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**ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND  
ECONOMICS SCHOOL OF COMMERCE**

**LOGISTICS PERFORMANCE ON SERVICE DELIVERY THE CASE OF  
ETHIOPIAN SHIPPING AND LOGISTICS SERVICE ENTERPRISE**

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**A THESIS SUBMITTED TO THE SCHOOL OF COMMERCE OF ADDIS ABABA  
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## **Declaration**

I, the undersigned, declare that this thesis entitled as “*Logistics Performance On Service Delivery the Case of Ethiopian Shipping and Logistics Service Enterprise*” is my work and has not been presented for the award of any degree or diploma in this or any other university. All sources of materials used in the thesis have been accordingly acknowledged.

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## Statement of Certification

This is to certify that this thesis entitled as “*Logistics Performance On Service Delivery the Case of Ethiopian Shipping and Logistics Service Enterprise*”, submitted in partial fulfillment of the requirements for the degree of Master of Arts in Logistics and Supply Chain Management to the School of Commerce of Addis Ababa University, done by Addis Godana is an authentic work carried by him under our guidance.

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## **Acronym and Abbreviation**

<b>3PL</b>	Third party Logistic
<b>EDI</b>	Electronic Data Interchange
<b>ESLSE</b>	Ethiopian Shipping and Logistics Service Enterprise
<b>FGD</b>	Focus Group Dissection
<b>GDP</b>	Gross Domestic Product
<b>ICT</b>	Information Communication Technology
<b>IT</b>	Information Technology
<b>KII</b>	Key Informant Interviews
<b>LP</b>	Logistic Performance
<b>SPSS</b>	Statistical Package for Social Sciences

## **Abstract**

*The objective of this study is to assess the logistics performance of Ethiopia Shipping and Logistic Service Enterprise. Specifically, simple random sampling is deployed as a sampling technique since the list of target population is known. They are 1060 employee and more than 300 importers, exporter and transport association selected as respondents of the study. However, primary sources of data gathered from Ethiopia Shipping and Logistic Service Enterprise library and yearly report of the enterprise to assess their logistics performance. The data is collected through structured interviews based on questionnaire, which is developed based on the three dimensions of logistics performance. The respondents have been approached by the data collectors at either their office or on their seals area. In order to examine the date correlation analysis were used. The data entry and analysis was conducted by using Statistical Package for Social Since version 20 and chi-square used to correlation analysis between customer and employee of the enterprise. It is concluded that Ethiopia Shipping and Logistic Service Enterprise were less performing in their logistics performance. The findings of the study revealed that each dimensions of logistics performance (logistics differentiation, logistics efficiency and logistics effectiveness) have under performance. The study recommended for Ethiopia Shipping and Logistic Service Enterprise to continuously improve their logistical performance, among other things, through strengthening and developing a good relationship with others modernize their order management practice. Furthermore, it is also advisable for them to further improve the relationship between customer and other sister company or enterprise of in a foreign country.*

**Keywords/phrases:** *logistics performance, logistics differentiation, logistics efficiency, logistics effectiveness,*

# CHAPTER ONE

## 1. 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 identifying that hinder logistic performance.

### 1.1 Background of the Study

The word ‘logistics’ is derived from a French word ‘loger’ that means the art of transport, supply, and quartering of troops Joshi, (2005). Thus, logistics was conceptually designed for use in military so as to ensure meticulous planning and implementation of supply of weapons, food, medicines, and troops in the battlefield. However, logistics should be understood in its wider sense and applicability. Frazelle (2002) defined logistics as the flow of material, information, and money between consumers and suppliers. This conception of logistics depicts the fact that logistics has presently become an integral part of business in connection with the flow of materials and funds. Currently, the word logistics seems the buzzword in the current hyper-competitive business environment.

Logistics is a backbone for the global supply chains. 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 19<sup>th</sup> 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). In a global supply chain context, moving goods across borders has been one of its significant roles recently. The remarkable expansion in external trade has brought higher demand for an efficient and effectiveness of logistics services (Ali, Jaafar, &Mohamad, 2008).

Now a day's logistics is practiced in both developed and developing countries due to its significant contribution to the economy of the countries. The same is true in our country's context. In Ethiopia, logistics is now recognized as strategic industries that positively contribute to gross domestic product (GDP) and performance of logistics is foremost significant. Since the logistics practice is new for our country it is constrained by so many drawbacks.

According to Debela, Fekadu Melese the constraints associated with logistics system in Ethiopia could be characterized by: underdevelopment of logistics management system, inadequate fleets of vehicles /means of transport/ for goods transport, the market possibility of the country is hampered by poor logistics system, lack of coordination of goods transport /which resulted in low load rate/, damage of goods and quality deterioration while in storage, packaging, transporting and lack of organization and management tools that are required to promote intermodal system.

Ethiopian Shipping and Logistics Service Enterprise (ESLSE) is a Company that is established and owned by the government to maintain the less admirable economic growth that has been registered in the country over the last several years. One of the strategic measures taken by the Federal Government of Ethiopia is merging the former three public enterprises that have until recently been operating separately in a rather similar and interdependent maritime sub-sector; namely, Ethiopian Shipping Lines SC, Maritime and Transit Services Enterprise and Dry Port Enterprise.

The Ethiopian Shipping and Logistics Services Enterprise is the result of this merger. This newly amalgamated enterprise came into being following the issuance of Regulation by the Council of Ministers (Regulation No. 255/2011), and is vested with the huge responsibility of rendering sea-transport & logistics services to the country's importers, exporters, and investors in a more effective and efficient way, by reducing transit time, cost and handoffs. Besides, a truck operating company named Comet Transport SC has recently been transferred to ESLSE following a government decree issued in the mid of (2014).

ESLSE play vital role in the country economy in general foreign trade in particular. As set out in the regulation issued by the federal government of Ethiopia in 2011 (Regulation No. 255/2011), the objectives for which the ESLSE is established are: to reduce coastal and international marine and inland water transport services, to reduce freight forwarding agency, multimodal transport, shipping agency, to provide the services of stevedore, shore-handling, dry-port, warehousing and other logistics services, to provide container terminal services, to engage in the development, management and operation of ports, to establish and run human resources development and training center in the fields of maritime profession, to study the country's, import and export trade demand and thus develop technological capacity in order to render maritime and transit transport services and to engage in other related activities conducive to the achievement of its objectives.

Accordingly, the enterprise put in place its own new organizational structure in Dec 2012 on the basis of which, it has one chief executive officer and four deputy chief executive officers appointed by the government to lead and direct the enterprise at top management level. The enterprise has four sectors led by the four deputy CEO's, namely: Shipping Sector, Freight Forwarding Sector, Port & Terminal sector and Corporate Services Sector. ESLSE is giving so many services to the country by using the major service such as Shipping Sector (Sea Transport Services, Agency Services, Stevedoring, Shore handling), Freight Forwarding Sector (Multimodal transport service: Unimodal transport service, Customs and port clearing Trucking) and Port & Terminal Sector (Receiving and delivering cargoes) to generate income.

## **1.1 Logistics Performance**

While providing a brief narration on the historical evolution of an inquiry to logistics performance, Mansidão and Coelho, (2014) have highlighted the following: 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. After this initial step, analysis of logistics performance has become an important issue in the area of management science research, but despite this attention from researchers, there is little convergence both in terms of methods and in

terms of results for its validity. 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.

This depicts that the issue of investigating the construct of logistics performance in logistics research is under its development stage, irrespective of its importance in an organizational performance. The available literatures have recognized the importance of logistics performance for improving the well-functioning of business processes of an organization and across supply chains (Clifford Defee and Fugate, 2010, Keebler and Plank, 2009, Green Jr *et. al*, 2008, and Mansidão and Coelho, 2014). Conceptually, logistics performance may be viewed as a subset of the larger notion of firm or organizational performance (Chow *et. al*, 1994).

Given the lack of any universally-accepted definition for performance in the organizational performance literature, it should not be surprising that extant literature offers many ideas about the dimensions that ought to be incorporated into a conceptualization of “logistics performance” (Chow *et. al*,1994). Mentzer & Konrad (1991) as quoted in Fugate *et al* (2010) defined logistics performance as effectiveness and efficiency in performing logistics activities.

## **1.2 Statement of the problem**

The main reason of this study on logistics performance practice in the ESLSE is that the core activities in the company depend on logistics as they are distributing container and others goods to their customer as well as the vast capital is invested to the country by import and exports of goods and other materials used for construction, agriculture, for health sectors and others to the country.

Logistics performance both in international trade and domestically is central to the economic growth and competitiveness of countries, and the logistics sector is now recognized as one of the core pillars of economic development. Policy makers not only in the best performing countries, but also in emerging economies, increasingly see the need to implement coherent and consistent policies to foster seamless and sustainable supply chain operations as an engine of growth. Efficient logistics connects firms to domestic and international markets through reliable

supply chain networks. Conversely, countries characterized by low logistics performance face high costs, not merely because of transportation costs but also because of unreliable supply chains, a major handicap in integrating and competing in global value chains. Supply chains are complex, but their performance is largely dependent on country characteristics, especially the soft and hard infrastructure and institutions that logistics requires to operate well, such as imports, regulations, procedures, and behaviors.

The logistics performance of Ethiopia is characterized by lack of coordination in the chain, lack of coordination in areas of inventory planning and warehouse management, less attention on customer satisfaction, inadequate vehicles in delivery of goods to customers and also lack of coordination with transporters. (Fekadu *et al.* 2013).

Some of the key logistics practices that impact performance is related to estimation of customer needs, efficient and effective delivery, integration and collaboration throughout the supply chain, sharing of information as well as informal methods and use of specialists for performing specific jobs across the supply chain, all of these practices impact logistics performance in the enstatite(Fekadu *et al.* 2013)

However, ESLSE is playing great and very important role for the development of the country, it is not doing up to the level where it is expected due to 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 status (Old aged vehicles), as well as warehouse (Fekadu *et al.* 2013). This coupled with lack of sea port resulted in poor linkage of producers (farmers) to the consumers (market) and non-competitiveness of Ethiopian goods on global market, which in turn compromised livelihood of the people and economy of the country (Fekadu *et al.* 2013).

The constraints associated with logistics system in Ethiopia could be characterized by: poor integrated transport system, warehouse controlling system, inventory management system, information communication technology (ICT), damage of goods and quality deterioration while in storage, packaging, transporting, lack of organization and management tools that are required

to promote intermodal system and customer satisfaction and proves research indicate that performance of ESLSE conducted separately. So, the main purpose of this research is to assess the logistics performance practices of the company and propose to implement best practice of logistics performance to solve the identified problems.

In order to assess and see the above gap deep diving, it is essential to conduct this study on logistics performance of ESLSE. Hence, the following research questions and specific objectives are used to assess the performance of the logistics of the enterprise based on the fundamental performance objectives: logistics differentiation, logistic efficiency and logistic effectiveness.

### **1.3 Basic Research Question**

Thus, these researches tried to analyze and answer the following basic research questions on ESLSE:

- What looks like the logistics performance of ESLSE?
- What is the level of logistic performance practice of ESLSE?

### **1.4 Objectives of the study**

#### **1.4.1 General objective**

The general objective of this study is to assess logistics performance on service delivery of ESLSE.

#### **1.4.2 Specific Objectives**

The specific objectives of this study have the following details;

- ❖ To assess the logistics performance of ESLSE in terms of logistics differentiation,
- ❖ To assess the logistics performance of ESLSE in terms of logistics efficiency,
- ❖ To assess the logistics performance of ESLSE in terms of logistics effectiveness.

### **1.5 Significance of the study**

The output of this research contribute to betterment of ESLSE in terms of the efficiency and effectiveness of the country's foreign trade and import of goods. It also enlightens policy makers in the enterprise to have a glance of what is missing in the total picture of their logistics

performance and take necessary directions towards improving it in the future. Moreover, it would be an initial input for those who wish to conduct further studies on this topic.

### **1.6 Limitation and Scope of the study**

In addition to the common limitation such as time and resource constraints the research method used questionnaire for collecting data hence respondents might reply base on their own perception and there is a level of subjectivity. This study is encircled only in Ethiopian Shipping and Logistic Service Enterprise assesses logistics performance practices and problems. Among ESLSE departments these studies focus on Transport Department, Warehouse Department, communication information center and customers of ESLSE at Addis Ababa main office.

### **1.7 Organization of the study**

The study consists of five chapters. The first chapter deals with the problem, its nature and level Objective and importance of the study briefly discuss in this chapter. The review of the related literature discussing in the second chapter. This chapter presents the conceptual frame works or a brief review of recent related studies that serve as a basis and proof to support the basic questions of the study. Chapter three addresses research methods which explain the design, sample procedures, instrument and data analysis techniques is used to achieve the purpose of the study. Chapter four focuses on the presentations, analysis and interpretation of the data. Finally, the fifth chapter deals with summary, conclusions and recommendations.

### **1.8 Definition of Terms**

**Logistics:** *-Council of Logistics management (1991) defined that logistics is ‘part of the supply chain process that plans, implements and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers’ requirements.*

**Logistics Performance:** *-According to Chowet al. (1994) conceptualized that logistics performance is a subset of a larger organizational performance. According to Fugate et al. (2010) the concept by highlighting that logistics performance positively impacts organizational performance. According to Green et al. (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”.*

**Efficiency:**-*The ratio of resources utilized against the result derived (Mentzer and Konrad, 1991) The internal functioning of logistics and generally is considered best represented through some ratio of the normal level of inputs to the real level of outputs Chamberlain (1968); Van der Meulen and Spijkerman, (1985). The measure of how well the resources expended are utilized (Fugate et. al. 2010). It is important to view the objectives of strategic operational logistics performance in the context of trade and transport facilitation.*

**Effectiveness:** -*The reviewed literature provided many scholarly discourses related to logistics effectiveness. Several of these articles incorporated efficiency measures as well Griffis et al., (2004); Griffis et. al., (2007); Brewer et. al., (2000); Barber et. al., (2008); Kiefer et. al., (1999).*

**Differentiation:** *Comparing results of logistics activities to competitors (Langley and Holcomb, 1992). Superiority when compared to competitors (Fugate et. al. 2010).*

**Dependability:** - *Customs department is one of the direct authorities involved in border crossing processes. Therefore issues such as delays, complicated form-filling, rules and border clearance checked are highly considered. Logistics players were highly depending on the information technology (IT) and electronic data interchange Ali et al., (2008). According to Raus et al., (2009) the usage of IT and EDI, could prevent criminal activities, informal payments and improve cost efficiency. Nevertheless, the transition process is required for a smooth transition from traditional to e-customs process.*

**Flexibility:** -*Different entrance times has been viewed as one of the flexible performance criteria Batista, (2012) which could enhance the capability of the major ports in Malaysia to cater import and export containers traffic as well as bulk cargo.*

## **CHAPTER TWO**

### **2. RELATED LITERATURE REVIEW**

The literature review explains concept of logistic, definition of logistic, the role of logistics, logistic related performance and discusses the result of previous studies related to logistic performance. The source considered in the review includes books, websites, past article journals, previous thesis and other documents from international institutions related to logistics performance.

#### **2.1 THEORETICAL REVIEW**

##### **2.1.1 Concept of Logistics**

Logistics was initially a military activity concerned with getting soldiers and arms to the battlefield 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 18<sup>th</sup> and early 19<sup>th</sup>. 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 21<sup>st</sup> century is logistics alliance.

Logistics becomes more important and complex today it is because of new requirements of the service-oriented economy, disparate business functions, and the impact of various contemporary IT. Best logistics practices can come through integration of those logistics activities in the firms and create interaction within the organization and can avoid setting up conflicting goals between departments.

According to Alan *et.al* (2014) Logistics is concerned with the efficient transfer of goods from the source of supply through the place of manufacture to the point of consumption in a cost-effective way while providing an acceptable service to the customer.

According to Matiwas, (2013) Logistics is what happens in the supply chain. Logistics activities (customer response, inventory management, supply, transportation, and warehousing) connect and activate the objects in the supply chain. Here under are different definitions for logistics as quoted in Alan *et al.* (2014).

### **2.1.2 Definition of logistics**

The term logistics is defined by different scholars and institutions. According to Heskett, Glaskowsky and Ivie, (1973) defined Logistics as the management of all activities which facilitate movement and the coordination of supply and demand in the creation of time and place utility. According to Chartered Institute of Logistics and Transport UK, (2012) Logistics is the positioning 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 mainly with the 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.

### **2.1.3 The role of logistics**

The significance of logistics has evolved from a more passive and cost minimization oriented activity to a key success factor for firm competitiveness. More recently it has become an integral part of a firm's strategic planning process Carter *et al.*, (1997). Logistics management (right performance) tries to have the "right product", in the "right quantity", at the "right place", at the "right time", with the "right cost". However, balancing between total logistics cost and customer service level is essential to successful logistics Alan *et al* (2014). It is now also recognized that distribution and logistics can be source of competitive advantage to company by helping to achieve either least cost or by offering value in the form of positioning the product or service exactly where, when and how the customer wants it.

#### **2.1.4 Definition of logistics performance**

Logistics performance is a strong determinant of national income and is the result of actions from a wide array of private and public actors. Understanding and decomposing the components of logistics performance is fundamental to improving the efficiency of transport systems and the quality of regulation of trade and transport

LP is defined as ‘analysis of both effectiveness and efficiency in accomplishing a given task’ (Mentzer & Konrad, 1991). Other scholar refers LP as a metric used to quantify the efficiency and or effectiveness of an action (Neely, Gregory, & Platts, 2005). This topic continues and LP has been seen as multi-dimensional and is defined as the degree of efficiency, effectiveness and differentiation associated with the accomplishment of activities (adapted from Fugate, Mentzer, & Stank, 2010)

Researchers have always find it difficult to define LP because organization’s have multiple and frequently conflicting goals (Chow, Heaver, & Henriksson, 1993). In the context of this study, efficiency is a measure of how economically the firm’s resources are utilized (Mentzer & Konrad, 1991; Neely *et al.*, 2005). Several critical areas in LP effectiveness as described by Langley & Holcomb (1992) are product guarantee, availability and fulfillment time. They also extended the definition of effectiveness by adding differentiation as the ability to create value for the customer through the uniqueness and distinctiveness of logistics services.

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. After this initial step, analysis of logistics performance has become an important issue in the area of management science research, but despite this attention from researchers, there is little convergence both in terms of methods and in terms of results for its validity.

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.

### **2.1.5 Performance Measurement**

Performance measurement is to accurately assess how well your business is performing, you need to develop some quantifiable measures. Ideally, your measures clearly identify those aspects of your business processes that need improvement and those that are working well. You can also use performance measures to evaluate your company's productivity over a set period of time.

According to Weekly (1995) Measurement is the first step that leads to control and eventually improvement. If you cannot measure something, you can't understand it. If you can't understand it, you cannot control it. If you cannot control it, you cannot improve it. Performance as defined by Sink, (1991) refers to "action that an organization carries out to accomplish its principles missions and functions for the generation of profit." Performance measurement is a metric that can be used to quantify performances.

According to Rose (1995) describing performance measurement activities says' it is a process that records measures, display results, subsequent actions. Performance measurement activities and processes is the issue that "performance indicators are to a large extent domain specific" (Lai *et al.*, 2004). Hence, there is no unique subset of indicators that can be selected. Therefore, frequently the choice is company specific and orientation of the company is important. Existing literatures on performance measurement in logistics provides a large number of potential useful indicators.

Literatures on the logistic industry are in abundance in the form of survey-based empirical research and reviews of the existing literatures from user perspectives. However, it is still rare. Noted previously, the importance and complexity of logistics performance measurement has led to the development of numerous performance measurement frameworks and models by scholars Brewer and Speh 2000; Griffis, Goldsby, Cooper, and Closs, (2004). One such model developed

by Fugate, Mentzer, and Stank (2010), logistics performance is supported by several other scholars who agree logistics performance is a multidimensional function of efficiency, effectiveness, and differentiation (Bobbit, 2004; Cameron, 1986; Fugate, 2010) and that all can and should be “pursued simultaneously,” (Fugate *et. al.*, 2010). Thus, the model provides a useful lens from which to compare the identified body of literature (treatise) to the industry data (diffusion) in order to assess the fashion setting role of logistics scholars.

Performance measures play an important role in the management of any organization (Griffis, Goldsby, Cooper, and Closs, 2007) and are of particular value to logistics managers. Performance measurement is seen as an avenue for logistics managers to achieve sustainable competitive advantage (Gunasegaram and Kobu, 2007) by providing timely, reliable indications of both performance successes and shortcomings (Griffis, Cooper, Goldsby, and Closs, 2004). Research in the area of logistics performance measurement supports this vital role of performance measures, and, furthermore, has concluded that success in the performance of logistics activities and capabilities is linked to improved organizational performance (Fugate, Mentzer, and Stank, 2010).

### **2.1.6 General Concepts of Performance Measures**

According to Weely (1995) ‘performance measurement is a popular issue that is widely discussed but rarely defined.’ Hence, it is necessary to introduce certain relevant definitions of performance measurements and present related discussion points about the concept of performance, frameworks and approaches in performance measurements in light of third party logistic (3PL) service providers.

Performance as defined by (Sink, 1991) refers to “action that an organization carries out to accomplish its principles missions and functions for the generation of profit.” Performance measurement is a metric that can be used to quantify performances.

### **2.1.7 Role of logistics performance**

As mentioned earlier that LP plays a vital role in achieving the organization’s goals. The evaluation is based on how well goal is met (Mentzer & Konrad, 1991) and to what extent the overall productivity and performance would reflect LP (Stabler, 1992). Consequently, LP helps

the fulfillment of the organization's objectives and strategy (Braz, Scavarda, & Martins, 2011) as well as satisfying the customers (Kayakutlu&Buyukozkan, 2011). It is important to view the objectives of strategic operational LP in the context of trade and transport facilitation.

### **2.1.8 Logistics Performance**

Performance has been viewed in a great variety of ways by researchers. The definition and measurement of performance is often a challenge for researchers because organizations have multiple and frequently conflicting goals. Thus, the definition of the performance is ...ultimately up to the evaluator '.

Performance refers to the way in which work is done. There can be a good performance or a poor one. But what is performance measurement? In the literature, it is possible to identify a significant amount of work on the relationship between logistic performance and organizational performance, such as the work of Larson *et al.*, (2007) who demonstrated that the performance of logistics activities can have an impact on organizational performance. Those authors, in a study conducted among business leaders on the impact of the perception of logistics performance on business results, found that a significant number of managers said that the perceived impact of logistics performance consisted of better performance in customer service, better inventory levels and optimization costs.

As logistics are increasingly expected to contribute to organizational performance, several studies have examined the influence of logistics performance operations and logistics management practices on overall company performance. Some authors, such as Zhou and Benton (2007) investigated the link between logistics management practices and distribution performance regarding reliability of service, and concluded that practices related to the distribution and sharing of information have a direct impact on performance.

Also, Green *et al.* (2008), addressing the relationship between logistics practices and organizational performance in a large number of companies in the United States, concluded that logistic practices have a positive impact on business performance, namely in speed of delivery,

the responsiveness and flexibility of delivery, and also influence marketing performance, which has a leverage effect on the average sales growth and business profitability.

According to Roth *et al.* (2008) investigated the antecedents and performance results of a set of leading global companies, concluding that information technology and logistics management contribute to increased sales and profitability. More precisely, information and communication technology increased sales and logistics management increased organizational profitability.

According to Chow *et al.* (1994), who focus on analyzing the relationship between objectives, practices, skills and management performance in the supply chain, concluded that logistics practices influence logistics capabilities positively in terms of quality and service, operation distribution and efficiency.

Overall coordination should be the main objective in logistics (Andersson, Aronsson, & Storhagen, 1989). Porter (1990) highlights that upgrading and innovation would result in nation's competitiveness. Therefore, measuring the LP is currently becoming a high priority (Griffis, Goldsby, & Cooper, 2007), thus bringing a challenge to the organizations (Forslund, 2007). From the perspective of LP, it has been commonly discussed as early as in 1985 at a seminar in Netherland by The Netherlands Association for Logistics Management. In this seminar, the performance indicators model was produced and the indicators have been applied in several companies (MCB University Press, 1992).

### **2.1.9 Interrelationships between Transportation and Logistics**

Transportation defined as the activities involved in shipping any goods or finished products from suppliers to a facility or to warehouses and sales locations (Kenyon and Meixell, 2011). It is included because it is a major part of the supply chain due to its power to add value to some goods by moving them from their current location to a more advantageous location. Through research, (Atos, 2012; Kenyon 2011; Xiande, 2008; Hausman, 2005; Blanchard, 2004; Schmitz, 2004; Gunasekaran, 2003; Lambert, 2000; and Tate 1996) transportation has been found to be a major factor in logistics processes.

It is mentioned in virtually all research regarding this topic and is often the main focus of articles discussing logistics. Without well-developed transportation systems, logistics could not bring its advantages into full play. Besides, a good transport system in logistics activities could provide better logistics efficiency, reduce operation cost, and promote service quality. The improvement of transportation systems needs the effort from both public and private sectors. A well-operated logistics system could increase both the competitiveness of the government and enterprises.

### **2.1.10 Warehouse**

According to Merriam-Webster (2017) warehouse defines as “a structure or room for the storage of merchandise or commodities.” This definition used for the purposes of this research. Kenyon and Meixell (2011) define warehousing as “the storage of components, raw materials and finished goods.” Just like every other part of the supply chain, warehouse is used to add value to some good, as the good is stored for some purpose or passed through the warehouse for some purpose.

Warehousing can also be referred to as materials handling. The term ‘materials handling’ is similar to or encompassed by the term ‘warehousing’ and refers more to actions taken on the goods such as their movement within facilities, their stacking or organizing prior to sale or transport, or any further processes necessary to create a finished product.

A warehouse is a commercial building for buffering and storage of goods or an intermediate area for storing of raw materials or products until they are needed for production or consumption Chua and Teo (2008) cited by Haung Min study (2010). Warehousing refers to the activities involving storage of goods on a large-scale in a systematic and orderly manner and making them available conveniently when needed. In other words, warehousing means holding or preserving goods in huge quantities from the time of their purchase or production till their actual use or sale. Being an essential component of logistics, is a key aspect of modern supply chains and plays a critical role in the success or failure of business today Frazelle (2002).

### **2.1.11 Information Technology**

Logistics players were highly depending on the information technology (IT) and electronic data interchange Ali *et al.*, (2008). According to Raus *et al* (2009) the usage of IT and EDI, could prevent criminal activities, informal payments and improve cost efficiency. Nevertheless, the transition process is required for a smooth transition from traditional to e-customs process.

Information technology is valuable in managing and controlling the documents as well as the departments which is found main office at Addis Ababa and at Djibouti port. Other applications help optimize the number of deliveries and manage the daily distribution of containers. Additional IT applications have a more operational and short-term focus, automating activities such as inventory management, distribution, controlling of documents. By applying information technology ESLSE has been able to leverage its infrastructure, systems and processes in a more cost-effective manner.

### **2.1.12 Inventory**

Inventory is the stock of any item or resource used in the organization. An inventory system is the set of policies and controls that monitor levels of inventory and determine what levels should be maintained, when stock should be replenished, and how large orders should be.

According to Meng (2006) (Cited by Ebistu Alamineh 2015), inventory is one of the most expensive and important assets of many companies, representing as much as 50 percent of total invested capital. Managers have long recognized that good inventory control is crucial. On one hand, a firm can try to reduce costs by reducing on-hand inventory levels.

On the other hand, customers become dissatisfied when frequent inventory stock out, occur. Thus, companies must make the balance between low and high inventory levels. As you would expect, cost minimization is the major factor in obtaining this delicate balance. Inventory is the stock of any item or resource used in an organization. Inventory includes: raw materials, finished products, component parts, supplies, and work-in-process.

### 2.1.13 Conceptual Framework

The researcher assesses the Logistic performance practices in terms of Logistic Effectiveness, Logistic Efficiency and Logistic Differentiation. On the other hand, in this research, logistic performance measured from the external point of view using indicators of customer satisfaction as logistic performance indicator.

#### Dependent Variables

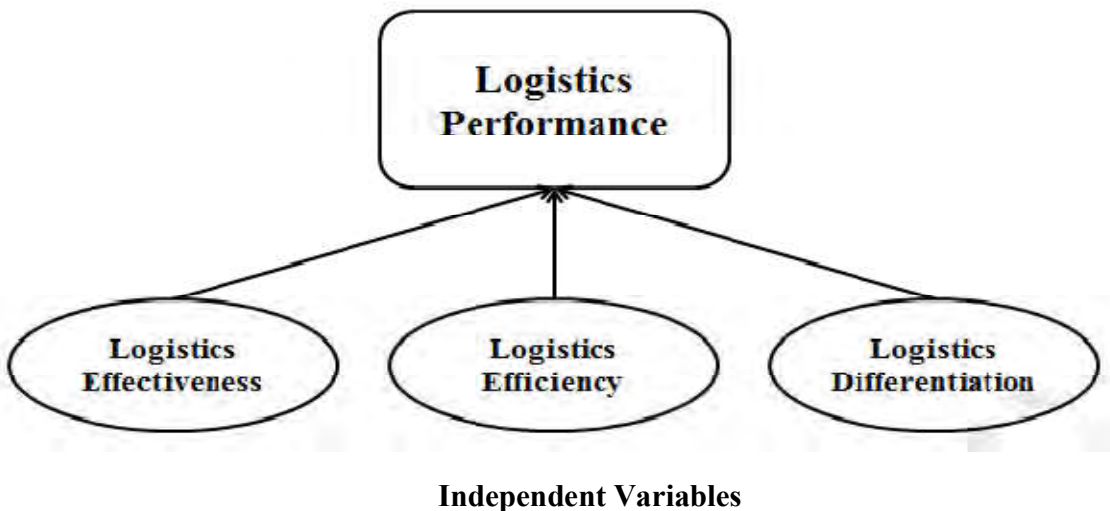


Figure 2. 1A model for Logistic Performance, Fugate et.al., 2010,

## 2.2 EMPIRICAL REVIEW OF RELATED LITERATURES

There have been several studies conducted on Logistic Performance distinctly in service delivery the researcher review some of related to title conducting. The available limited theoretical and empirical literatures on logistics research have conceptualized (defined) and further measured logistics performance in various ways.

A study which was conducted by Chow *et. al* (1994) is a pioneer and worth mentioning in providing a systematic review on the existing literatures of logistics performance. With the aim of defining and measuring logistics performance, chow *et. al* (1994) has provided abridged account on various research works conducted on conceptualizing the notion of logistics performance with respect to their respective data collection methods, sources, and the measures of logistics performance.

As quoted in Chow *et al* (1994), Mentzer and Konrad (1991) reviewed performance measurement practices from an efficiency and effectiveness perspective. It seems that Mentzer and Konrad have treated the issue of logistics performance as both a matter of achieving logistical objectives and ensuring the optimal utilization of resources for the sake of producing goods or creating a service.

Byrne and Markham (1991) have tried to treat performance indicators for various dimensions of logistics by focusing on quality. A similar work by Nevem Working Group (1989) has provided a comprehensive review of performance indicators in logistics.

Gassenheimer *et al* (1989) conducted an empirical analysis on data obtained by mail survey from executives to define and further measure performance with respect to logistics that resulted in identifying 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 as appropriate measures for logistical performance.

The study basically dealt with measures of logistics performance that can be characterized with their focus on customer satisfaction regarding to transport, warehouse, communication and document clearness. In light of a perspective that dictates the very existence of an ideal logistics service is for identifying the requirement of the customer it serves and ultimately ensuring an excelled customer satisfaction, the attention given to such measures that align with logistics customer service is appropriate and is believed to be highly applicable in a pragmatic manner for an ideal service delivery entity. In other words, such soft measures have a significance importance in capturing the logistical performance aspects of firms.

Finally, a study which was conducted by Sezen (2005) argued that logistics performance can be evaluated by considering logistics costs, customer satisfaction, product availability in the market, conforming to the promised delivery dates and quantities, flexibility in all logistics activities, and efficiency in inventory management.

The available literatures focus on effectiveness and efficiency as key dimensions of logistics performance. However, they failed to incorporate a differentiated logistical service that could be cited as part of an array of logistical functions and further considered as a major distinguishing factor for an improved organizational performance. or the success of individuals like small-scale banana farmers, who are participants of a banana supply chain.

It seems that the conceptualization and measurement of logistics performance is a complex task. However, some literature in logistics research has provided a conceptual model for "Logistics Performance" aiming to treat major logistics process and functions accompanied with their measurements in a manufacturing and retail business setting.

The study identifies different factors that affect the logistic performance on serves delivery but the study uses purposive sampling method which could be subjected to bias, and could not draw conclusion based on enterprise since population is from various organizations (importer, exporter, transport associations, NGO and others). And there was no justification behind the sample size, researcher simply selects.

### **2.3 Literature Gaps Identified**

Generally, the above reviewed articles and research papers have the following major gaps; failure to make enterprisegeneral conclusion, considering the enterprise as a takeover to others, poor sampling method, failure to justify sample size selection and lacking focus.

The researcher contributes to the existing literature by sum up of all activates that under taken to enterprise to give the whole picture of activities and show the main activity filer in the area.

# CHAPTER THREE

## 3. RESEARCH METHODS

### 3.1 Description of the Study Area

The study area focuses on logistics performance of ESLSEon main office located at capital city of Ethiopia Addis Ababa around legahr bus station in front of Ethio-Djiboutirailwayprevious station. This chapter sets out the methodology that was used for the study. It involved a blue print for the collection, measurement and analysis of data. Specifically, the following subsections were included; research design, data sources, target population and sample size and sampling techniques, data collection, analysis and presentation

### 3.2 Research Approach

The research approach that this study believed that both qualitative and quantitative approaches can contribute greater to the wholeness of the investigation at hand. The quantitative approach involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion. Qualitative approach to research is concerned with subjective assessment of attitudes, opinions and behavior (Kothari, 2004).

Most researchers argued that the best method to use for a study depends on the purpose of the research, researcher data and the accompanying research questions. According to (Kothari,2004) mixed research method is defined as the class of research welfare the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language in to a single study.

This study uses the mixed method design in sequential descriptive way. Because, mixed research is useful to capture the best of both qualitative and quantitative approaches and in these the researchers also intended to assess detail features of Logistic performance in the enterprise. The advantage of using mixed methods is that it enables to triangulate and support the data and result collected by questionnaire (Greener, 2008 and Saunders *et.al*, 2007).

This sample used for administering questionnaires for exporter, importer, transporter and staff members of the ESLES. Semi structured interview, key informant interview (KII) used for the four department managers of ESLSE.

### **3.3 Research Design**

Descriptive type of research applied to assess the Logistic 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 study used non-probability method for selecting the sample in which each item which are relation to the study are included. It uses the purposive sampling method to conduct the non-probability method and judgmental sampling method of non-probabilistic. Also, the researchers apply a research strategy which is survey to collect the intended data through detail assessment of necessary documents and face to face contact with responsible officials.

Accordingly, the study uses open-ended and close ended questionnaires, and semi-structure interview to meet research objectives. The data analyzed using Statistic Package for Social Sciences (SPSS) through descriptive analysis techniques. The result analyzed using tables and percentages.

### **3.4 Population and Sample Design**

#### **3.4.1 Sample Design**

The study adopts the five sampling steps of (Malhotra *et al.*, 2006); these steps are closely interrelated and relevant to all aspects of the research. Those are identified target population, determine the sampling frame, select sampling techniques, determine the sample size and execute the sampling process.

#### **3.4.2 Target population**

The population of this research is specific employees of Ethiopian shipping and logistic services enterprise which are working only on main offices such as Transport (Multimodal and Unimodal) department, Warehouse Department, Information Communication Department, and Others Target

population is Customers which coming to the enterprise to be served such as Importer, Exporter and Transport Associations which are loyal (which are importing and exporting more than twenty times per year) customers of ESLSE(*source: ESLSE marketing department records*).

### **3.4.3 Sampling Frame**

The sample frame of this study is four internal departments of ESLSE such as Transport (Multimodal and Unimodal) department, Warehouse Department, Information Communication Technology Department and Custom (documentation) Department and externally sample frame of this study is Importer, Exporter and Transport Associations which are loyal customers of ESLSE. (*source: ESLSE marketing department records*).

### **3.4.4 Sampling Unit**

According to Kothari, 2004 the researcher has to decide one or more of sampling that he has to select for his study. The sampling unit of this study is managers and staffs who are working on Transport (Multimodal and Unimodal) department, Warehouse Department, information communication department, and the selected importer, exporter and transport association's managers and staff members.

### **3.4.5 Sampling Technique**

According to Saunders *et.al*, 2007 in regarding to selection of respondents, the researcher used non-probability sampling. This study usenon-probability sampling method consists of the staff members of Transport, Warehouse, communication, custom controlling department in ESLSE and importer, exporter and transport associations from external royal customers and purposive or judgmental sampling method for the heads of the four department of ESLSE.

### **3.4.6 Sample Size**

According to Kothari, 2004 determining sample size varies for various types of research designs and there are several approaches in practice. A general rule, one can say that the sample must be of an optimum size it should neither be excessively large nor too small.

Finding the appropriate sample size usually matters in determining the right proportion and statistically significance sample size. Often, an optimum size of sample is far better than minimum or average size when it comes to representation. In other words, sample size neither needs to be excessively large nor too small (Kothari, 2004). In this specific research, Zikmund and Babin, (2010) model of sampling technique to determine the sample proportion was adhered. According to (Glenn, 1992) assumption this research also took in to consideration a margin of error of 5%, and sample size determined at 95% confidence level.

Lewis and Thornhill (2012) state that the likely response rate shall be reasonable 50% or moderately high, while Patrick, B. (2003) referring Babie (1979), the return or success rate 50% is 'adequate'; 60% response rate is 'good' and 70% rate or higher is 'very good'. Having this experience, for this research purpose confidence of successfully collect or return rate expected to 70% and the remaining may be defected or non-response, and sample size determined at 95% confidence level.

Having this, the sample size determined with the help of the following formula

(C.R. Kothari, 2004):

Where,

**p**= proportion of success 70%

**q** = proportion of fail 30%

**n** = sample size

**z** = confidence level 1.96 from normal distribution table at 95% confidence level.

**e** = standard error 5%

**N**= total population

Therefore, by using the above parameters the researcher has obtained the sample size is

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2 (N - 1) + z^2 \cdot p \cdot q}$$

$$n = \frac{1.96^2(0.70)(0.30) 165}{0.05^2(165 - 1) + 1.96^2 (0.70)(0.30)}$$

$$n = 114 \text{ respondents}$$

By doing the same way for all the populations of exporters which is 90, importers which is 50, Transporters which is 25 total customers of 165 and (exporters which is 71, importers which is 43, Transporters which is 23) 116 customer samples and 176 employ of ESLSE, (*Source from ESLSE marketing department documents*) the sample size is determined as 109 costumers and 114 employ of ESLSE respectively. This sample there for be used for administering question for Exporter, Importer, Transporter and staff members of the ESLES. Key informant Interview (KII) used for managers in ESLSE.

*Table 3. 1 Sample Size of Importer, Exporter, Transport associations and ESLSE Employ*

<b>No</b>	<b>Strata to be sampled</b>	<b>Sampling unit (N)</b>	<b>Sample ratio</b>	<b>Sample collected</b>	<b>Return of the questioner in %</b>
<b>1</b>	<b><i>Customer of ESLSE</i></b>	165	109	106	97.2%
<b>2</b>	<b><i>Workers of ESLSE</i></b>	176	114	110	94.5%

*Source: data from ESLSE, 2017*

### **3.5 Data Sources and Types**

In this research primary and secondary data sources used. The primary source of the data collected through interview and questionnaires. Primary data are originated by a researcher for the specific purpose of addressing the problem at hand (Malhotra and Birks, 2006). The secondary source materials of the research are going to be literatures and other related books, journals, manuals, magazines, newspaper and documents of the enterprise.

### **3.6 Data Collection Procedures**

The researcher used primary and secondary data collection tools such as questionnaire and interview, while the interview is for the managers and the questionnaires are for the employees and customers who are appropriate for the research to collect original data from employees, managers and clients of ESLSE about logistics practice activities of the enterprise. And the research is use qualitative and quantitative data analysis.

### 3.7 Reliability and Validity Tests

#### 3.7.1 Reliability

indicates the extents to which a variable or a set of variables is consistent in what it is intended to measure. Reliability analysis used to measure the consistency of items of a questionnaire. There are different methods of reliability test, for this study Cronbach 's alpha was considered to be suitable. Cronbach 's alpha is also the most common measure of reliability.

*Table 3. 2Reliability Statistics testCronbach's Alpha for both employee and customer*

<b>Customer</b>		<b>Employee</b>		<b>The overall Cronbach's Alpha</b>	
Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items
.966	16	.725	16	0.845	32

*Source: Customized from data collected, January 2017*

Thus, to test the reliability of the instrument, Cronbach alpha relating to all dimensions was computed. It is recommended that the value of Cronbach 's alpha around 0.8 is good. The alpha values in this study are around 0.725 for employee and 0.966 for customer and the overall alpha values in the study is 0.845 Thus, the internal consistency of the instrument is sustained. Since the concepts are previously applied and tested, content validity is assumed.

#### 3.7.2 Validity

In order to ensure the quality of this research design content of the research instrument were checked. The content validity was verified by the advisor of this research who looks in to the appropriateness of questions and the scales of measurement. group discussion with other researchers was also conducted since it is another way of checking the appropriateness of questions. This was done to find out whether the developed instruments measures what it was meant to measure and also to check the clarity, length, structure of the questions.

### **3.8 Ethical Consideration**

According to Belmont Report (1974) the three basic ethical principles relevant to research involving human subjects. Respect for persons, Beneficence and Justice. Accordingly, in this research, the researcher adheres to all ethical and legal issues and handle it professionally. Things such as confidentiality, respect of the respondents right to participate or quite the research at any point is protected.

### **3.9 Data Analysis**

The method of data analysis based on the type of instrument employed to gather information. Data obtained from questionnaires analyzed first raw data have tallied and tabulated. In order to analyze the data obtained through questionnaire be applied descriptive statistics (men, frequency supported by SPSS software version 20 and chi-square used to correlation analysis between customer and employee of the enterprise.

The interview obtained from responses analyzed by qualitative method. Depending on the results of the analysis, interpretations and necessary discussions made to clarify the issue. In the end, major findings of the study reported and recommendations forwarded.

### **3.9 Data presentation**

The data 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 AND INTERPRETATION**

In this part of the study's report, an analysis and interpretation made on the data gathered from primary sources in relation to logistic performance of Ethiopian shipping and logistics service enterprise.

The primary data from employee of ESLSE and customers of ESLSE were gathered using questionnaire and interview for each. In all, 216 completed questionnaires were collected from 223 The response rate was 95.85 percent.

Such primary sources of data were also triangulated by collecting and analyzing secondary data from administrative documents GTP, yearly printed brochures, yearly reports of the enterprise) found from ESLSE library and information's from structured interview with managers with respect to logistic differentiation, effectiveness and efficiency for the sake of cross-checking and further explanation the response made by the selected sample ESLSE workers.

#### **4.1 Response Rate**

A total of 223 questionnaires were disseminated to ESLSE employee and the customers ESLES of different importers, exporter and transport association in Addis Ababa and out of those 216 questionnaires were collected representing approximately 95.85% 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 Background of the respondents**

This section describes the respondents' general characteristics about gender, age, education and work experience. The result shows on table 4.2 below that majority of the respondents are male. 60(55%) of the respondents were male and 49(45%) of the respondents were female for customer and 69(60.5%) of the respondents were male and 45(39.5 %) of the respondents were female for customer.

Table 4. 1 Gender of the respondent

Gender		Customer		Employee	
		Frequency	Percent	Frequency	Percent
Valid	Male	60	55.0	69	60.5
	Female	49	45.0	45	39.5
	Total	109	100.0	114	100.0

Source: Own surveyData, 2017

Table 4. 2 Frequency Table for Age distribution

Age		Customer		Employee	
		Frequency	Percent	Frequency	Percent
Valid	18-25	18	16.5	34	29.8
	26-35	54	49.5	51	44.7
	36-45	26	23.9	19	16.7
	46-55	9	8.3	10	8.8
	above 56	2	1.8	-	-
	Total	109	100.0	114	100.0

Source: Own Survey Data, 2017

Around 54(49.5 %) of sampled respondents age ranges from 26 to 35 years, each age group of 36 to 45 and 46 to 55 account 26(23.9%) and 9(9 %)respectively. The others age groups, which include 18 to 25 and 56 years and above, account 18(16.5 %), 2(1.8 %), respectively for customer and around 51(44.7 %) of sampled respondents age ranges from 26 to 35 years, each age group of 36 to 45 and 46 to 55 account 19(16.7%) and 10(8.8%) respectively. The others age groups, which include 18 to 25 and 56 years and above, account 0(0%) respectively for employee. The result shows that majority of the respondents are on the age group of 26 to 35.

Table 4. 3 Frequency Table for level of education distribution

Level Of Education		Customer		Employee	
		Frequency	Percent	Frequency	Percent
Valid	Diploma	19	17.4	26	22.8
	Degree	45	41.3	66	57.9
	Master	35	32.1	21	18.4
	Ph.D.	7	6.4	1	0.9
	Others	3	2.8	-	-
	Total	109	100.0	114	100.0

Source: Collected Survey Data, 2017

Furthermore, while about 45(41.3 %) of sampled respondents were degree in their educational qualification, 35(32.1%)are masters, diploma holders share of around 19(17.4 %), also Ph.D. take the share of around 7(6.4 %) for customer and 66(57.9 %) of sampled respondents were degree in their educational qualification, 21(18.4%) are masters, diploma holders share of around 26(22.8 %), also Ph.D. take the share of 1(0.1%) for employee this indicate that the majority of respondent is educated from this it can be concluded that the respondents have good knowledge to give relevant information regarding the topic under study.

Table 4. 4 Frequency Table for type of organization distribution

Type of Your Organization		Customer		Employee	
		Frequency	Percent	Frequency	Percent
Valid	Importer	49	45.0	-	-
	Exporter	23	21.1	-	-
	Transporter	33	30.3	-	-
	Others	4	3.7	114	100
	Total	109	100.0	11	100

Source: collected Survey Data, 2017

The other one is respondent's importer, exporter, transporter, and others account 49(45.0%), 23(21.1 %), 33(30.3%) and 4(3.7 %) respectively. The result shows that majority of the respondents are importers.

*Table 4. 5 Frequency Table for position in the organization distribution*

Your Current Position In The Organization		Customer		Employee	
		Frequency	Percent	Frequency	Percent
Valid	Director	13	11.9	0	0
	Supervisor	32	29.4	2	2.3
	Expert	54	49.5	108	94.2
	Others	10	9.2	4	3.5
	Total	109	100.0	114	100.0

*Source: collected Survey Data, 2017*

while about 13(11.9 %), 32(29.4 %), 54(49.5 %) and 10(9.2 %), customer and 0(0%), 2(2.3 %), 108(94.2 %) and 4(3.5 %)employee of sampled respondents was director, supervisor, expert and others in their current position in the organizationfrom this it can be concluded that the respondents have good knowledge to give relevant information regarding the topic under study

### **4.3 Analysis and Discussion on Logistics Performance of ESLSE**

In this part of the study's report, analysis conducted on data gathered to assess the logistics performance of ESLSE based on the three dimensions of logistics performance as developed by Fugate *et. al* (2010) was presentedand respondents were asked to indicate their level of agreement on a five point Likert response format ranging from 1(very low) to 5(very high).sixteen statements representing logistic performance are presented using a single table which presents frequency in percent per statement and analysis was done accordingly.

Table 4. 6Descriptive Statistics for Logistics Differentiation

Items	Employee			Costumer		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Damage Free Deliveries	114	1.91	.946	109	1.93	.959
Finished Goods Inventory	114	2.45	.853	109	2.47	.867
Forecasting Accuracy	114	2.50	.854	109	2.50	.867
Time between Order Receipt and Delivery	114	2.42	.995	109	2.41	1.011
Time on Backorder	114	2.21	.936	109	2.23	.939
Total Inventory Turns	114	2.24	1.007	109	2.26	1.013
On-Time Delivery	114	2.02	1.072	109	2.04	1.079

Source: Collected Survey Data, 2017

The above table 4.6 shows that the descriptive statistics of logistics differentiation dimension of logistics performance of ESLSE. It is based on the responses of sample respondents on their import and export performance on logistics activities. It is taken in to account that numbers 1, 2, 3, 4 and 5 represent strongly disagree, disagree, neutral, agree, strongly agree, respectively.

As can be seen from table 4.8, the mean scores of the respondents for most items of logistics differentiation dimension ranges from 1.91 to 2.50, for employees and 1.93 to 2.50 for customers which shows that enterprise rated below their performance on logistics activities. However, the mean score of their response to Time between Order Receipt and Delivery, Total Inventory Turns, On-Time Delivery is found 0.995, 1.007, 1.072, for employee and 1.011, 1.013, 1.079, depict that there is a variation in the respondent's response.

In terms of on-time delivery of their produce, the mean score of the respondents was 2.02 for employee and 2.04 for customer which shows that they rated ESLSE under performance.

In terms of time between order receipt and delivery; and inventory, the mean scores of the respondents were 2.42 and 2.41, respectively. This shows that they rated ESLSE below performance. In terms of damage free deliveries, total inventory turns and time on backorder, the

mean scores of the respondents were 1.19, for employees and 1.93 for customers respectively. These show that they rated ESLSE below expected performance.

To gain competitive advantage over its rivals, enterprise is expected to provide as good as customer value by performing activities in a unique way that creates greater customer value. In light of this view, it seems that ESLSE are poor performing in their logistically differentiated activities.

*Table 4. 7 Descriptive Statistics for Logistics Efficiency*

Items	Employee			Customer		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Percent of orders shipped to customers from the primary location designated to serve those customers	114	1.78	.890	109	1.80	.900
Percent of orders shipped on time.	114	2.16	.888	109	2.14	.876
Percent of shipments requiring expediting	114	2.30	.911	109	2.32	.922
Inventory turns per year	114	2.31	.942	109	2.30	.957
Average order cycle time (time in days between order receipt and order delivery)	114	2.03	1.101	109	2.05	1.109

*Source: Survey Data, 2017*

Table 4.7 shows the descriptive statistics of logistics efficiency dimension of logistics performance of ESLSE based on arithmetic mean and standard deviation. It is based on the responses of sample respondents on their logistics performance on logistics activities for the previous fiscal year. It is taken in to account that numbers 1, 2, 3, 4 and 5 represent very poor, poor, neutral, good and excellent, respectively.

In terms of percent of shipments requiring expediting, percent of orders shipped to customers from the primary location designated to serve those customers and inventory turns per year, the mean scores of the respondents were 2.1 by employee and 1.942 by customers respectively. This show that the activity taken by the enterprise is poor performance. Specifically, the sampled employee and customers seem show that poor efficient in their Percent of orders shipped to customers from the primary location designated to serve those customers performance for the previous fiscal year as poor.

Table 4. 8 Descriptive Statistics for Logistics Effectiveness

Items	Employee			Customer		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Transportation Costs	114	1.84	1.035	109	1.86	1.041
Warehousing Costs	114	2.25	0.946	109	2.24	0.961
Inventory Costs	114	2.36	0.942	109	2.37	0.959
Total Logistics Cost	114	2.18	1.245	109	2.20	1.260

Source: Customized from data collected, Maye 2017

Table 4.8 shows the descriptive statistics of logistics effectiveness performance of ESLSE based on arithmetic mean and standard deviation. It is based on the responses of sample respondents on their logistic actual performance based on the previous fiscal year experience. It is taken in to account that numbers 1, 2, 3, 4 and 5 represent worse, bad, neutral, better and best.

The mean show that 2.1575 for employee and 2.1675 for customers which is poor activity to the enterprise. Transportation costs and total logistics cost, the mean scores of the respondents were 1.84 and 1.86 for employee and, 2.18 and 2.20, bay customers respectively. These show that they rated ESLSE actual performance based on the previous fiscal year experience as poor activity.

In terms of inventory costs and warehouse costs, the mean scores of the respondents were 2.36 and 2.25 by employee and 2.37and 2.24, by customer of ESLSE respectively. These show that they rated ESLSE actual performance based on the previous fiscal year experience. These depict that storage and inventory costs of ESLSE level are high. Furthermore, their costs associated with transportation for moving the goods to the customer is also high and evaluated as poor.

Table 4. 9Descriptive Statistics for Dimensions of Logistics Performance

<b>Dimensions of Logistics Performance</b>	<b>Employee</b>		<b>Customer</b>	
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Mean</b>	<b>Std. Deviation</b>
Logistics Differentiation	2.25	0.951	2.263	0.962
Logistics Efficiency	2.12	0.947	2.122	0.952
Logistics Effectiveness	2.16	1.042	2.1675	1.055

Source: Customized from data collected, May 2017

Table 4.9 shows the descriptive statistics for the three dimensions of logistics performance of ESLSE based on arithmetic mean and standard deviation.

Logistics differentiation account to the issue of delivering basic logistics customer services. The mean score and standard deviation for logistics differentiation was 2.25 and 0.951 for employee and 2.263and 0.962, for customer respectively. Logistics efficiency account to the measure of how well the resources expended are utilized. The mean score and standard deviation for logistics efficiency was 2.12 and 0.947 by employee and 2.122 and 0.952 by customer, respectively.

Logistics effectiveness account to the extent to which the logistics function's objectives are met. The mean score and standard deviation for logistics effectiveness was 2.16 and 1.04 by employee and 2.1675 and 1.055, by customer respectively. In addition to this the researcher interviewing managers and most of them confirmed that the company's customer service employees have knowledge to serve their customers.

Generally, questions raised about ESLSE logistic performance practice shows there is no as such significant or satisfactory customer service practice in the enterprise with the average mean 2.184and a standard deviation of 0.98 and 2.17, 0.98 respectively for employee and the overall average mean and standard deviation is hat 2.177 and 0.98 respectively. Here most of the respondents show their disagreement on logistic performance of ESLSE. Generally, questions raised about interprets shows insignificant or unsatisfactory relationship with the average mean of 2.17 and a standard deviation of 0.98.

Table 4. 10 Univariate analyses test (Chi-Square) aspect of Employee

**A. Differentiation aspect of Employee**

Differentiation aspect of Employee	Chi-Square	p-values
ESLSE provides damage free deliveries	22.312	0.025** <sup>1</sup>
ESLSE makes completed goods inventory	6.348	0.898
ESLSE has forecasting accuracy	32.008	0.003**
ESLSE time between order receipt and delivery is fair	9.430	0.666
ESLSE has fair time on backorder	6.335	0.706
ESLSE has good record of total inventory turns	24.368	0.016**
ESLSE has good on time delivery trend	25.238	0.011**

Source: Customized from data collected, May 2017

\*\* the two-star show that the significance of variables

As can see From the given table 4.10 (A) above, the type of working organization regarding to logistic Differentiation had significant associations with Ethiopian shipping and logistic service enterprise provides damage free deliveries, forecasting accuracy, time between order receipt and delivery, fair time on backorder, good record of total inventory turns and good on time delivery trend, since the p-values 0.025\*\* ,0.003\*\* ,0.016\*\* and 0.011\*\* respectively less than the level of significance 0.05. but completed goods inventory, time between order receipt and delivery, time on backorder had no significant relationship to working organization.

**B. Efficiency aspect of Employee**

Efficiency aspect of Employee	Chi-Square	p-values
Efficiency of ESLSE ship orders to customers from the primary location	8.811	0.719
Efficiency Of ESLSE Deliver Of Shipped Orders On Time	4.828	0.849
Efficiency Of ESLSE To Shipments Requiring Expediting	33.886	0.001**
Efficiency Of ESLSE To Inventory Turns Per Year	24.387	0.015**
Efficiency Of ESLSE To Average Order Cycle Time	23.625	0.028**

Source: Customized from data collected, May 2017

From the given table 4.10 (B) above the type of working organization regarding to logistic efficiency had significant associations with Ethiopian shipping and logistic service enterprise provides shipments requiring expediting, inventory turns per year, average order cycle time, since the p-values 0.001\*\* ,0.015\*\* and 0.028\*\* respectively less than the level of significance 0.05. but ship orders to customers from the primary location, deliver of shipped orders on time had no significant relationship to working organization.

**C. Effectiveness aspect of Employee**

<b>Effectiveness aspect of Employee</b>	<b>Chi-Square</b>	<b>p-values</b>
The Effectiveness Of Transportation Cost Of ESLSE	8.685	0.73
The Effectiveness Of Warehousing Cost Of ESLSE	23.550	0.023**
The Effectiveness Of Inventory Cost Of ESLSE	21.076	0.039**
The Effectiveness Of Total Logistics Cost Of ESLSE	10.403	0.581

*Source: Customized from data collected, May 2017*

From the given table 4.10 (C) the type of working organization regarding to logistic effectiveness had significant associations with Ethiopian shipping and logistic service enterprise provides effectiveness of warehousing cost and effectiveness of inventory cost, since the p-values 0.023\*\* and 0.039\*\* respectively which is less than the level of significance 0.05. but effectiveness of transportation cost and effectiveness of total logistics cost had no significant relationship to working organization.

*Table 4. 11 Univariate analyses test (Chi-Square) aspect of Customer*

**A. Differentiation aspect of Customer**

<b>Differentiation aspect of Customer</b>	<b>Chi-Square</b>	<b>p-values</b>
ESLSE Provides Damage Free Deliveries	14.750	0.001**
ESLSE Makes Finished Goods Inventory	16.110	0.000**
ESLSE Has Forecasting Accuracy	1.920	0.751
ESLSE Time Between Order Receipt And Delivery Is Fair	10.348	0.022**
ESLSE Has Fair Time On Backorder	2.593	0.628
ESLSE Has Good Record Of Total Inventory Turns	11.598	0.013**
ESLSE Has Good On-Time Delivery Trends	2.172	0.704

*Source: Customized from data collected, May 2017*

As can see from the given table 4.11(A), the type of working organization regarding to logistic Differentiation had significant associations with Ethiopian shipping and logistic service enterprise provides damage free deliveries, makes finished goods inventory, time between order receipt and delivery, and good record of total inventory turns, since the p-values 0.001\*\*, 0.000\*\*, 0.022\*\* and 0.013\*\* respectively which means less than the level of significance 0.05. but forecasting accuracy, fair time on backorder, good on-time delivery trends had no significant relationship to working organization.

### B. Efficiency aspect of Customer

Efficiency aspect of Customer	Chi-Square	p-values
Efficiency Of ESLSE Ship Orders To Customers From The Primary Location	0.307	0.989
Efficiency Of ESLSE Deliver Of Shipped Orders On Time	1.894	0.595
Efficiency Of ESLSE To Shipments Requiring Expediting	12.606	0.006**
Efficiency Of ESLSE To Inventory Turns Per Year	12.609	0.006**
Efficiency Of ESLSE To Average Order Cycle Time	14.751	0.001**

*Source: Customized from data collected, May 2017*

From the given table 4.11(B) above the type of working organization regarding to logistic efficiency had significant associations with Ethiopian shipping and logistic service enterprise provides, shipments requiring expediting, inventory turns per year, average order cycle time, since the p-values 0.006\*\*, 0.006\*\* and 0.001\*\* respectively which is less than the level of significance 0.05. but ship orders to customers from the primary location, deliver of shipped orders on time had significant relationship to working organization but Efficiency of ESLSE Deliver of Shipped Orders On Time has no significant relationship to working organization.

### C. Effectiveness aspect of Customer

Effectiveness aspect of Customer	Chi-Square	p-values
The Effectiveness Of Transportation Costs Of ESLSE	14.69	0.003**
The Effectiveness Of Warehousing Cost Of ESLSE	13.461	0.008**
The Effectiveness Inventory Cost Of ESLSE	14.63	0.002**
The Effectiveness Of Total Logistics Cost Of ESLSE	1.669	0.796

*Source: Customized from data collected, May 2017*

From the given table 4.11(C) the type of working organization to logistic effectiveness had significant associations with the Effectiveness of Transportation Costs of ESLSE, the effectiveness of warehousing cost of Ethiopian Shipping and Logistic Service Enterprise and the effectiveness inventory cost of Ethiopian Shipping and Logistic Service Enterprise since the p-values 0.003\*\*, 0.008\*\* and 0.002\*\* less than the level of significance 0.05. but The effectiveness of Total Logistics Cost of ESLSE had no significant relationship to working organization.

## **4.2 Results & Discussions of Structured Interview Questioner & Secondary Sources of Data**

### **4.2.1 Analysis of Structured Interview**

In this part of the report of the study questioner, secondary data and content analysis conducted on a structured interview with five different department Directors of ESLSE is presented. Basically, the interview conducted with them is related with logistics performance, communication barriers, warehouse issue and inventory issues of the enterprise in their import and export practice. Accordingly, the analyses made on the issues are subsequently presented based on interview questions (Appendix 2).

Both the interviewees have replied that they observe *ICT* problem such as network disability between districts and customers, lack of communications throw information communication technology's which affect the total process of the enterprise to manage the import and export of goods. also the capacity and availability of warehouse rated it as low. Nevertheless, it seems that the problem of performance is not totally absent in the study area. It seems that the responses of customer to damage free deliveries were more conformance with the information get from the structured interview.

Likewise, both the interviewees have replied is at they observed as not well-functioning inventory control practice and communication beyond borders including inside the country on the ESLSE. They also similarly rated its performance as poor varies obstacles mentioned above.

This depicts that their responses are more or less in conformance with the responses of the respondents.

#### 4.2.2 Analysis of Secondary Sources of Data

In this part of the report of the study, trend analysis conducted on the ESLSE by collecting data found in the main office located at legahr area presented. It is observed that most of the activity is increased gradually from year to year but the change is not show a quakeprogress. The table on Annex 3 refer that the performance of ESLSE regarding to Shipping service, Cargo service, Port Terminal service, Financial transaction from the year 2014 to 2016.

#### 4.2.3 Analysis of Questioner

Form the table4.13, page 25 shows that the descriptive statistics of logistics differentiation, Logistics Efficiency, and dimension of logistics performance of ESLSE. It is based on the responses of sample respondents on their import and export performance on logistics activities. It is taken in to account that numbers 1, 2, 3, 4 and 5 represent strongly disagree, disagree, neutral, agree, strongly agree, respectively.

#### *Descriptive Statistics for Dimensions of Logistics Performance*

	<i>Employee</i>		<i>Customer</i>	
	<u>Mean</u>	<u>Std. Deviation</u>	<u>Mean</u>	<u>Std. Deviation</u>
Logistics Differentiation	2.25	0.951	2.263	0.962
Logistics Efficiency			2.12	0.947
Logistics Effectiveness			2.16	1.042
			2.1675	1.055

*Source: Customized from data collected, May 2017*

The above figure shows the descriptive statistics for the three dimensions of logistics performance of ESLSE based on arithmetic mean and standard deviation.

Logistics differentiation account to the issue of delivering basic logistics customer services. The mean score and standard deviation for logistics differentiation was 2.25 and 0.951 for employee and 2.263 and 0.962, for customer respectively. Logistics efficiency account to the measure of how well the resources expended are utilized. The mean score and standard deviation for logistics efficiency was 2.12 and 0.947 by employee and 2.122 and 0.952 by customer, respectively.

Logistics effectiveness account to the extent to which the logistics function's objectives are met. The mean score and standard deviation for logistics effectiveness was 2.16 and 1.04 by employee and 2.1675 and 1.055, by customer respectively. In addition to this the researcher interviewing managers and most of them confirmed that the company's customer service employees have knowledge to serve their customers.

Generally, questions raised about ESLSE logistic performance practice shows there is no as such significant or satisfactory customer service practice in the enterprise with the average mean 2.184 and a standard deviation of 0.98 and 2.17, 0.98 respectively for employee and the overall average mean and standard deviation is hat 2.177 and 0.98 respectively. Here most of the respondents show their disagreement on logistic performance of ESLSE. Generally, questions raised about interprets shows insignificant or unsatisfactory relationship with the average mean of 2.17 and a standard deviation of 0.98.

Finally: the three measurement of logistic performance is under taken as poor activity in all dimensionsof questioners and question that returned by both employee and customers of Ethiopian shipping and logistic service enterprise.

## **CHAPTER FIVE**

### **5. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

This final chapter highlights the summary of findings, conclusions and recommendations have remained provided as per the findings of the study to improve Logistics performance of ESLSE. This study needed to assessed the logistics performance of ESLSE to further observed its effect on Logistic performance.

In order to achieve the objective of the study 109customer which are loyal by importing and exporting more than twenty per year and 117 employees of the enterprise were under the study (*source: ESLSE marketing yearly report 2017*). The questionnaires were tested and the Cronbach's alpha values 0.966 for customer and 0.845 for employee of ESLSEwere satisfactory for its reliability then questionnaire were distributed.

Whereas, the data obtained via interviews has been analyzed qualitatively. Finally, the data collected from the respondents were analyzed; interpreted and major findings are summarized and presented.

#### **5.1 SUMMARY OF FINDINGS**

The following major findings were found as a result of the data analysis of the study. The mean score and standard deviation for logistics differentiation were 2.25 and 0.951 for employee and 2.263and 0.962, for customer respectively. The mean score and standard deviation for logistics efficiency were 2.12 and 0.947 by employee and 2.122 and 0.952 by customer, respectively.

The mean score and standard deviation for logistics effectiveness were 2.16 and 1.04 by employee and 2.1675 and 1.055, by customer respectively. The results show a significant variation among the dimensions of logistics performance. However, the dimension of logistics efficiency has showed variation in terms of mean score increment from the others.

In this analysis more than 80% of the respondents shows their disagreement and strongly disagree on points on the current transportation practice efficiency and on time delivery. This

shows that the problem is several and critical because the cost of transportation has a significant percentage on overall logistics costs. In this variable respondent's response related to transportation practice indicated that the practice of transportation of the enterprise increases logistics cost, timely and safely delivery is also a problem of the enterprise.

In customer service practice of logistics there is no developed tool to check customer satisfaction level in logistics activity. Here from most respondents on knowledge of employees in customer service to serve their customers agreed and this is the weak observed in customer service section of logistics.

In inventory planning practice most of the respondents shows their disagreement. In ordering of items customer requirement and demand situation is not considered in inventory planning. The inventory planning system of the company also cannot minimize the costs related to inventory like holding and ordering costs.

In this category, most of the respondents show their disagreement regarding to the design of warehouse is to access item that is free from damage of item during loading and unloading. This shows that the design of the warehouse is still poor to access items and not convenient to load and unload.

In general, from the uni-variate analyses test Chi-Square( $\chi^2$ ) the significant of variable of employee and customers of ESLSE are related.

## **5.2 CONCLUSIONS**

The aim of this study was to assess the logistics performance of ESLSE based on samples of 165 importers, exporters and transport association which 117 selected sample, by (C.R. Kothari, 2004) and 176 workers of ESLSE which 109 selected sample by (C.R. Kothari, 2004) respectively.

Methods of data analysis were descriptive statistics and chi-square, and the following conclusions were drawn based on the results of the study. The result indicated that majority of the customers were not satisfied with many of the service performances and also most employees evaluated the organization as poor on many performance indicators.

The result of this study clearly show that the major problems observed in logistics performance practices of the enterprise are as follows.

The analysis made with logistic performance on serves delivery approach for customers indicated that

- The system which was supposed to improve the service performance did not satisfied customers on majority of the performance indicators used in this study.
- The transportation practice of the enterprise increases logistics cost. Unsafe and late delivery, not achieving economies of scale and distance to minimize unit cost of transportation are the major problems drawn.
- Lack of developed tool to check customer satisfaction level in logistics activity and the customer service policy of logistics also a problem that come from dissatisfaction of customer in logistics activities.
- Ordering of items based on customer requirement is not considered in inventory planning. The inventory planning system of the company also not minimize the costs related to inventory like holding and ordering costs.
- Long import process of customs affects availability of items timely. This show that the overall practice has a negative impact on customers.
- The overall design of the warehouse is still poor to access items and not convenient to load and unload.
- The warehouse operators' skill to use computer and other technologies to perform.
- It is also specifically observed that ESLSE have not well performed in their practices of inventory control, order management delivery and orders shipped to customers from the primary location as well as average order cycle time

The study shows that logistic performance is not yet fully practiced but it can be said that there is somehow a moderate implementation of logistic performance which is contrary to a study done by (Fekadu *et al.* 2013). The study revealed an implication for ESLSE that own and/or manage ESLSE. It is necessary for them to recognize the importance of key logistical activities in their import and export activity. Thus, the study enhanced the importance of logistics performance in ESLSE.

### 5.3. RECOMMENDATIONS

As indicated in the conclusion part of this study, the major problems logistics performance practices were identified. Thus the enterprise should take correction actions to alleviate the problems related to logistics performance practices on transportation, customer service, inventory planning, warehouse management and communication technology. Based on the results of the study, the following recommendations are suggested for consideration:

- ESLSE need to focus on major logistics activities Import and export in order to improve and must accept modern technologies to increase capacity of import and export goods.
- The enterprise should work on transportation management to minimize costs incurred as it has a negative impact on profitability.
- To achieve economies of scale and distance to minimize the transportation cost per unit of items, the enterprise should apply maximum load of trucks and consider the route of the distance to deliver products to customers
- The enterprise should improve late and unsafe delivery of products to satisfy customers which helps them to retain and make customers loyal for the company by making available trucks to deliver products and use skilled human power in warehouse operation to improve service
- The enterprise should have any standard tool to check level of customer satisfaction to take corrective action based on the results from the tool.
- The inventory of the enterprise should consider the real demand and market consideration which benefit the customer by avoiding unnecessary inventory costs and exploitfulfilment of customer as it is based on customer requirement.
- The enterprise should design the warehouse in a such way to minimize damage and upgrade the knowledge of employees to use technology to improve service for their customers.
- As the enterprise is multi-national and experienced in operating in different countries, it should show and practice its integration for sustainable economic development in the country.

- ESLSE should be further familiarized with complete efficiency and effectiveness improvement measures of logistics for their customer in order to improve and supplement their logistic performance as a result of an outshined performance in the major logistical functions of their activity.

All these action together enable the enterprise to import logistic performance efficiently, timely, competitively and ultimately improve enterprise profitability and customer's satisfaction which is the ultimate objective of efficient logistics.

#### **5.4 SUGGESTION FOR THE FUTURE STUDY**

It only depends on responses based on the perception of the selected respondents. However, the researcher believes that it could be seen as a spring board for future similar researches. It would be interesting to further explore and record the possibilities of developing and maintaining an insignificant level of inventory practice, communication activity in the ESLSE based on the observed relatively good practices of order management, on-time delivery as a possible direction of research in the future.

## Reference

- AbTalib, M.S., AbTalib, M.S., Abdul Hamid, A.B., Abdul Hamid, A.B., Chin, T.A. and Chin, T.A., 2016. Can halal certification influence logistics performance Journal of Islamic Marketing, 7(4), pp.461-475.
- Amentae, T.K. and Gebresenbet, G., 2015. Evaluation of Performances of Intermodal Import-Export Freight Transport System in Ethiopia. Journal of Service Science and Management, 8(01), p.57.
- Bakar, A., Azlan, M., Jaafar, H.S., Faisal, N. and Muhammad, A., 2014. Logistics Performance Measurements-Issues and Reviews.
- Ballou, R.H., 2006. The evolution and future of logistics and supply chain management. Production, 16(3), pp.375-386.
- Beno, P., Pavelka, V., Duchon, F. and Dekan, M., Using octree maps and RGBD cameras to perform mapping and A\* navigation. In Intelligent Networking and Collaborative Systems (INCoS), 2016 International Conference on (pp. 66-72). IEEE.
- Bowersox, D.J., Calantone, R.J. and Rodrigues, A.M., 2003. Estimation of global logistics expenditures using neural networks. Journal of Business Logistics, 24(2), pp.21-36.
- Byrne, P.M., 1991. Improving Quality and Productivity in the Logistics Process: Achieving Customer Satisfaction Breakthroughs. In Annual Conference, Council of Logistics Management. –
- Chan, F.T. and Qi, H.J., 2003. An innovative performance measurement method for supply chain management. Supply chain management: An international Journal, 8(3), pp.209-223.
- Chow, G., Heaver, T.D. and Henriksson, L.E., 1994. Logistics performance: definition and measurement. International journal of physical distribution & logistics management, 24(1), pp.17-28.
- Christopher, M., 2016. Logistics & supply chain management. Pearson Higher Ed.
- Dereje, W., 2015. Business Process Reengineering and Organizational Performance of Third Party Logistics Service Providers in Ethiopia: The Case of Comet Transport SC (Doctoral dissertation, AAU).

- Ensermu, M., 2015. Logistics time and cost analysis Case of lubricant supply of Libya oil Ethiopia limited (Doctoral dissertation, AAU).
- Fernie, J. and Sparks, L., 2014. Logistics and retail management: emerging issues and new challenges in the retail supply chain. Kogan Page Publishers.
- Fortune Newsletter 2012 Government of Ethiopia Evaluating Technical Proposals from Six International Companies on the Multimodal Transport System, Vol. 13, No. 659. 16 December 2012.
- Frazelle, E., 2002. Supply chain strategy: the logistics of supply chain management. McGraw Hill.
- Fugate, B.S., Mentzer, J.T. and Stank, T.P., 2010. Logistics performance: efficiency, effectiveness, and differentiation. *Journal of Business Logistics*, 31(1), pp.43-62.
- Gebremichael, t., 2014. the practices and challenges of multimodal transport operation in Ethiopian shipping and logistics services enterprise (doctoral dissertation, St. Mary's university).
- Griffis, S.E., Cooper, M., Goldsby, T.J. and Closs, D.J., 2004. Performance measurement: measure selection based upon firm goals and information reporting needs. *Journal of Business Logistics*, 25(2), pp.95-118.
- Hamilton, T., 2015. The State of Logistics Performance Measurement: A Comparison of Literature and Practice.
- Harrington, H.J., 1991. Business process improvement: The breakthrough strategy for total quality, productivity, and competitiveness. McGraw Hill Professional.
- Johnson, R.L., Tsiros, M. and Lancioni, R.A., 1995. Measuring service quality: a systems approach. *Journal of Services Marketing*, 9(5), pp.6-19.
- Kothari, C.R., 2004. Research methodology: Methods and techniques. New Age International.
- Kumar, S. and Gulati, R., 2009. Measuring efficiency, effectiveness and performance of Indian public sector banks. *International Journal of Productivity and Performance Management*, 59(1), pp.51-74.
- Laird, M., 2012. Logistics Management: A Firm's Efficiency Performance Model (Doctoral dissertation, Ohio University).
- Lambert, D.M., Stock, J.R. and Ellram, L.M., 1998. Fundamentals of logistics management. McGraw-Hill/Irwin.

- Lawrence, H.P., Hunt, R.J., Beck, J.D. and Davies, G.M., 1996. Five-year incidence rates and intraoral distribution of root caries among community-dwelling older adults. *Aries research*, 30(3), pp.169-179.
- Ling, K.C., Chai, L.T. and Piew, T.H., 2010. The effects of shopping orientations, online trust and prior online purchase experience toward customers' online purchase intention. *International Business Research*, 3(3), p.63.
- Setegn, D., Ensermu, M. and Moorthy, P.K., 2013. Assessing the effect of business process reengineering on organizational performance: A case study of Bureau of Finance and Economic Development (BOFED), Oromia Regional State, Ethiopia. *Researchers World*, 4(1), p.115.
- Shore, N., 2006. Re-conceptualizing the Belmont Report: A community-based participatory research perspective. *Journal of Community Practice*, 14(4), pp.5-26.
- Stank, T.P., Goldsby, T.J., Vickery, S.K. and Savitskie, K., 2003. Logistics service performance: estimating its influence on market share. *Journal of Business Logistics*, 24(1), pp.27-55.
- Stock, J.R. and Lambert, D.M., 2001. *Strategic logistics management (Vol. 4)*. Boston, MA: McGraw-Hill/Irwin.
- Tseng, Y.Y., Yue, W.L. and Taylor, M.A., 2005. *The role of transportation in logistics chain*. Eastern Asia Society for Transportation Studies.
- Vanderpool, H.Y., 1996. *The ethics of research involving human subjects: facing the 21st century*.
- Warehouse. (n.d.). Retrieved March 7, 2017, from <https://www.merriam-webster.com/dictionary/warehouse>

# Appendix

**Addis Ababa University**  
**Faculty of Business and Economics**  
**School of Commerce**  
**Department of Logistic and Supply Chain Management**

**APPENDIX: 1**

**Survey Questionnaire**

**Questionnaire to Be Filled by Employees of Ethiopian Shipping and Logistic Service Enterprise.**

**Dear Respondent: -**

My name is Addis Godana conducting a thesis entitled Logistic performance on service delivery for partial fulfillment of my MA in logistic and supply chain management Addis Ababa university school of commerce. The main purpose of this questionnaire is to collect necessary data for the study on Logistics Performance Practice in Ethiopia Shipping and logistic service enterprise. This questionnaire designed to seek information for purely academic purposes and hence would not affect any one in any case. The information collected through the questionnaire is kept confidential and only used for academic purposes, and thereby, to come up with some workable solutions to overcome the known challenges and difficulties related to logistics performance practices in the enterprise. To this end, the outcome of this study highly depend upon your response. Therefore, you are kindly requested to fill the questionnaire as per the instruction, carefully and responsibly.

**General Directions**

1. You are not required to write your name.
2. Respond to all close-ended question items by circling on the item you choose.

In case of any question or problem please contact me via phone and mail.

**Addis Godana**Tel:-09-11-83-92-72

09-12-68-84-60

**E-mail: -*addisgodana2012@gmail.com***

**Thank You in Advance**

**PART ONE: GENERAL INFORMATION**

**1 Gender**

A. Male                      B. Female

**2 Age**

A. 18-25                      C. 36-45 E. 56 and above  
B. 26-35                      D. 46-55

**3. Level of education**

A. Diploma                      C. Masters                      E. Other  
B. Degree                      D. PHD

**4. years of experience**

A. 0-5    C. 11-15                      E. 21 and above  
B. 6-10                      D. 6-20

**5. Your current position in the enterprise.**

A. Director    B. Supervisor E. Other  
C. Group leader D. Expert

**PART TWO:QUESTIONNAIRE (Linkert 5scel)**

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

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

<b>Logistics Differentiation</b>						
<b>No</b>	<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Damage Free Deliveries					
2	Finished Goods Inventory					
3	Forecasting Accuracy					
4	Time between Order Receipt and Delivery					
5	Time on Backorder					
6	Total Inventory Turns					
7	On-Time Delivery					

2. For the following items, please rate yourlogistic performance compared to planned performance, based on the previous fiscal year results.

1; Very Poor,2; Poor, 3; Neutral, 4; Good and 5; Excellent

<b>Logistics Efficiency</b>						
<b>No</b>	<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Percent of orders shipped to customers from the primary location designated to serve those customers					
2	Percent of orders shipped on time.					
3	Percent of shipments requiring expediting					
4	Inventory turns per year					
5	Average order cycle time (time in days between order receipt and order delivery).					

3. For the following items, please rate your logistic performance compared to planned performance, based on the previous fiscal year results.

1; Much worse, 2; Worse, 3; Neutral, 4; Better and 5; Much better

Logistics Effectiveness						
No	Variables	1	2	3	4	5
1	Transportation Costs					
2	Warehousing Costs					
3	Inventory Costs					
4	Total Logistics Cost					
5	Documentation cost					
6	Transportation Costs					

**Notice:** *You are kindly requested to return back the questionnaire to the person assigned quickly with due attention after completion.*

**Addis Ababa University**  
**Faculty of Business and Economics**  
**School of Commerce**  
**Department of Logistic and Supply Chain Management**

**APPENDIX: 2**

**Survey Questionnaire**

**Questionnaire to Be Filled by Managers of Ethiopian Shipping and Logistic Service Enterprise.**

**Dear Respondent: -**

My name is Addis Godana conducting a thesis entitled Logistic performance on service delivery for partial fulfillment of my MA in logistic and supply chain management Addis Ababa university school of commerce. The main purpose of this questionnaire is to collect necessary data for the study on Logistics Performance Practice in Ethiopia Shipping and logistic service enterprise. This Interview designed to seek information for purely academic purposes and hence would not affect any one in any case. The information collected through the questionnaire is kept confidential and only used for academic purposes, and thereby, to come up with some workable solutions to overcome the known challenges and difficulties related to logistics performance practices in the enterprise. To this end, the outcome of this study highly depend upon your response. Therefore, you are kindly requested to fill the questionnaire as per the instruction, carefully and responsibly.

**General Directions**

In case of any question or problem please contact me via phone and mail.

**Addis Godana**Tel:- 09-11-83-92-72

09-12-68-84-60

**E-mail: -*addisgodana2012@gmail.com***

**Thank You in Advance.**

**PART FOUR INTERVIEW** *(For Managers of ESLSE Only)*

1. What can you say about your company's logistics performs practices?

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2. Is your company logistic service policy result in customer satisfaction? If so how you squared this level of satisfaction.

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3. What problems have you faced or observed in your company related to transportation performance, customer service, warehouse management and partnership with stakeholders practice and other related issues that you remember?

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4. Do you think that your warehouse management system modern that can be minimized error and give fast customer service?

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5. Do you think that your organization is interlinked by information communication technology in order to minimizes time and maximize client satisfaction?

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6. What is the problem you faced during the year you working in the enterprise?

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7. What is your suggestion to solve the problems?

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8. What is the enterprise's future plan with regards to improving the services accessibility and quality level of Logistic Performance?

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9. Is there anything that you would like to say in relation to logistic performance activity in your organization?

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**Notice:** *You are kindly requested to return back the questionnaire to the person assigned quickly with due attention after completion.*

**Addis Ababa University**  
**Faculty of Business and Economics**  
**School of Commerce**  
**Department of Logistic and Supply Chain Management**  
**APPENDIX: 3**  
**Survey Questionnaire**  
**Questionnaire to Be Filled by Customers of ESLSE.**

**Dear Respondent: -**

My name is Addis Godana conducting a thesis entitled Logistic performance on service delivery for partial fulfillment of my MA in logistic and supply chain management Addis Ababa university school of commerce. The main purpose of this questionnaire is to collect necessary data for the study on Logistics Performance Practice in Ethiopia Shipping and logistic service enterprise. This questionnaire designed to seek information for purely academic purposes and hence would not affect any one in any case. The information collected through the questionnaire is kept confidential and only used for academic purposes, and thereby, to come up with some workable solutions to overcome the known challenges and difficulties related to logistics performance practices in the enterprise. To this end, the outcome of this study highly depend upon your response. Therefore, you are kindly requested to fill the questionnaire as per the instruction, carefully and responsibly.

**General Directions**

1. You are not required to write your name.
2. Respond to all close-ended question items by circling on the item you choose.

In case of any question or dilemma please contact me via phone and E-mail

**Addis Godana**

**Tel: - 09-11-83-92-72**

**09-12-68-84-60**

**E-mail: - [addisgodana2012@gmail.com](mailto:addisgodana2012@gmail.com)**

**Thank You in Advance.**

**PART ONE: BACKGROUND INFORMATION**

1. Gender

- A. Male
- B. Female

2. Age

- A. 18-25
- B. 26-35
- C. 36-45
- D. 46-55
- E. 56 and above

3. Level of education

- A. Diploma
- B. Degree
- C. Masters
- D. PHD
- E. Other

4. Your organization.

- A. Importer
- B. Exporter
- C. Transport
- D. Other

5. Your current position in the organization.

- A. Director
- B. Supervisor
- C. Expert
- D. Other

6. Indicate your experience in the organization.

- A. Less than 1 year
- B. 1-5 years
- C. 6-10 years
- D. 11-15 years
- E. above 15 years

7. Indicate type of the organization you work for.

- A. Private
- B. State owned

8. The relationship between your organization and ESLSE is Very good.

- A. Agree
- B. Neutral
- C. Disagree

9. How long your organizations take relationship with ESLSE?

- A. Less than 1 year
- B. 1-5 years
- C. 6-10 years
- D. 11-15 years
- E. above 15 years

10. What is the problem you faced during working with ESLSE?

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11. What is your suggestion to solve the problems?

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**PART TWO:QUESTIONNAIRE (Linkert 5scel)**

1. Show Your Level of Agreement on the following item with regarding to ESLSE  
Using the Following Rating Scales.

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

<b>Logistics Differentiation</b>						
<b>No</b>	<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Damage Free Deliveries					
2	Finished Goods Inventory					
3	Forecasting Accuracy					
4	Time between Order Receipt and Delivery					
5	Time on Backorder					
6	Total Inventory Turns					
7	On-Time Delivery					

2. For the following items, please rate ESLSE logistic performance based on the previous fiscal year results(experience).

1; Very Poor, 2; Poor, 3; Neutral, 4; Good and 5; Excellent

<b>Logistics Efficiency</b>						
<b>No</b>	<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Percent of orders shipped to customers from the primary location designated to serve those customers					
2	Percent of orders shipped on time.					
3	Percent of shipments requiring expediting					
4	Inventory turns per year					
5	Average order cycle time (time in days between order receipt and order delivery).					

3. For the following items, please rate ESLSE logistic performance based on the previous fiscal year results.

1; Much worse, 2; Worse, 3; Neutral, 4; Better and 5; Much better

Logistics Effectiveness						
No	Variables	1	2	3	4	5
1	Transportation Costs					
2	Warehousing Costs					
3	Inventory Costs					
4	Total Logistics Cost					
5	Sales in Birr					
6	Transportation Costs					

**Notice:** *You are kindly requested to return back the questionnaire to the person assigned quickly with due attention after completion.*

## APPENDIX: 4

Performance of Ethiopian shipping and logistic serves enterprise from 2014 to2016 and estimation for the year of 2017.

No	Type of service	measurement	Yearly operation activity of ESLSE			Average growth in %	Estimation of growth for 2017/18
			2014	2015	2016		
<b>1</b>	<b>Shipping service</b>						
1.1	Total transit over marine	Ton	2,769,053	3,340,135	4,966,266	34.7	5,319,295
1.2	Cargo moved by ESLSE	Ton	1,104,813	998,597	952,628	-7.1	1,151,243
1.3	Cargo moved by rent ship	Ton	1,662,240	2,012,048	4,013,637	60.3	3,376,544
1.4	Containers moved by marine	TEU	130,638	142,724	163,167	14.9	193,623
1.5	Containers moved by multi modal	TEU	107,968	123,581	152,509	18.9	183,941
1.6	Cars moved by marine	Num.	20,839	22,207	21,764	1.4	27,518
1.7	Care moved by multi modal	Num.	17,220	19,053	19,184	5.7	26,692
1.8	metal moved by multi modal	Ton	553,971	374,509	814,141	42.5	741,508
1.9	cargo moved by marine	Ton	130,638	142,724	163,167	14.9	193,623
1.10	Cross trade	Ton	107,968	123,581	152,509	18.9	183,941
1.11	Shipping cargo by rent	Ton	20,839	22,207	21,764	1.4	27,518
1.12	Moving cargo by Charter	Ton	17,220	19,053	19,184	5.7	26,692
<b>2</b>	<b>Cargo service</b>						
2.1	Djibouti to dray port moving container	Ton	295,259	576,675	441,792	35.9	581,930
2.2	Djibouti to dray port moving cares	Ton		350,299	772,589	-55.5	791,508
2.3	Multimodal transfer of metal	Ton	4,225	10,636	14,736	95.1	26,692
2.4	Uni modal clearing forwarding service on goods	Ton	2,271,403	2,665,725	3,719,205	28.4	2,835,355
<b>3</b>	<b>Port Terminal service</b>						
3.1	Container	TEU	315,431	454,723	628,550	41.2	677,754
3.2	Full container in	TEU	84,869	114,369	162,047	38.2	174,744
3.3	Full container out	TEU	80,842	115,739	156,841	39.3	169,130
3.4	Nil container in	TEU	75,018	112,433	155,591	44.1	167,782
3.5	Nil container out	TEU	74,702	112,182	154,071	43.8	166,440
3.6	Arrived car to port	Nub	4,183	8,275	13,224	78.8	25,357
<b>4</b>	<b>Financial transaction</b>						
4.1	Income	Birr	10,903,805	12,907,159	16,586,323	23.4	19,233,440
4.2	Outcome	Birr	10,143,479	1,211,275.3	15,129,002	22.2	17,698,289
4.3	Tariff before tax	Birr	760,326	794,406	1,531,780	48.7	1,565,150

Source: from plan approved by board of ESLSE, Jun 2017