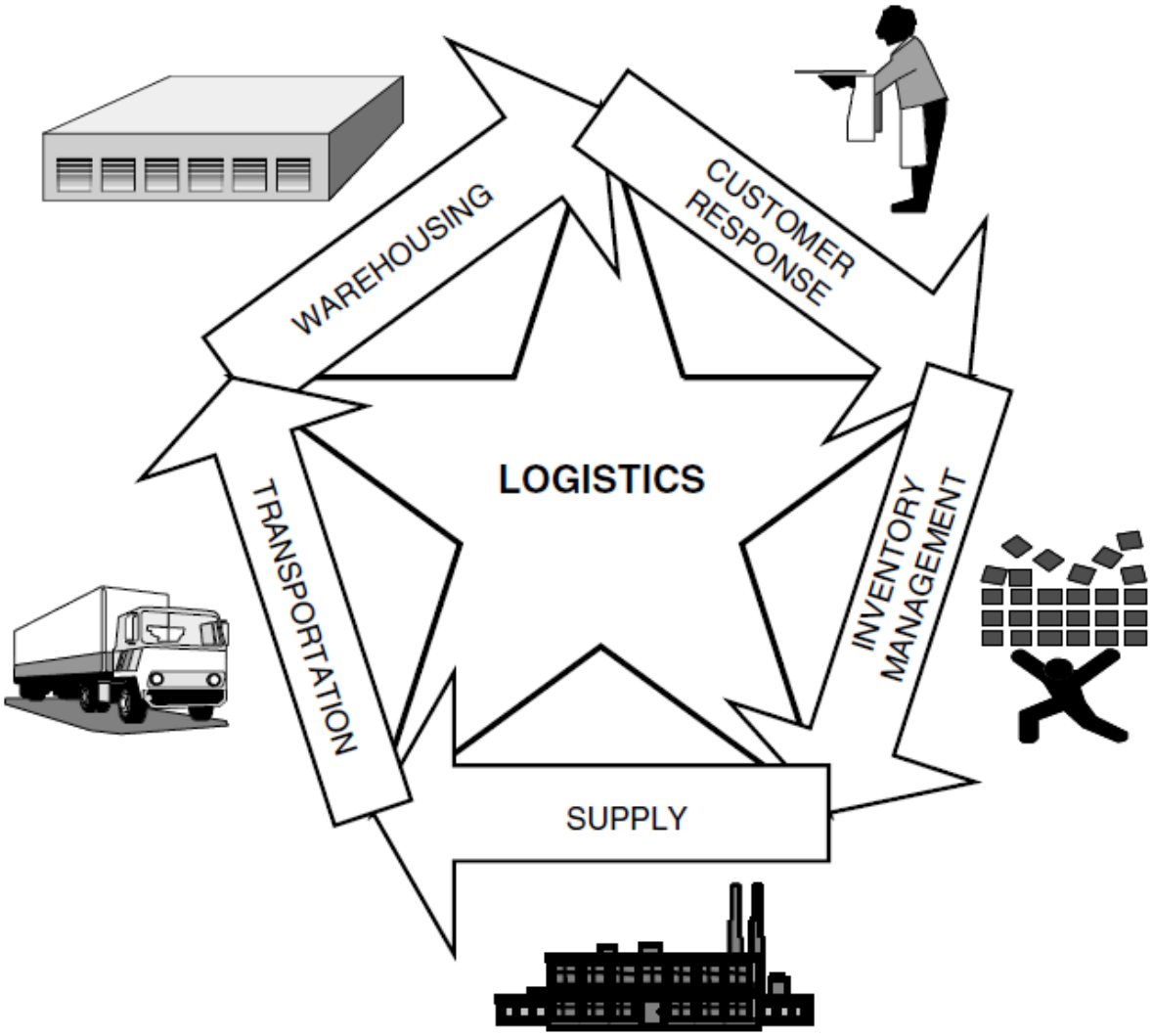

Figure 2.1 interdependent logistics activities (Edwared Frazelle(2002)

2.5. Role of Logistics

Logistics is playing an increasingly important role in value creation, revenue enhancement, capital consumption, and expense control. As a result, logistics financial performance is playing a bigger role in corporate financial performance. Measuring and improving logistics financial performance is increasingly important in measuring and improving corporate financial performance (Edward Frazzle 2002).

Logistics play a key role in both micro and macro perspective. From a micro perspective, logistics service could fulfill the customer's expectations through excellent logistics service provision and from a macro perspective; it drives the economic development of a country.

Worldwide, logistics has started its role as early as in the beginning of 19th century in the area of distributing farm products (Lambert, Stock, & Ellram, 1998) and it continues to evolve still today. Logistics could also improve business performance through its flexibility and advanced technology application, thus leading to organizational success (Tracey, 1998).

Logistics is increasingly playing an important role in everyday business activities, and becoming a major factor of differentiation in the market, as referred to by Bowersox et al. (2003) and Gunaseakaran and Ngail (2003). In the current competitive climate there is strong pressure, on one hand, to operate in product and service differentiation, and on other hand, operate on the price factor allowing its reduction. As Melnyk et al. (2009) mention, logistics can manage these aspects, constituting a strategic or value-creation tool.

Ronald (1997) agrees logistics is the most useful activities all over the world for organizations to create value for customers.

According to lamber and stock (2001) Logistics play the most important roles; these are satisfying customer, coordination and increase profit.

So, logistics in intra-organizational and inter-organizational functions is a prominent activity in companies, since this plays an important role in supply management, both internally and externally.

2.6. Definition of logistics performance

Logistics performance is one of the tools used to analysis the nation's income and organizations from a wide array of private and public actors.

LP is defined as 'analysis of both effectiveness (doing the right time) and efficiency (doing a work at a right time and in the right way) in accomplishing a given task' (Mentzer & Konrad, 1991). LP as a metric used to quantify the efficiency and or effectiveness of an action (Neely, Gregory, & Platts, 2005).At the logistical level, the importance of analyzing performance was first shown in the work of Bowersox and Closs (1996), who reported that measurement of logistics performance consisted of a methodology for analyzing resources of the logistic function, and its main objectives were monitoring and control of the logistics operations.

As Robb et al. (2008) mention, since logistics deal with physical, informational and cash flow management, it is generally recognized as a major determinant of business performance, but practices particularly in terms of performance analysis, are still at the stage of being studied by professionals and academics.

2.7. Performance Measurement

Logistics performance is influenced by factors such as: effectiveness, efficiency, differentiation, flexibility, responsiveness, quality, operational metrics, and service level and logistics costs. So, in order to assess the performance, the above indicators are important to make an assessment and take actions on weakness and keep the strength (Fugate, B. S., Mentzer, J. T. and Stank, T. P. (2010).

The World Bank's Overall Logistics Performance Index is measured on a scale of 1 (low) to 5 (high). This measure is the weighted average of the country scores covering six sub-dimensions of logistics performance. These sub-dimensions include:

- ✓ the ability to track and trace consignments;
- ✓ the competence and quality of logistics services;
- ✓ the ease of arranging competitively priced shipments;
- ✓ the efficiency of customs clearance process;
- ✓ the frequency with which shipments reach consignee within scheduled or expected time; and
- ✓ The quality of trade and transport related infrastructure. All these sub-dimensions are also measured on a scale of 1 (low) to 5 (high).

According to Töyli et al. (2008), logistic performance includes three components: (1) the service level that aims to characterize the service quality for logistics clients, the level of perfect orders and the duration of the cycle; (2) operational metrics that characterize the logistics performance based on time, including stock rotation and average payment and receipt; (3) the level of logistics costs that characterize the efficiency of logistics operations.

As Robb et al. (2008) mention, since logistics deal with physical, informational and cash flow management, it is generally recognized as a major determinant of business performance, but

practices particularly in terms of performance analysis, are still at the stage of being studied by professionals and academics.

2.8 Time

To increase commerce and allow products to reach their destinations, effective infrastructure and simplified customs procedures are required (Hummels, 2012). The customs process for electronics might be more efficient in terms of both time and cost. In reality, openness and harmonization regulations can help to decrease corruption (Raus, Flügge, & Boutellier, 2009). Despite the advent of paperless procedures that increase customs efficiency, great customer service remains a challenge.

2.9 Quality

Quality logistics infrastructure is critical for attracting domestic and foreign investors who want to start or grow their businesses (Zuraimi et al., 2012). Infrastructure efficiency allows the country to attain enormous economies of scale, which reduces the average time cargo spend at sea and in ports (Brooks & Stone, 2010).

In the context of Malaysia, the logistics infrastructures have improved gradually. With exception to Sgouridis (2003), a study focusing the logistics infrastructure in Malaysia is lacking. Sgouridis (2003) found some delays in the delivery of goods to and from the port. The delay was due to congestion as 95% of the freight transported to and from Port Klang is carried by truck and the railway performance was not adequate. Recently, Zuraimi, Mohd Rafi, &Dahlan (2013), who examine the current logistics infrastructure in East Coast Region of Peninsular Malaysia found that most firms, who have been in the business for more than 10 years rated neutral on the quality of infrastructure.

2.10 Cost

Cost has always been the most important factor to consider when evaluating logistics performance (Andersson et al., 1989; Banomyong & Supatn, 2011). A few studies only focus on other dimensions such as lead time, quality and flexibility (Andersson et al, 1989). Transportation and inventory carrying cost are the main logistics cost (Forslund, 2007; Kunadhamraks & Hanaoka, 2008). Across industry, Logistics cost differs widely among companies (Wallenburg& Weber, 2005), However, numerous issues raised and discussions have

been lacking in rectifying various issues on costs. Cost, time used to deliver the services and levels of risk are the factors that affect the performance of logistics (M. Andersson & Banomyong, 2010).

S.NO	Activities	Cost indicators	Quality indicator	Response time indicators
1.	Customer response	Total response cost Response cost per customer order	Order entry accuracy Status communication accuracy Invoice accuracy	Order entry time Order processing time
2.	Inventory planning and management	Total inventory cost Inventory cost per SKU	Fill rate Forecast accuracy	On time recording of inventory
3.	Supply	Total supply cost Supply cost per PO	Perfect PO percentage Selection of right suppliers	Purchase order cycle time
4.	Transportation	Total transportation cost Transportation cost per mile	On-time arrival percentage Damage percentage Miles between accidents	In-transit time
5	warehousing	Total warehousing cost Warehousing cost per piece Warehousing cost per square foot	On time Inventory recording On time Picking On time Shipping Damage free Number of accidents	Warehouse order cycle time
6.	Total logistics	Logistics expenses Logistics profit Logistics asset value Logistics asset turnover Logistics capital charges Total logistics cost Logistics cost-sales ratio Return on logistics assets Logistics value added	Perfect order percentage Total	logistics cycle time

Table 2.1 logistics performance measurement matrix (Eduard Frazelle slightly modified)

2.11 Empirical Review

The studies done by Bryian S Fugate, John T Mentzer and Tewedro P Stank (2005), on logistics performance by using efficiency, effectiveness and differentiation as performance indicators, the researcher take sampling frame from only logistics professionals but in order to assess the performance the researcher should take sample from each level of employees because there is a problem under bottom level employee that face to do their job and perform well. The researcher also used questionnaire as a source of data collection.

The other study conducted by Byrne and Markham (1991), on logistics performance by focusing only quality and productivity as a logistics performance indicator. Focus is on quality; a key value of this book lies in its treatment of performance indicators for various dimensions of logistics.

Gassenheimer, Sterling and Robicheaux (1989), conducted a research on logistics performance focusing on time, length of promised order cycle times for base-line in-stock products, manufacturer's performance in meeting promised delivery dates, fill rate on base-line in-stock items, advance notice on shipping delays, accuracy of manufacturer in forecasting and committing to estimated shipping dates on contract project orders, manufacturer's adherence to special shipping instructions, accuracy in filling orders Mail survey only Executives is a method of data collection.

According to Töyli (2008), logistics performance on Finnish SMEs, These conclusions underscore the central importance of the investigations carried out by the authors, but also alert us to the fact the assumptions are not comprehensive, suggesting that performance analysis can be enhanced with the introduction of other explanatory variables or consideration of new interactions between existing variables. The major limitation of this study is not testing the theoretical model presented. Since this work is essentially theoretical, it makes an exhaustive bibliographic review of the field, but lacks practical application that allows the model to be tested in real situations with SMEs. This is a suggestion for future research, which we intend to carry out in the near future.

The study by Azmat Gani 2017 on logistics performance effects on international trade, the result shows that the overall logistics is positively and statistically correlated with imports and exports. The study was conducted by samples taken from sixty countries and four year data. The study also extended the analysis by examining six measures of logistics specificities on trade, providing strong confirmation of positive and statistically significant correlation of all the six of the logistics specificities with exports.

According to Mansidão and Coelho, 2014:4, a research conducted an empirical analysis on logistics performance based on order cycle times of products, performance in meeting promised delivery dates, fill rate items, advance notice on shipment status, accuracy of manufacturer in forecasting and on time shipping dates on contract/project orders, manufacturer's adherence to special shipping instructions, accuracy in filling orders as appropriate measures for logistical performance. The data was gathered from mail surveys from executives the result shows that soft measurement has importance for capturing logistical performance and increase customer satisfaction.

2.12. Conceptual framework

The focal point of the development of the conceptual framework is based on the fact that good performance of the logistic function provides a good level of organizational performance, which can be achieved by market competitiveness. Thus, logistics performance is assumed to be a determinant of organizational profitability because good performance of logistics activities is associated with efficient operations and reduced costs, and leads to high asset productivity (Yang, 2012). The researcher assesses logistics performance in terms of logistics time, logistics cost and logistics service quality.

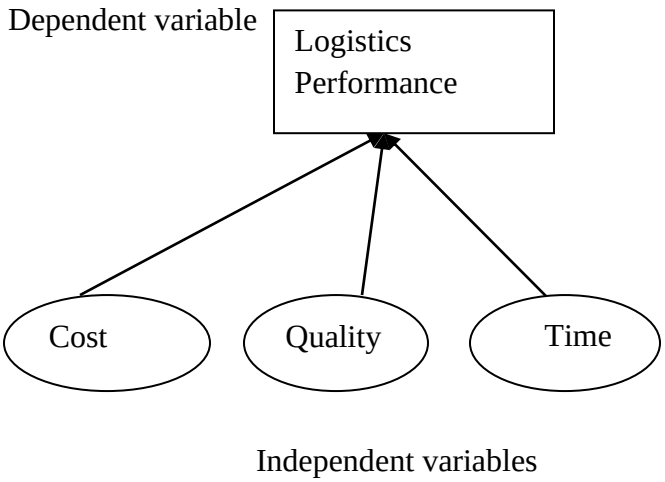

Figure 2.2 Conceptual framework model Töyli et al. (2008)

2.13 Literature Gaps Identified

The articles and research papers have the following major gaps; considering the enterprise as a takeover to others, poor sampling method, failure to justify sample size selection method and number of sample size, failure to cover samples from employees and lacking focus on operational level. Conceptual gaps as the researcher focuses on a single variable to assess the performance. So, the researcher tries to fill the gaps identified. Most researches listed above are conducted the study by selecting samples from executives only. This shows the result focus only strategic ideas, but logistics is the result of coordination between different stakeholders and all levels of the organizations.

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

Introduction

The design and methodological aspects of a research were the road map that the study should follow in order to achieve its goal. As a result, great care must be used when laying up this route map. As a result, a detailed description of the research's specific design has been provided, as well as data sources and collection methods, the target population, unit of analysis, and respondents, instrument types and development procedures, dimensions and corresponding measurement items, and data processing, analysis, and presentation procedures.

3.1 Description of the Study Area

The study was conducted at Ethiopian shipping and logistics service enterprise. The company is found at Addis Ababa around Leghar Ethio-Djibouti rail station. The Ethiopian Shipping and Logistics Service Enterprise (ESLSE) is a new enterprise established in November 2011 by the council of minister's regulation No 255/2011 merging the Ethiopian Shipping Lines Share company, the Ethiopian Maritime and Transit Service Enterprise and the Ethiopian Dry Port Service Enterprise. The Ethiopian shipping and logistics enterprise (ESLSE), a state-owned company, as a carrier, render to its esteemed customers sea freight transport, stevedoring (at port of Djibouti), multimodal transport service, freight forwarding and clearing, dry ports, full-fledged services and warehousing etc. For providing all the services mentioned earlier, the enterprise spends huge amounts of money in foreign and local currency. The organization is now organized by four sectors namely shipping sector, freight forwarding, port and terminal and corporate. The reason for conducting the study under this organization is that the organization is one of the biggest logistics service provider organization found in Ethiopia. Now the organization is the only multimodal transport operation and dry port and terminal operator in Ethiopia. Currently the organization is the holder of 11 vessels and operates 8 dry ports in different areas of Ethiopia. Source (ESLSE website January 11 2021).

3.2. Research approach

The research was conducted by using mixed approach (quantitative and qualitative research approaches). It is more than simply collecting and analyzing both kinds of data; using mixed research approach increase the efficiency of the study than using one type of research approach. (Creswell & Plano Clark, 2007).

Quantitative approach, as the name implies presenting data by using numbers. But qualitative research approach is the use of subjective opinions, attitudes and fillings in order to present data (Kothari, 2004).

According to (Mark et al., 2009) using mixed research approach has the strength to identify the weakness and strength of the study.

3.3. Research Design

Descriptive type of research design applied to assess logistics performance of ESLSE. Descriptive research design is used to describe independent and dependent variables and it is a scientific method of carrying out a systematic or formal inquiry in which data is collected and analyzed in order to describe the current conditions, terms concerning in a certain specific field Problem (Mugenda, 2003). The design of the study was descriptive because the researcher wants to assess the performance of logistics currently by comparing the previous one. Descriptive research seeks to determine the answers to who, what, when, where, and how questions.

3.4. Population and sample design

3.4 1. Population

The population of this research was employees of ESLSE at head office. Employees found at four sectors which is shipping sectors, freight forwarding, port and terminal and corporate sectors. The total number of population of ESLSE found at head office is 723 from which 654 employees are permanent and 69 employees are temporary.

3.4.1. Sample design and sampling frame

According to C. R Kothari 2004, Sample frame is from which sample is to be drawn. It contains the names of departments under this study. The sample frame of this study was shipping and freight forwarding sectors.

3.4.2. Sampling unit

Sampling unit may be a geographical one such as state, district, village, etc., or a construction unit such as house, flat, etc., or it may be a social unit such as family, club, school, etc., or it may be an individual. The researcher has to decide one or more of such units to select the sample under study. The sampling unit of this study is managers and staffs who are directly related to the topic are working on freight forwarding sector which contains (Multimodal and Uni-modal) departments, shipping sectors contains (commercial departments).

3.4.3. Sampling Technique

There are two types of sampling method, but for this study the non-probability sampling method from which convenience sampling was used to select respondent. Convenience samples are sometimes referred to as 'accidental samples 'for the reason that elements may be drawn into the sample simply because they just happen to be situated, spatially or administratively, near to where the researcher is conducting the data collection**.** Convenience sampling is defined as a method adopted by researchers where they collect market research data from a conveniently available pool of respondents. It is the most commonly used sampling technique as it's incredibly prompt, uncomplicated, and economical. In many cases, members are readily approachable to be a part of the sample.

3.4.4. Sample size

According to C.R Kothari 2004, sample size means the number of respondents taken from the population used for the study. The size of sample should neither be excessively large, nor too small. It should be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility.

Having this, the number of the sample is determined by using sample size determination formula developed by Yamane (1967). According to Deborah Rumsey 2010, the most commonly used confidence interval is 80%, 90%, 95%, 98% and 99%. But for this study the researcher used 90% confidence level because reducing the number of sample size doesn't matter on the result of the study as the respondents are more homogeneous.

$$n=\frac{N}{1+Ne2}$$

$$n=\frac{723}{1+723(0.10)2}=86$$

Where;

n=sample size,

N=population size,

e=the error of sampling (precision)

3.5. Data source and types

Primary and secondary type of data is considered in order to conduct the study. Primary data is collected by the researcher through questionnaire and informal interview. The secondary sources are taken from annual reports and website of the organization.

3.6. Data Collection Procedures

To conduct this study, the researcher used both primary and secondary data collection tools such as questionnaire for managers and staffs of Ethiopian shipping and logistics service enterprise and interviews for selected persons in a written form. Secondary data was taken from organization annual report and related books.

3.6. Ethical Consideration

According to Belmont Report (1974), keeping the privileges of the respondents are important in order to conduct a study. This are Respect for persons, Beneficence and Justice. The researcher tries to keep the safety and privileges of the respondents as a professional.

3.7. Reliability and Validity Tests

3.7.1. Reliability

Reliability means the extent to which variables fulfill in order to conduct a research. Reliability analysis used to measure the consistency of items of a questionnaire. There are different methods

of reliability test methods, but for this study the researcher used Cronbach‘s alpha reliability test. Cronbach‘s alpha is also the most common measure of reliability.

According to Joseph and Rosemary (2003), Cranach’s alpha reliability coefficient (α) normally ranges between 0 and 1. According to these authors, there is a greater internal consistency of the items if the Cranach’s alpha coefficient closes to 1.0.

The appropriate test for reliability is inter-item consistency reliability which is popularly known as the Cronbach’s coefficient alpha.

Based on the following rule of thumb of (George and Mallery, 2003, p. 231), if “α > 0.9 – ‘Excellent’, α >0.8 – ‘Good’, α >0.7 – ‘Acceptable’, α >0.6 – ‘Questionable’, α >0.5 – ‘Poor’, and α <0.5 – ‘Unacceptable.

Table 3.1 Cronbach’s Alpha test of variables

S.NO	Variable Name	Cranach’s Alpha	Cranach’s Alpha Based on Standardized Items	№ of Items	reliability ranges
1	Logistics performance based on time	.843	.843	9	Good
2	Logistics performance based on quality	.846	.849	9	Good
3	Logistics performance based on cost	.894	.894	8	Good
	Over all	.817	.826	26	

3.7.2. Validity

The validity of this research design is checked and approved by the advisor of the researcher. Cronbach's alpha reliability test result also ensures the validity of questions.To ensure the validity checking the questions whether they are related to the variables that the researcher used or not was tested by the researcher.

3.8. Method of Data analysis

The method of data analysis and presentation was based on the type of instrument employee to gather information. Data obtained from questionnaires was analyzed first raw data have tallied and tabulated. After that by using descriptive statistics (frequency, mean and standard deviation) data analyzed and presented supported by SPSS software version 23. Secondary data collected from annual report of the organization was presented by using qualitative method. Based on the results find, analysis, interpretations and necessary discussions made to clarify the result also presented.

After the data was analyzed, the data was presented by using statistical tools like tables, percentages; frequency and mean, as a major tool of presentation and analysis of data were used.

CHAPTER FOUR

4. DATA ANALYSIS, PRESENTATION AND DISCUSSION

INTRODUCTION

The data gathered from respondents through questionnaire and interview questions are analyzed, presented and discussed based on the objective of the study set above. The data gathered from the respondents are important to show logistics performance of the organization. In order to analyze the data, the researcher used descriptive statistics.

Descriptive statistics consists of central tendency measurements (frequency and frequency distribution, percentage, valid & cumulative percentages). In addition, tabular explanations are used with the help of SPSS. Secondary data also used from organizational annual reports to see the logistics performance and cross check the result with questionnaires results gathered from the employees.

4.1. Response rate

A total of 86 questionnaires are disseminated to employees of ESLSE at head office, specifically employees found on shipping and freight forwarding sectors and 77 questionnaires are collected which is approximately 90% response rate. According to Babie (1979), the return or success rate 50% is ‘adequate’; 60% response rate is ‘good’ and 70% rate or higher is ‘very good’.

4.2. General Background of the Respondents

This section describes the general back ground of the respondents about their sex, age, and work experience and education level.

Table 4.1. Back ground information of the respondents

	Gender	Frequency	Percent
Valid	Male	40	51.9
	Female	37	48.1
	Total	77	100.0
Valid	Age	Frequency	Percent
	Below 25 years	8	10.4
	Between 26-35 years	48	62.3
	Between 36-45 years	17	22.1
	Above 46 years	4	5.2
	Total	77	100.0
Valid	Work experience	Frequency	Percent
	1-5 years	31	40.3
	6-10 years	29	37.7
	11-15 years	13	16.9
	Above 15 years	4	5.2
	Total	77	100.0
Valid	Education level	Frequency	Percent
	Diploma	7	9.1
	Degree	59	76.6
	Masters	11	14.3
	PHD	0	0
	Total	77	100.0

Source; own survey data; May 2021 (SPSS output)

From the above table 4.2; the result shows most of the respondents are male accounted for 40(51.9%) and the remaining respondents are female constituting 37(48.1%).

the result shows, 48(62.3) of the respondents are aged between 26-35 years, 17(22.1%) sampled respondents are age range between 36-45 years, 8(10.4%) respondents are age below 25 years and 4(5.2%) sample respondents are aged above 46 years.

The result shows most of the respondents have work experience between 1-5 years accounted 31(40.3%) from the total sample taken by the researcher, 29(37.7%) of the respondents have work experiences between 6-10 years, 13(16.9%) of the respondents have work experiences between 11-15 years and 4 (5.2%) of the respondents have work experiences above 15 years.

The result shows majority of sampled respondents 59 (76.6) are degree qualifications, 11(14.3%) respondents are master's degree holders, 7(9.1%) of the respondents are diploma holders.

4.3. Data analysis of logistics performance of ESLSE

Analysis of data by using data collected from the respondents by questionnaire to assess the logistics performance of ESLSE by variables as developed by Toyli (2008) was presented based on respondents response for each questions arranged by likert five scale. The scales are 1(strongly disagree) to 5(strongly agree).18 questions are distributed to respondents arranged by two variables (logistics performance related to delivery time and logistics performance related to service quality) and eight questions are asked the respondent to give their level of agreement by a five point Likert scale response format ranging from 1(very low) to 5(very high) to assess logistics performance based cost of logistics.

Table 4.2. Descriptive Statistics for logistics performance based on time

Items	N	Mean	Std. Deviation
All logistics activities are doing on time in your organization.	77	3.26	1.005
Employees are voluntary to do their activities on time.	77	3.83	.801
Information communication in the company to deliver service for customer is on time.	77	3.29	1.024
The organization provides logistics service to customers at the right time.	77	3.35	.929
On time delivery (time between order receiving to order settlement) is based on standard time set by your organization	77	3.45	.953
Cargo delays because of your company problem are there any compensation for the delay (demurrage).	77	2.66	.982
Notify on time about the status of the shipment to customers.	77	3.90	.852
Transportation management system of the organization has the ability to deliver the shipment on time.	77	3.53	.968
Availability of fast transport system to reduce transit time and cost of transit like rail and heavy-duty trucks.	77	4.05	.958
Valid N (listwise)	77		

Source; own survey data may, 2021

From the above table 4.6, the result shows the descriptive statistics of the performance of logistics by delivery time. The result is based on sample respondents gathered through questionnaires distributed.

From the table 4.5, the mean scores range from 2.66 to 4.05. This shows that based on the respondents the organization have good performance on using rail and heavy-duty trucks to transport cargo with short time because the mean score is 4.05 so the respondents are agreed. But the performance is low when cargo delay by the organization problem that means the customer is liable for demurrage the mean score is 2.66, implies most respondents are disagree on this question. Majority of the respondents agree on employees voluntary to do their activities on time because the mean score is 3.83 and standard deviation is .801. Organizational performance regarding notification of shipment status to customers is good as the mean and standard deviation

is 3.90 and .852 respectively. from the results the performance of on time delivery and on time service of the organization is good performance because the mean is 3.45 with 44.2% and 10.4% of respondents are agreed and strongly agreed and the mean is 3.35 with 45.5% and 6.5% of the respondents are agreed and strongly agreed.

Table 4.3. Descriptive Statistics for logistics performance based on cost

Item	N	Mean	Std. Deviation
Cost of transportation	77	2.95	1.062
Cost of clearance and port dues	77	2.99	1.198
Cost of warehouse and storage	77	2.84	1.027
Loading and unloading cost	77	2.87	1.056
Documentation cost.	77	2.30	1.014
Packaging cost (stuffing and unstuffy cost in case of export and customs inspection).	77	2.71	.930
Information and consultancy service cost	77	2.60	.990
Other logistics costs	77	2.62	1.064
valid N (listwise)	77		

Source; own survey data may 2021

From the above table 4.8, the result shows the descriptive statistics of logistics performance based on cost. The result shows the cost of logistics is reasonable and fair as the mean score of all item is below 3.00. So the levels of agreement of the respondents are low. Because currently the organization use rail transport for inland transport from Djibouti to Modjo to transport containerized cargo and Natherat and Indode rail station to transport bulk cargos like fertilizer and wheat. This enables that inland transportation cost is reduced. The cost of transportation by trucks is also reasonable because fuel cost, spare part and inflation of price increase every time.

Table 4.4. Descriptive Statistics for logistics performance based on quality

Item	N	Mean	Std. Deviation
Service quality of your organization meets customer expectations.	77	3.43	.992
Perfect delivery without damage.	77	3.56	1.006
Trends of claims free shipment.	77	3.13	.833
Share exact information to customers about the shipment.	77	3.91	.814
System quality to handle logistics activities on time and easily.	77	3.44	.980
Quality of port and port machinery to handle loading and unloading activities at dry ports.	77	3.42	.908
Availability of transport facilities when needed.	77	3.55	.867
Reliability of logistics facilities to provide service as promised.	77	3.74	.894
There is clear logistics procedure to render service based on procedure	77	3.64	1.038
Valid N (listwise)	77		

Source; own survey data may, 2021

From the above table 4.7, the result shows the descriptive status of logistics performance of ESLSE based on quality of service. Based on the data gathered the performance is good but there is a strong variation of respondents because the mean score for the questions are between 3.13 and 3.91.as the table shows the organization has clear logistics procedure to render service because most respondents are agreed with response rate of 41.6% and strongly agreed response rate is 20.8%. The organization has reliable logistics facilities based on the respondents as the mean score shows 3.74 and standard deviation .894. The organization starts to supply empty container for export purpose when customers need and start staffing and unstuffing services at kality and Modjo dry ports previously conducted at Djibouti.

Table 4.5. Performance of logistics by time quality and cost (Descriptive statistics)

Logistics performance	Mean	Standard Deviation
Logistics delivery time	3.48	.94
Logistics service Quality	3.53	.92
Logistics Cost	2.73	1.04

Source; survey result May, 2021

Table 4.11 shows the result of descriptive statistics by three-logistics performance indicators based on arithmetic mean and standard deviation.

Based on the mean comparison of the independent variables shown in table 4.11, it can be seen that logistics service quality is ranked first followed by logistics delivery time and logistics cost.

Logistics performance based on delivery time account to the issue of delivering basic logistics activities on standard time. 3.48 And 0.94 the result of the mean and standard deviation respectively.

Logistics service quality account to the measures how well the service qualities are rendered based on different dimensions like perfect delivery, claim free service, availability of logistics facilities and others. The mean score and standard deviation for logistics service qualities was 3.53 and 0.92 respectively.

On the other hand, logistics cost accounts to cost of transportation, clearance cost and port dues, warehouse and storage, loading and unloading cost and others logistics cost. The mean score and standard deviation for logistics cost is 2.73 and 1.04 respectively.

Generally; from the results the logistics performance of ESLSE is neutral based on delivery time and good service quality because the mean score and standard deviation shows 3.48 and 3.5 and .94 and .92 respectively. Logistics cost of the organization is reasonable because the result shows that the mean is nearest to 3 based on respondents view as the mean score and standard deviation shows 2.73 and 1.04 respectively.

Table 4.6. Correlations analysis

		TIME	QUALITY	COST
TIME	Pearson Correlation	1	.791**	.446
	Sig. (2-tailed)		.000	.000
	N	77	77	77
QUALITY	Pearson Correlation	.791**	1	.317**
	Sig. (2-tailed)	.000		.005
	N	77	77	77
COST	Pearson Correlation	.446	.317**	1
	Sig. (2-tailed)	.000	.005	
	N	77	77	77

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

Source; survey result may' 2021

From the table 4.11, the overall correlation table shows that there is a positive significant Pearson correlation between delivery time, cost of logistics and service quality with performance of logistics as Pearson correlation is 0.791 and 0.446 according to Borgs (1963).

4.4. Results & Discussions of Interview Questions

The questions are distributed and collected from six managers and coordinators of departments. The researcher used informal interview by a written form because this type of interview gives a time to the respondents to think more and forward good information for the questions asked by the researcher. Based on the data collected the following points are raised. The performance of ESLSE is improved from time to time by Reduce transit time, increase the number of shipment accomplished by standard time, Increase shipment tonnage year to year, increase container flow, flexibility by building new dry ports to different area of the country reached the number of dry ports to eight (8) Mdojo. Kombolcha, Semera, Dire Dawa, Mekkelle, Gelan, Kality and Woretta start operation last year and other three branch office Djibout, kality and Hawassa. Now the organization work with agents over 322 seaports all over the world with three trade routes,

Fareast trade route, Middle East trade route and Europe and Africa. And also render weaver service when customers import or export these trade routes.

The organization also increase performance by rendering credit service for most organization and has given 25% transport discount especially for industrial and manufacturing industries. Now the organization used modern port facilities like reach stacker, terminal chassis and terminal tractor and RMG for loading and unloading container from rail. Also start using modern ICT system starting from October 2020 which is oracle in order to facilitate information flow but is at infant stage.

Coordination with other stakeholders, as logistics is the result of operational work is still poor but some improvements for example coordination with customs is good because customs start online declaration system last year.

Even if the cost of transportation is increase from time to time because of hard currency exchange rate, fuel and spare parts are increased, the organization try to use their own trucks and rail way to reduce cost of transportation. Also make an agreement with cross border transport association for one year to decrease transportation cost as cost of transportation is increase from time to time. Start the operation of bulk cargo like fertilizer and sugar starting from last year by organizational capacity from port of loading to final destination.

Generally, from mangers and coordinators view the performance is somehow increasing from time to time but not as expected because the organization is the only operator of vessel and multimodal transport operation.

4.5. Analysis of Secondary Data

The analysis of secondary data collected from ESLSE planning department of the organization presented below. The researcher used secondary data in order to check the result of delivery time, service quality and cost of logistics with data collected by questionnaire. The annual report of the organization shows that, performance of the organization increases from time to time but not expected because the organization does not meet the plan even though surpass the progress of previous year. Secondary data covers previous three your reports of organizational annual performance from 2010-2012 E.C

Based on the data from secondary sources the organization takes the following actions to increase service quality, decrease transit time and reduce cost of logistics; Starting the operation of ERP by making agreement with Oracle Company, Increase port space utilization and increase the capacity of port especially Modjo dry port, Increase flexibility by building new ports to satisfy customers, Increase the usage of rail transport to decrease transit time, decrease port demurrage at Djibouti by reducing transit time and cost of transportation, Using rail transport to transport empty container from Modji to Djibouti to decrease transit time from three days on average to one days this enables saving of container demurrage, Increase loading unloading capacity at dry ports by using modern reach stacker, terminal chassis and terminal tractor and RMG (rail mounted gantry) bought last year from Kone crane Corporation, Reduce sea freight to customers those using organizational vessels up to 38.3% for export customers, Reduce sea freight to customers those using vessels chartered by the organization by avoiding extra profit margin and working at break-even/cost sharing within the last three years, Reduce sea fright to customers that export by using organization vessels up to 75%, Design regular website that the customer able to trace the cargo at any time and everywhere. And also notify the shipment on time by SMS, direct phone call and posting the name of importer on board at head office and Brach office.

Table 4.7 Dwell time at port of Djibouti (under multi modal operation system)

		CONTAINER (per day)			RORO (per day)		
S.NO	YEAR	Plan	Actual	Performance	Plan	Actual	Performance
1	2010	5	9	55.5%	8	19	42%
2	2011	5	6.4	78%	8	15.73	51%
3	2012	5	9.53	52.4%	8	23	35%

Source; annual report from the organization

From the table above the organization performance is fluctuating from year to year. For example, container dwell time in 2010 is 9 days but it reduces to 6.4 days in 2011 and again increases to 9.53 days on average. The reason for the increment of dwell time in 2012 is Covid-19 pandemic because at this time suppliers cannot send the document on time as movement restriction in

different countries especially china and India most trade partners and 90% shipments come from these countries. And also drivers fear to load container because of the virus fast expansion and congestion at check areas. Shortage of hard currency to Djibouti port dues also the other problem for the delay of cargo. Shortages of car carrier trucks are the main reason for delayance of cars at Djibouti.

Table 4.8 total cargo transported by sea (per ton)

S.NO	Year	Container	RORO	Packages	Steel	Break bulk	Overall
1	2010	2,347,290	58,252	273,045	246,090	114,0892	4,065,569
2	2011	2,564,904	22,337	328,664	649,758	77,2774	4,338,437
3	2012	2,436,393	25,654	373,287	694,641	3,159,206	6,689,181

Source; annual report of the organization

From the table the report shows organizational performance increase from time to time in terms of shipping services that cargo transported by the organization by sea. The organization uses their own vessels, slot carrier and chartered vessels to run the operation on sea to transport the above type of cargo as the information shows from annual reports of the organization (ANNEX II). But even though the performance in terms of cargo per ton increases, delivery time was under standard.

CHAPTER FIVE

5. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The chapter covers the summary of major findings, conclusions and recommendations by the researcher based on the findings. The purpose of this study was to assess the performance of logistics in case of ESLSE and recommend the organization based on the result. Also recommend further areas of research study.

5.1 SUMMARY OF FINDINGS

Based on the data gathered by the researcher from primary (questionnaire, interview) and secondary data sources, the findings are listed below**.**

The researcher distributed a questionnaire to 88 samples, 77 questionnaires are collected from the respondents. The reliability of the questionnaires is tested by Cronbach's alpha and the result shows that a total of 26 items raised and the alpha value is .817. Based on George and Mallery, 2003, p. 231if "α > 0.9 – 'Excellent', α >0.8 – 'Good', α >0.7 – 'Acceptable', α >0.6 – 'Questionable', α >0.5 – 'Poor', and α <0.5 – 'Unacceptable. So, the alpha result is under the range of good.

From the findings majority of the respondents are male accounted for 40 from 77 respondents which is 51.9% and the remaining one is female accounted for 37 (48.1%). Majority of the respondents are aged between; 26-35 and 36- 45 accounted for a total of 84.4%, this implies that the organization is organized by young employees especially the sample frame that the researcher used to select the samples for this study.

90.9% of the respondents have education level of degree and masters this implies the employees are academically good knowledge. 78% 0f the respondents work experience are between 1-10 years this implies that as most employees are young the work experience also not that much high so organization is lucky because the employees are the capacity to serve long times gain extra experience through time and make the organization is more profitable.

Logistics performance is measured by different criteria but for this study the research used three logistics performance indicators; these are time, quality and cost of logistics. From the main questions of the study presented by questionnaire to the respondents the result is;

Logistics performance based on time; under this indicator there are nine items raised by the researcher and the result shows the delivery time of logistics is neutral because the mean is 3.48 (According to lady 2016). The secondary data also supports that there is a fluctuation in delivery time as three years dwell time at Djibouti and Modjo shows. but there is an improvement by dwell time because currently the organization try to minimize the transit time by using trail in case of Modjo dry port both full container from Djibouti to Modjo and empty container from Modjo to Djibouti by reducing the transit time to one day compared to three days by trucks. The reason behind this problem as presented by secondary source is lack of hard currency, lack of consolidated cargo when there is under capacity cargo and discrepancy of document or manifest.

Logistics performance based on quality; the other indicator used by the researcher is quality of service. The result shows that the quality of service is good as the mean score is 3.53. the organization improve service by using ICT infrastructures, using modern port and terminal technologies that facilitates logistics at dry ports, increase the capacity of loading per day from port of Djibouti to the country, use rail in case of Modjo to transport import and export container cargo and use rail in case of Nazerat and Indode rail station to transport fertilizer, and also tries to increase flexibility by increasing dry ports to eight and branch office to eleven. Currently the organization strives to satisfy customers by suppling empty container to customers for export purpose specifically Kality branch office and Modjo dry ports.

Logistics performance based on cost; the most important logistics performance indicator is cost of logistics because in today's world the cost of logistics accounts for 20% of world GDP. The result shows that the cost of logistics is reasonable because the mean score is 2.73. Secondary data also supports that ESLSE cost of logistics is reasonable as compared to today's inflation rate. ESLSE gives special incentives especially on sea fright because ESLSE reduce sea fright from current market price in order to increase customer satisfaction bay working at break-even, i.e. reduce extra profit margin. ESLSE also gives 25% inland transport discount for manufacturing and investment companies. To facilitate inland transport service more, the

organization increase their own new and modern trucks to increase the trip per month by avoiding stack time at garage. So, over all the cost is reasonable.

5.2 Conclusions

Based on the result found from 77 respondents from shipping and freight forwarding sectors of the organization and secondary data sources the following conclusions are presented. Based on the result found above the following conclusions are drawn;

- Logistics performance is neutral in terms of delivery time because even though dwell time is decreasing from time to time but still now the shipment takes above standard time.
- Usage of Ethio-Djibouti rail way share company increases the capacity to transport 106 TEU one time this reduce the cost of 56 trucks and fuel, transit time from three day to one day on average for Modjo dry port and Natherat and Indode rail station (fertilizer and other bulk cargos).
- Increase the quality of service by using different facilities like using ERP (enterprise resource planning) software for cargo tracing and tracking, using different modern dry port machineries like crone reach stacker, RMG (rail mounted gantry) to load and unload container from rail in case of import and in case of export and terminal tractor and chassis to transport container from container station to CFS (container freight station) in case of customs inspection.
- The organization priority is using rail to reduce transport cost for Modjo dray port in case of container and Natherat and Indode in case of bulk cargos like fertilizer and wheat.
- Increase flexibility of service by building dry ports in different place of the country. Now the organization has eight dry ports in Ethiopia, Modjo, Semera, kombolcha, Dire Dawa, Gelan, Mekkele and Weretta and three Brach offices at Djibouti, Hawassa and kality.
- ESLSE have the only organization that has logistics academy at Debrezet that train seagoing employees in Ethiopia.
- Customers use the organization vessel reduce sea freight up to 38.3% and also customers use charter vessel reduce sea freight from spot market by reducing profit margin to increase customer satisfaction. Also, organization reduce 25% inland transport price for manufacturing and investment projects.

- On time notification is good when the shipment arrives at destination by using phone and text message.

5.3 RECOMMENDATIONS

Based on the results found, even if the organization has good performance based on time, cost and quality service from time to time still the organization has the following problems.

- ✓ From time perspectives the dwell time is under standard for example the standard of multi-modal container at Djibouti is 5 days the actual performance is 9.53 days which is 52.4 % and RORO is 8 days standard but actual performance is 23 days which is 35%. In case of local dry ports, the standard of container dwell time is 15 days but the actual performance is 19 days which is 78% and RORO standard is 15 days and actual performance is 17 days which is 88%. So, the organization must focus on how to reduce the dwell time at Djibouti and local dry ports.
- ✓ The other thing is to finalize the ERP system to facilitate the logistics activities as logistics information system is the back bone of logistics.
- ✓ Coordination between departments and branch office is the issue of the organization because every employee must know the activities of the organization and deliver exact information to customers when asked.
- ✓ The organization also lucks efficiency regarding truck fleet management so increasing the trip of trucks need special focus because if the trip increases the dwell time at the time decrease. Because according to 2012 E.C the average trip of trucks is 1.73 compared to the plan 3 per month which is 57.7%.
- ✓ In order to increase the accessibility of the organization, increase the branch office and dry port numbers because Ethiopia is large in terms of landscape area.
- ✓ As a recommendation applying TOS (terminal operation system) software is the most important thing to increase the quality of service and efficiency especially at dry ports. Because this system is the latest terminal operation system that other country uses as our dry port location system is administered by un efficient system and sometimes container is off from their location and TOS enables when

container shift the first location system automatically change the location by their own system.

- ✓ Modernize the facilities of dry ports by modern dry port machineries because in Ethiopia the only dry ports may or may not be fulfill the minimum criteria of dry port facilities are Modjo dry ports. Other dry ports are in terms of facilities we cannot say dry ports.
- ✓ Minimize the error of document because most of the time transit time delayance is happened by manifest error at port of loading like error of package number, invoice mismatch between LC (letter of credit) amount packing list and others
- ✓ Finally, even if in our country the concept of logistics is new and undeveloped and ESLSE is the only operator of vessel and multimodal transport system customers and the nation expects more performance.

All the above problems are handled, the organization increase the efficiency and effectiveness of logistics performance and perform well.

5.4 SUGGESTION FOR THE FUTURE STUDY

Because of time and knowledge restriction the researcher tries to assess the performance of logistics in case of ESLSE base on sample respondents and secondary resources. But the area needs special investigation broadly by covering more areas and other stakeholders as logistics is the result of coordination to tackle the problems of logistics in Ethiopia. So, this study is one input for further study.

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ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Questionnaire

Dear Respondent,

I'm an MA student at Addis Ababa University School of Commerce in the Department of Logistics and Supply Chain Management. I have been doing a research/thesis on **Assessment of Logistics Performance: In the Case of the ESLSE** for the partial fulfillment of masters of Arts in logistics and supply chain management. Currently, I am collecting data using the enclosed questionnaire that will be used for purpose of my research thesis. I believe that your experiences and knowledge as a staff of Ethiopian shipping and logistics services enterprise are extremely useful to the success of this data collection phase of my research/thesis. Thus, I kindly request your cooperation to complete the questionnaire. Filling the questionnaire may take you about 15 to 20 minutes of your precious time only.

Thanking you for your time and willingness to participate in the study, I would like to inform you that your participation is voluntary; and all your responses will be kept with strict anonymous and confidential. Besides, the research/thesis output/result will be used for the academic purpose only.

Please use my cell phone number 09-28-57-97-37 for any inquiry.

Thank you in advance for your cooperation.

Sincerely,

Shimeles Denekew

shimed2012@gmail.com

PART ONE: BACKGROUND INFORMATION'S OF RESPONDENTS

Please tick the appropriate one ("✔")

1. Sex: Male ☐ Female: ☐
2. Age: below 25 years ☐ 26-35 years' ☐ 36-45 years ☐ above 46 ☐
3. Work experience: 1-5 years ☐ 6-10 years ☐ 11-15 ☐ > 15 ☐
4. Educational level: Diploma ☐ Degree ☐ Masters ☐ PhD ☐

PART TWO: ESLSE'S LOGISTICS PERFORMANCE INDICATORS/ QUESTIONNAIRE

1. Show Your Level of Agreement on the following logistics performance in Your Enterprise Using the Following Rating Scales.

1; Strongly Disagree, 2; Disagree, 3; Neither, 4; Agree and 5; Strongly Agree

Please complete the following by placing a tick "✔"in one space only the numbers that best suits your level of agreement regarding logistics time, quality and cost as follows:

1=strongly disagree; 2=disagree; 3=neither agree nor disagree; 4=agree; 5=strongly agree

S. N	**Level of logistics performance related to time**	**1**	**2**	**3**	**4**	**5**
1	All logistics activities are doing on time in your organization					
2	Employees are voluntary to do their activities on time					
3	information communication in the company to deliver services for customers is on time					
4	The organization provide logistics service to customers at the right time					
5	On time delivery (time between order receiving to order settlement) is based on standard time set by your organization					
6	cargo delays because of your company problem is there any compensation for the delay.					
7	Notify On time about the status of the shipment to customers					
8	Transportation management system of the organization has					

	the ability to deliver the shipment on time.					
9	Availability of fast transport system to reduce transit time and cost of transit like rail and new heavy-duty trucks.					
S. N	**Level of logistics performance related to quality**	**1**	**2**	**3**	**4**	**5**
1	Service quality of your organization satisfies customer expectation.					
2	Perfect delivery without damage.					
3	Trend of claims free shipment.					
4	Share exact information to customers about the shipment.					
5	ICT System quality to handle logistics service on time and easily.					
6	Quality of port and port machinery to handle loading and unloading activities at dry ports.					
7	Availability of transport facilities when needed.					
8	Reliability of logistics facility to provide service as promised.					
9	There is clear logistics procedure to render service based on procedure.					

2. For the following items, please rate ESLSE logistic performance based on cost by the following metrics.

1; Very low, 2; Low, 3; Neutral, 4; High and 5; Very high

S. N	**Level of logistics performance related to cost**	**1**	**2**	**3**	**4**	**5**
1	Cost of transportation.					
2	Cost of clearance and port dues.					
3	Cost of warehouse and storage.					
4	Loading and unloading cost.					
5	Documentation cost.					
6	Packaging cost.					
7	Information and consultancy cost.					
8	Other costs.					

PART THREE; Interview questions for selected respondents.

1. What do you think about your organization logistics performance related to time of delivery, customer satisfaction, shipments delivered based on standard time and level of performance from time to time?..... ....
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2. How do you think about your organization service quality, complain handling in case happen, level of serving customer expectation, coordination with customers and other intermediaries in order to solve problems and quality performance from time to time?.....
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3. How do you think about your organization logistics performance based on cost related to; Flexibility, Credit agreement to increase customer satisfaction, transport facility when customers need with better price and logistics cost from time to time?.....
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4. What problems that face or observed on your organization related to delivery time, service quality and cost of logistics? .....

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5. What measurements are taken by your organization in order to solve the problem and increase the performance logistics related to minimize response time, increase flexibility and customer satisfaction? Please list them.....

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ANNEX I

Table 4.9: Summery of Survey result for the independent variables

Item	**Measurements**				
Logistics performance based on time	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
All logistics activities are doing on time in your organization.	1.3	28.6	20.8	41.6	7.8
Employees are voluntary to do their activities on time.	1.3	6.5	14.3	63.6	14.3
Information communication in the company to deliver service for customer is on time	2.6	22.1	31.2	32.5	11.7
The organization provides logistics service to customers at the right time.	1.3	20.8	26.0	45.5	6.5
On time delivery (time between order receiving to order settlement) is based on standard time set by your organization	2.6	14.3	28.6	44.2	10.4
Cargo delays because of your company problem are there any compensation for the delay (demurrage).	11.7	29.9	44.2	9.1	5.2
Notify on time about the status of the shipment to customers.	1.3	6.5	14.3	57.1	20.8
Transportation management system of the organization has the ability to deliver the shipment on time.	1.3	15.6	26.0	42.9	14.3
Availability of fast transport system to reduce transit time and cost of transit like rail and heavy-duty trucks.	1.3	9.1	7.8	46.8	35.1
Logistics performance based on quality					
Service quality of your organization meets customer expectations.	2.6	20.8	15.6	53.2	7.8
Perfect delivery without damage	0	20.8	19.5	42.9	16.9
Trends of claims free shipment.	0	24.7	41.6	29.9	3.9
Share exact information to customers about the shipment.	1.3	9.1	2.9	71.4	15.6
System quality to handle logistics activities on time and easily.	2.6	19.5	16.9	53.2	7.8
Quality of port and port machinery to handle loading and unloading activities at dry ports.	2.6	16.9	20.8	55.8	3.9
Availability of transport facilities when needed.	2.6	11.7	19.5	61.0	5.2
Reliability of logistics facilities to provide	2.6	7.8	16.9	58.4	14.3

service as promised.					
There is clear logistics procedure to render service based on procedure	1.3	16.9	19.5	41.6	20.8
Logistics performance based on cost					
Cost of transportation	10.4	23.4	31.2	31.2	3.9
Cost of clearance and port dues	11.7	27.3	20.8	31.2	9.1
Cost of warehouse and storage	7.8	33.8	28.6	26.0	3.9
Loading and unloading cost	9.1	28.6	35.1	20.8	6.5
Documentation cost	22.1	42.9	19.5	14.3	1.3
Packaging cost (stuffing and un stuffing cost in case of export and customs inspection	9.1	31.2	41.6	15.6	2.6
Information and consultancy service cost	14.3	31.2	37.7	14.3	2.6
Other logistics costs	18.2	22.1	44.2	10.4	5.2

Source; own survey data may 2021

The above table 4.9 shows the level of agreement of the respondents are agree and strongly agree for each item by percentage is above 50% for most items in terms of delivery time and quality of services. Based on the result logistics performance based on delivery time and service quality is good because most respondents are on the range between agree and strongly agree. logistics performance based on cost is the level of agreement of the respondents are highly concentrated on neutral and low level based on 1 for very low and 5 for very high (likert scale).

ANNEX II

Table 4.14፣በ2010 በጀት አመት በድርጅቱ፣በስሎትና በኪራይ መርከቦች የተጓጓዘ የገቢ ጭነት(total transport capacity on sea)

የጭነት ዓይነት	መለኪያ	በድርጅቱ መርከቦች			በስሎት/ኪራይ መርከቦች			አጠቃላይ		
		ዕቅድ	ክንውን	%	ዕቅድ	ክንውን	%	ዕቅድ	ክንውን	%
ኮንቴይነር	TEU	15,839	12,487	78.8	184,055	159,054	86.4	199,894	171,541	85.8
	ቶን	269,804	198,833	73.7	2,947,336	2,148,457	72.9	3,217,140	2,347,290	73.0
መኪና	ቁጥር	5,799	3,571	61.6	16,631	11,115	66.8	22,430	14,686	65.5
	ቶን	34,443	21,210	61.6	55,653	37,042	66.6	90,096	58,252	64.7
	ፍ/ቶን	208,438	147,320	70.7	465,682	319,065	68.5	674,120	466,385	69.2
ጥቅል ዕቃ	ቶን	246,658	244,576	99.2	253,342	28,469	11.2	500,000	273,045	54.6
	ፍ/ቶን	425,877	319,781	75.1	293,740	32,037	10.9	719,617	351,818	48.9
ብረት	ቶን	148,116	177,910	120.1	171884	68,180	39.7	320,000	246,090	76.9
ብትን ዕቃ	ቶን	-	-		870,916	1,140,892	131.0	870,916	1,140,892	131.0
ድምር	*TEU*	*15,839*	*12,487*	*78.8*	*184,055*	*159,054*	*86.4*	*199,894*	*171,541*	*85.8*
	ቁጥር	*5,799*	*3,571*	*61.6*	*16,631*	*11,115*	*66.8*	*22,430*	*14,686*	*65.5*
	ቶን	*699,021*	*642,529*	*91.9*	*4,299,131*	*3,423,040*	*79.6*	*5,514,218*	*4,311,659*	*78.2*
	ፍ/ቶን	*634,315*	*467,101*	*73.6*	*759,422*	*351,102*	*46.2*	*1,393,737*	*818,203*	*58.7*

Table 4.15 የ2011 በጀት አመት በድርጅቱና በኪራይ መርከቦች የተጓጓዘ የገቢ ጭነት መጠን ማጠቃለያ፤ (total transport capacity on sea)

የጭነት ዓይነት	መለኪያ	በድርጅቱ መርከቦች			በስሉት መርከቦች			ስጠቃላይ		
		ዕቅድ	ክንውን	በ%	ዕቅድ	ክንውን	በ%	ዕቅድ	ክንውን	በ%
ኮንቴነር	TEU	15,370	6,441	41.9	176,755	186,484	106	192,125	192,925	100.4
	ቶን	247,456	73,868	29.9	2,845,756	2,491,036	87.5	3,093,212	2,564,904	83
ተሸከርካሪ	ቁጥር	3,821	1,958	51.2	10,868	7,045	64.8	14,689	9,003	61.3
	ቶን	23,242	6,479	27.9	37,921	15,858	41.8	61,163	22,337	36.5
ፕቅል ዕቃ	ቶን	152,923	328,513	215	152,923	151	0.1	305,846	328,664	107.5
ብረት	ቶን	294,324	479,836	163	25,593	169,922	664	319,917	649,758	203
ብትን እቃ	ቶን	0	0	0.0	1,277,799	772,774	60.5	1,277,799	772,774	60.5
ጠቅላላ ድምር	TEU	**15,370**	**6,441**	**41.9**	**176,755**	**186,484**	**106**	**192,125**	**192,925**	**100.4**
	ተ/ቁጥር	**3,821**	**1,958**	**51.2**	**10,868**	**7,045**	**64.8**	**14,689**	**9,003**	**61.3**
	ቶን	**717,945**	**888,694**	**123.8**	**4,339,992**	**3,449,741**	**79.5**	**5,057,937**	**4,338,437**	**86**

Table 4.16 የ2012 በጀት አመት በድርጅቱ ናበኪራይ መርከቦች የተጓጓዘ የገቢ ጭነት መጠን ማጠቃለያ፤ (total transport capacity on sea)

የጭነት ዓይነት	መለኪያ	በድርጅቱ መርከቦች			በስውት መርከቦች			አጠቃላይ		
		ፅትድ	ክንውን	ፐ%	ፅትድ	ክንውን	ፐ%	ፅትድ	ክንውን	ፐ%
ኮንቴነር	TEU	6,731	4,948	73.5%	203,292	190,273	93.6%	210,023	195,221	93.0%
	ቶን	94,234	56,325	59.8%	2,846,083	2,380,068	83.6%	2,940,317	2,436,393	82.9%
ተሽከርካሪ	ቁጥር	1,879	1768	94.1%	7,175	6,922	96.5%	9,054	8,690	96.0%
	ቶን	7,140	6,395	89.6%	27,265	19,259	70.6%	34,405	25,654	74.6%
ፕቅል ዕቃ	ቶን	333,523	356,303	106.8%	0	16,984		333,523	373,287	111.9 %
ብረት	ቶን	415,608	608,815	146.5%	103,903	85,826	82.6%	519,511	694,641	133.7 %
ብትን አቃ	ቶን	0	0		3,233,000	3,159,206	97.7%	3,233,000	3,159,206	97.7%
ጠቅላላ ድምር	TEU	6,731	4,948	73.5%	203,292	190,273	93.6%	210,023	195,221	93.0%
	ቁጥር	1,879	1,768	94.1%	7,175	6,922	96.5%	9,054	8,690	96.0%
	ቶን	850,505	1,027,838	120.9%	6,210,251	5,661,343	91.2%	7,060,756	6,689,181	94.7%

Table 4.17 በ2010 በጀት አመት የመልቲሞዳል ተሸከርካሪ የጅቡቲ ወደብ ቆይታ(port dwell time)

ወር	መለኪያ	ዕቅድ	ክንውን	አፈፃፀም በ%	ልዩነት
ሐምሌ	በቀን	8	15.46	52	7.46
ነሐሴ	በቀን	8	20.37	39.3	12.37
መስከረም	በቀን	8	13.15	61	5.15
ጥቅምት	በቀን	8	27.58	29	19.58
ህዳር	በቀን	8	18.29	44	10.29
ታህሳስ	በቀን	8	11	73	3
ጥር	በቀን	8	9.2	87	1.2
የካቲት	በቀን	8	10.3	78	2.3
የመጋቢት	በቀን	8	19	42	11
የሚያዝያ	በቀን	8	18	44	10
ግንቦት	በቀን	8	36.6	22	28.6
ሰኔ	በቀን	8	29.4	27	21.4
አማካይ የወደብ ቆይታ ጊዜ		*8*	*19*	*42*	*7*

Table 4.18: የ2010 በጀት አመት የመልቲሞዳል ኮንቴነር የጅቡቲ ወደብ ቆይታ ጊዜ(port dwell time)

ወር	መለኪያ	ዕቅድ	ክንውን	አፈፃፀም በ%	ልዩነት በቀን
ሐምሌ	በቀን	5	8.64	58	3.64
ነሐሴ	በቀን	5	11.04	45.3	6.04
መስከረም	በቀን	5	11.47	43.6	6.47
ጥቅምት	በቀን	5	14.37	35	9.37
ህዳር	በቀን	5	12.6	35	7.6
ታህሳስ	በቀን	5	8.0	63	3.0
ጥር	በቀን	5	5.7	88	0.7
የካቲት	በቀን	5	5.5	91	0.5
የመጋቢት	በቀን	5	5.5	90	0.5
የሚያዝያ	በቀን	5	6.7	74.6	1.7
ግንቦት	በቀን	5	5.86	85	0.86
ሰኔ	በቀን	5	6.31	79	1.31
አማካይ የወደብ ቆይታ ጊዜ		*5*	*9*	*55.5*	*4*

Table 4.19: በ2011 በጀት አመት የኮንቴነርና የተሸከርካሪ/RoRo ጭነት የጂቡቲ የወደብ ቆይታ(port dwell time)

ወር	ኮንቴይነር			ተሸከርካሪ		
	ዕቅድ (ቀናት)	ክንውን (ቀናት)	አፈፃፀም (%)	ዕቅድ (ቀናት)	ክንውን (ቀናት)	አፈፃፀም (%)
ሐምሌ	5	7.98	63	8	26.48	30.2
ነሀሴ	5	5.91	84.6	8	17.94	44.6
መስከረም	5	5.06	98.8	8	21.0	38.1
ፕቅምት	5	5.00	100	8	14.0	57.1
ህዳር	5	5.35	93.5	8	10.77	74.3
ታህሳስ	5	5.21	96	8	12	66.6
ፕር	5	5.44	91.9	8	7.24	110.4
የየካቲት	5	5.93	84.3	8	12.64	63.2
መጋቢት	5	4.56	109.6	8	16.57	48.2
ሚያዚያ	5	5.88	85	8	15.43	51.8
ግንቦት	5	9.56	52.3	8	13.34	60
ሰኔ	5	10.9	45.8	8	21.4	37.4
አማካይ	**5**	**6.4**	**78**	**8**	**15.73**	**51**

Table 4.20: በ2011 በጀት አመት የኮንቴይነርና የተሸከርካሪ/RoRo የሀገር ውስጥ የወደብ ቆይታ አማካይ(port dwell time)

ወር	ኮንቴይነር			ተሸከርካሪ		
	ዕቅድ	ክንውን	አፈጻጸም (%)	ዕቅድ	ክንውን	አፈጻጸም (%)
ሐምሌ	20	15.27	131	15	17	88.2
ነሐሴ	20	19.97	100	15	23	65.2
መስከረም	20	23.14	86.4	15	20	75
ጥቅምት	20	20.78	96.25	15	15	100
ህዳር	20	20.23	98.86	15	16	94
ታህሳስ	20	19.5	97.5	15	17	88
ጥር	20	19.59	102.1	15	14	107
የካቲት	20	19.4	102.92	15	16	93.75
የመጋቢት	20	23.26	86	15	16	93.75
ሚያዝያ	20	21.83	91.6	15	13.6	110.2
ግንቦት	20	17.23	116	15	19	78.9
ሰኔ	20	16	125%	15	20.6	73%
አማካይ	**20**	**19.7**	**102%**	**15**	**17.3**	**87%**