ASSESSMENT ON CHALLENGES AND PROSPECTS OF FREIGHT LOGISTICS, THE CASE OF ETHIOPIAN SHIPPING AND LOGISTICS SERVICES ENTERPRISE

A THESIS SUBMITTED TO SCHOOL OF GRADUATE STUDIES OF ADDISABABA UNIVERSITY COLLEGE OF BUSINESS & ECONOMICS SCHOOL OF COMMERCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ART DEGREE IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

BY

TEZERASH ESHETU

ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS SCHOOL OF COMMERCE DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

ADVISOR

MATIWOS ENSERMU (PHD)

June, 2020
Addis Ababa Ethiopia

Addis Ababa University

College of Business & Economics

School of Commerce

Logistics and Supply Chain Management Unit

This is to Certify that the thesis proposal prepared by *TezerashEshetu*, entitled: Assessment on Challenges and Prospects of Freight Logistics: the case of Ethiopian Shipping and LogisticsService Enterprise submitted in partial fulfilment of the requirements for the Degree of Masters of Arts in *Logistics and Supply Chain Management* complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Examiner: _____ Signature: _____ Date: _____

Advisor: _____ Signature: _____ Date: _____

_____

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DECLARATION

I, the undersigned, and I hereby declare that the dissertation entitled: Assessment on Challenges and Prospects of Freight Logistics: the case of Ethiopian Shipping and LogisticsService Enterprise. It is my original work and has not been presented for a degree in any other University, and that all the sources of materials used for the thesis have been accordingly acknowledged.

Signed by: -

Name: TezerashEshetu

Signature: _____

Date _____

Addis Ababa Ethiopia

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CONFIRMATION

I hereby claim that to approve, the study made by *TezerashEshetu*, entitled: Assessment on Challenges and Prospects of Freight Logistics: the case of Ethiopian Shipping and LogisticsService Enterprise, and submitted in partial fulfillment of the requirements for the Degree of Master of Science in Supply Chain and Logistics Services complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by: -

Advisor _____

Signature _____

Date _____

Addis Ababa Ethiopia

ACRONYMS

VOC: Vehicle Operating Cost

ESLSE: Ethiopian Shipping & Logistics Service Enterprise

MT: Multimodal Transport

(GTN):Global Transport Network

UNCTAD: United Nations Conference on Trade and Development

DP: Djibouti Port

ICT: Information and Communication Technology

ITF: International Transport Forum

LLC: Land Locked Countries

ESLSE: Ethiopian Shipping & Logistics Service Enterprise

MMT: Multimodal transport

MNCs: Multinational Companies

WTO: World Trade Organizations

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ABSTRACT

The paper has made a study on the challenges and prospect of freight logistics in (ESLSE).The general objective of this study is to examine the challenge and prospect of freight logistics the case of ESLSE. In order to meet this general objective, the researcher was collected 283 usable responses from the target population of the study using Non-probability (deliberate or purposive or judgment) sampling technique. The study questionnaire containing different dimension of variables based on the basic research question which determine the challenges and potential prospects pertaining to freight logistics operation of the enterprise, I:e Information Communication Technology (ICT), Dry port and Terminal Services, Policy and Regulatory Aspects, Custom facilitation, Freight logistics Operation performance. The analysis was conducted using descriptive statistics using Statistical Package for Social Science (SPSS) version 20 and secondary document analysis is done for confirming the findings. Finally, the overall conclusions that drown from the result indicates, the prevalence of poor inland transport facilities, lack of committed and ethically responsible professionals in operational areas, lack of port equipment and facilities, frequent interruption of communication networks, dry ports capacity limitation and extended customs goods clearing procedures were disclosed as the main challenges to system's operation. As well as, rail road construction, Economic growth, Political stability, Technological development , Foreign direct investment, Being member of World Trade Organization WTO were listed as potential prospects for the improvements of freight logistics performance of the enterprise. In order to become more efficient and effective and to improve the services of freight logistics performance, measures need to take by government of Ethiopia against the described challenges.In order to, taking the necessary corrective action timely as well as exploit the possible solutions helpful to get rid of those challenges which they stated above; from the analysis made during the assessment, the study forwarded the following recommendations to be considered by concerned body; there is need of development in the following areas to overcome the facing challenges of freight logistics service of the enterprise's as well as to develop the economy of the country. Need to develop more road, rail and airfreight infrastructure to make Ethiopian export goods competitive on the international market. The other thing is need to develop organizational and consolidation infrastructure and services to link producers (farmers) to consumers (market) and to create managing body for efficient and effective goods flow in the network from producers to consumers. Transport companies need to be supported and encouraged to build their capacity in terms of human resources, number and better age of their vehicle fleets, coordination of their services, and integration of their services with the services of warehouses and terminals. Warehouses and terminals are recommended to do value adding activities like consolidation, packaging, etc.

Key words: Logistics prospects, Logistics Challenges, freight logistics.

CHAPTER-ONE

INTRODUCTION

1.1 Background of the Study

Economic growth and trade depends on efficient logistics operation according to*Wisetjindawat. (2011)* efficient and effective freight transport and logistics system can strengthen the business competitiveness of a country,andit also critical to economic growth in any country. Hence, Businesses are becoming increasingly globalized, where each activity in the supply chain is located where the greatest value is added to the final product, which leads to increased transportation and more complex logistics.Hence, no production can take place unless inputs such as raw materials, labor, and fuel are moved from their place to production centers, without logistics infrastructure, manufactured products cannot be delivered to consumers, nor can a wide variety of services be carried out. As Brooks (2008) stated, trade networks needs superior logistics services and centers. He also stated that, minimizing financial and time costs while ensuring reliable delivery of goods depend on an efficient and effective logistics system. There are many components of logistics that interact to impact supply chain and ultimately influence trade flows. Transport is the single most expensive component of logistics, it join the separated activities. It is key component for how supply chain functions, how raw materials get to factories, how goods get to markets, how food gets from farmers to kitchen tables, and how energy products move from areas of production to areas of consumption *(Nation, 2013). Consequently,* Freight transport demand has been growing steadily over recent years and this rate of growth is expected to continue (Maliyamkono and Mason, 2006). The controlling and management effort in logistical operation become a key and an essential element for the successful completion of the missions of logistics activities in a supply chain process (Bowersox and Closs, 2000).While, increased such demand, there is a need to focus on improving the freight logistics performance of the supply chain, and thereby reduce the time and cost that logistics operation can impose. Despite, in supply chain and logistics activities inefficiency can be exhibited in terms of higher cost, delay and unpredictability in delivering the product and service to the customer in turn impacts economic growth of a country *(Shewangizaw, 2009).* Since, transport tends to be the main component of logistics services, and its share in overall logistics cost has actually been increasing in recent years. In particular, the growth of containerized

transport, together with technological developments improving the systems for transferring cargo between different modes, has considerably affected modern transport patterns and practices. Increasingly, goods, particularly manufactures, are carried across the globe by means of Multimodal Transport (MT). Contractual arrangements have been affected by this trend and increasingly reflect a demand for more integrated transport services.

The participation of developing countries in the use and provision of multimodal transport and logistics services varies widely, with Small Island, landlocked and least developed countries not effectively participating at all. The latter do not usually have companies that provide such services, and nor do international providers usually offer such services in these countries. Global Transport Networks, (GTN) containerization, and the increased use of transshipment via hub airports and seaports have led to a situation where practically all urban centers have some transport connection to global markets.

1.1.1 Background of the Industry

It is generally recognized that the African continent lacks natural ports, while its artificial seaports have been poorly developed. Indeed, over the last decade, the amount of cargo transiting through Africa's ports has tripled, but containerization is still low and the inland transportation linkages remain weak. African ports' poor performance can be attributed to a range of factors, principally: geography (poor connectivity); inadequate physical infrastructure resulting in congestion; and weak institutional development. It is important to note that countries with higher port capacity have higher trade capacity.

However, the types of commodity that the country trades in terms of imports and exports also matters. For example, Egypt is ranked number 1 in Africa in terms of port capacity and South Africa is ranked number 2. However, the value of trade in South Africa is higher than Egypt due to the type of exports, which are mainly expensive minerals such as platinum and gold. Moreover, the value can also be driven by the number of ports that the country services. In the case of South Africa, landlocked economies such as Botswana, Lesotho, Swaziland, Malawi, Zimbabwe, and Zambia depend on its ports, and this explains South Africa's higher trade volumes *(Port Development in Africa, 2010).*In many developing countries, transport services are not usually multimodal, nor can they be considered to be part of a logistics service (United

Nations Conference on Trade and Development) UNCTAD, 2003. Same is true in the case of Ethiopia where the logistics sector which incorporates multimodal transportation is on an infant stage like most of the least developed countries.

1.1.2 Freight transportation in Ethiopia

The shipping sector also plays a significant role by transporting significant amount of import cargo. Ethiopian shipping industry is exclusively operated by the state owned Ethiopian Shipping and Logistics Services Enterprise (ESLSE) who transported import cargoes by using its own vessels as well as slot chartered vessels. The company in its long sea transportation services manages to build a reputation of reliability, efficiency and good services it gives a liner service in north continent and Mediterranean routs. It also gives a cross trade services mostly from Europe, to red sea, and Gulf ports. Currently the enterprise believed that the introduction of multimodal transport system will benefit the country in many respects, notably by minimizing time loss at transit shipment points, reducing warehouse expenses, improve their competitive position in the international market, minimizing burden of documentation and formalities, and improve safety and security of goods in the country (ESLSE 2006, E.C).

1.1.3 Current Freight transportation system in Ethiopia and it's challenges

Ethiopia became the only landlocked country in the Horn of Africa following the independence of Eritrea in 1993. Before that time, the country had access to the sea through the Red Sea ports of Assab and Massawa, both of which now belong to Eritrea. About 86 percent of Ethiopia's imports and exports were handled through the two major ports while only about 14 percent passed through Djibouti *(Kifle et al., 2000).* As a result of the war with Eritrea in 1998, Ethiopian shipping lines (ESL) had to transfer 100 percent of its operations to Djibouti. Then Djibouti became the only feasible port available to serve Ethiopia. And the port of Djibouti has proven its capacity in handling all of Ethiopia's needs *(Hine et al., 2004).* But Ethiopia began experiencing problems as a result of loss of access to the two ports. These problems included high transit transport costs due to increased transit charges, restrictionsand regulations imposed by littoralcountries(Djibouti), inadequate infrastructure and poor port facilities, inefficient transport and a diminished bargaining power with littoral countries. The inefficiency of its own road and transport system, as evidenced by factors such as the aging fleet of road trucks, poor roads and other non-infrastructural constraints have aggravated the increase in transit transport costs

*(Kifleet al. 2000).*Along Djibouti-Addis corridor, the competition and the availability of transport is sufficient to support the need of exporters. The reason for this fact is that Ethiopia imports around two times more volume than it exports *(Hine et al., 2004).* So there are sufficient of capacity available on the way to Djibouti. Ethiopian imports for 2002 were 3.5 million tons and total export volume was a mere 1.6 million tons. Thus most of the trucks are traveling empty to the port *(Hine et al., 2004).* Currently, virtually all (98 percent) of Ethiopian imports and exports are routed through the port facilities in neighboring Djibouti *(Thomas et al., 2008).*

Road and railway transport are the two leading means of transport in Ethiopia with road transport accounting to the movement about 95 percent of total Ethiopian cargo *(Kifle et al., 2000).* But as in most Sub-Saharan African (SSA) countries, the first leading transport mode in Ethiopia is road transport *(Thomas et al., 2008).* In Ethiopia, the main challenges in the road transport sector include high transport costs due to high transit charges imposed by coastal country (Djibouti), cumbersome port and customs procedures and poor road infrastructure *(Kifle et al. ,2000).* Deterioration of transit roads in the country, leading to high vehicle operating costs (VOCs) and high road transport costs. An efficient low cost road transport system is of critical importance not only to the development of all sectors of the economy including agriculture, mining, manufacturing and service sectors but also to the stimulation of international trade and the integration of the national economy *(Kifle et al., 2000).* And the Djibouti Port (DP) has proven its capacity in handling all of Ethiopia's needs. The study focuses on freight movement from Djibouti port to Addis Ababa. This is because currently almost all (98 percent) of Ethiopian imports and exports are routed through the port facilities in neighboring Djibouti *(Thomas et al., 2008).*

To analyze and assessing the current status of freight logistics practice in Ethiopia and identifying the, potentials and constraints for development of effective and efficient logistics systems using scientific query will help to recognize the gaps from emerging trends and areas of concernswill help to take remedial measures. Therefore, this study is interested in conducting a study on challenges and prospects of freight logistics operation the case of ESLSE.

1.2 Statement of the Problem

Transportation service helps to shape, promotes a nation's economic health and quality of life. Not only does the transportation service provide for the mobility of people and goods, it also influences patterns of growth and economic activity by providing access to land. There are many components of logistics that interact to impact supply chains and ultimately influence international trade flows. Transport is the single most expensive component of logistics; it joins the separated activities (Shewangizaw, 2009).

According to Global Highlights (2010), freight logistics among countries internationally involves complex structure in a long-distance transportation system. It involves many stakeholders such as shippers, carriers, third party logistics providers, consignees, seaports, airports, and a multiple modes of transport service. Therefore, freight transportation is critical to economic growth in any country. Hence, efficient freight transport and logistics systems can strengthen the business competitiveness of a country (Wisetjindawat, 2011). An effective and efficient transport service could provide better logistics efficiency, reduce operation cost, and promote service quality.

Despite, the infrastructural development in transport and communication sectors in Ethiopia seem deteriorated in the past decades and continued, on the other hand transport service demand are ever growing and the problems of accommodating the freight flows in an efficient and sustainable way is exposed to a real challenge. Thisstagnation is manifested by the poor logistics facilities of the country. Some empirical studies conducted on related area have recognized such problem. Specifically they underlined that these barriers results in to high transport cost and low speed or long transit time and poor revenue to the farmers, producers, importers & exporters of goods as the barrier for intermodal transport and these barriers impede greater scope for country development. Development in transport and communication sector will have a substantial impact on logistics activities and ultimatelyfosters international trade that brings economic development to the country. More is expectedfrom the sector to ensure a sustainable economic development that eventually make realizedthe country's vision of being a middle income country by the year 2025(UNDP, 2012;MoFED, 2013; Debela, 2013).Fekadu (2013) also indicated that Ethiopian logistics activities are characterized by poor practices and lack of coordination of goods transport. Due to this fact, the logistics service in Ethiopia is still lower stage of development against the global best practices. Thesoft and hard infrastructural development in transport

sectors seem stagnated in the past decades and its continued stagnation is manifested by the poor logistics facilities we have. This infrastructural status cannot encourage transport service providers to invest in the sector and give time and cost efficient services. Poor networks of road, poor telecom facilities, interrupted energy supply and unavailability of qualified experts and lack of commitment from government side all have played their role to worsen the quality of the logistics sector.These facts show that, there is a great challenge to achieve a breakthrough in the performance of freight transport system.

The available review of literature indicates that the previous studies are not sufficiently addressed and conducted to answer the question; what are the critical obstacles faced and what are potential enablers to boost the best freight logistics operation in ESLSE? Therefore, due to this research gap the researcher is interested in conducting a study on challenges and prospects of freight logistics operation: the case of ESLSE; Thereby gives recommendations in which area of logistics an improvement could be necessary.

1.3 Research Question

1. What are the challenges facing the ESLSE's freight logistics operation?
2. What are the prospects of ESLSE's freight logistics operation to become more efficient and effective?
3. What measures need to take by government of Ethiopia in order to improve the services of freight logistics performance?

1.4 Objective of the study

1.4.1 General objective

The general objective of this study is to assess the challenges and prospects of Ethiopian freight logistics in the case of ESLSE.

1.4.2 Specific objectives of the Study

The specific objectives that are desire to be achieved through this research are:

To identify the challenges that hindered the ESLSE's freight logistics operation;

To identify the prospects of ESLSE's freight logistics operation to become more efficient and effective;

To identify measures need to take by government of Ethiopia in order to improve the services of logistic industry.

1.5 Significance of the Study

The study will have a great significance for the involving parties in logistics operation, exporters, importers, government policy makers and investors. The involving parties in logistics operation will be benefited since the outcome of the study helps to know the current challenges and how these challenges are affecting the operation of logistics industry by easily understand the gap on their logistics operation and take corrective actions that can enhance their capacity to compete with best export import trade logistics companies in the world.

The government policy makers will benefit also from the outcome since it will assist them in examining the current policies towards the logistics industry and improve them accordingly.

The findings of this study can also provide prospective with a realistic idea and informational base of what to expect when operating in the international trade business of Ethiopia. Additionally, this study will serve as a point of reference for further research by academicians.

1.6 Scope and Delimitation of the Study

Due to resource, time constraints, the scope of this study delimited toESLSE's head office and its nearby dry ports. Therefore, the research only covered participants located only at Addis Ababa Head Office, Gelan and Modjo dry ports of ESLSE.

The major limitation of the study was distanceand the current pandemic Corona virus (COVID-19) restrains to address all the company branch offices including Djibouti. Accordingly, the research purpose is to investigate and analyze the challenges and prospects of Ethiopian logistics industry and hence, the researcher will use descriptive research method using qualitative and quantitative data type. In this research, the data used for the purpose of this work will cover both primary and secondary source of data. The target populations of the study are cover ESLSE staffs those playing direct role in the due course of processing logistics operation are clustered as four serves' sectors namely; Shipping, Port and Terminal, Freight Forwarding and Corporate

Sectors. Depending on the size and nature of the population of the particular cluster, Simple random and purposive sampling methods will be utilized.

The study also covered the theoretical base and concepts for the research and helps the researcher determine the theoretical boundaries of the research. Since freight logistics encompasses vast areas of practices, it is difficult and unmanageable to conduct the study in all areas. Therefore, the scope of this study would be delimited to specific context that is freight logistics practices,challenges and prospectsof freight logisticsof the EthiopianShipping and Logistics Service Enterprise. Namely, “hardware”, “software”, “orgware”, “fin ware”, and “eco ware” are all considered as relevant contributing factorsto freight transportin the study. Thus,the study will address the identified challenges and prospects (“barriers or critical success factors”) of freight logistics the case of ESLSE.

1.7 Limitations of the Study

Regardless of the nature of the study, every research is subject to different limitations. Hence, this study is not coverall branch of ESLSE rather it is only assess head office and nearby branch offices Gelan and Modjo dry port terminals.

1.8 Definition of terms

Logistics: the process of 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.

The following are operational definitions of terms which were used in the research (UNCTAD, 1981; AU, 2010; Agrawal, 2003):

Intermodal Transport: **-** is a particular type of multimodal transport, wherein the goods are moved in one and the same loading unit, for example; Containers Intermodal Transport uses more than one mode of transport.

Containerization: **-** is the trend of packing or stuffing of trading goods in standardized container.

Freight Transport: **-** refers to the movement or transporting traded goods from place of origination to the place of consumer or buyer, using any mode of transport available or preferred.

Goods Transit time: **-** is total time taken by the full chain of the multimodal transport system from the door of the shipper to the door of the consignee.

Multimodal Transport Operator: **-** a multimodal transport company which provides an integrated international freight transport services using different modes of transport.

Logistics: **-** is an integrated flow of goods and services and information in the supply chain process.

1.9 Organization of the thesis

The paper is organized with five chapters. The first chapter covers the introduction part that addresses the background information concerning the logistics performance and its impact on international trade competitiveness, problem and basic questions of the research, the general and specific objectives of the research, the significance and scope of the research, and finally the limitations of the research.

Following this introductory chapter, the second chapter comes; it will describe the basic and relevant literatures related to subject matter of the study that are done previously by other researchers. In the third chapter the research report covers the type of research design used, the analysis of the data, the sampling techniques, and methods of data collection to be applied. The fourth chapter focuses on the data analysis and major findings of the study. The last chapter provides the conclusion and recommendations so as to solve the observed gaps from finding result.

CHAPTER-TWO

RELATED LITERATURE REVIEW

2.1 Introduction

The literature of the study covers an explanation about the basic definition, concepts theorieswhich provide general understanding ofthe phenomenon being studied. This chapter presents the theoretical base and concepts for the research and helps the researcher determine the theoretical boundaries of the research. In addition, it provides an overview ofthe literature that exists on the challenges of freight logistics services of the EthiopianShipping and Logistics Service Enterprise. The main drive of the chapter is to introduce thereader to the main theoretical concepts which will guide the author throughout this thesis.

Last, the theoretical synthesis will be developed at the end of this chapter to portray theauthor's research model which demonstrates the interrelationship between individual concepts.

The review also discuss on empirical finding related to the current conducted area of study as well as best practice of freight logistics in different countries as benchmarks as current practice of ESLSE.The theoretical and empirical literatures will present in separate section and the literature gap will identify from the reviewed literature and current practices. Finally, the conceptual framework will have articulateand show the relationship between the variables,

2.2 Theoretical Review

2.2.1 Definitions and Concepts of Logistics and Freight Transportation

A lot has been said about the definitions and concepts of logistics and transportation by different scholars in different ways at different times. The researcher has tried to look some of them and summarized the most relevant ones to the study.

2.2.2 Definitions of Logistics

The term Logistics can be defined as the flow of materials, information, and money between consumers and suppliers (Frazelle, 2002). Similarly, Waters (2003, 5) describes logistics as ‘the function flow of materials from suppliers into an organization, through operations within an organization, and then out to customers. On the other hand, logistics is defined in the Council of

Supply Chain Management Professionals' Supply Chain Management Terms and Glossary (2010) as:' The process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.' Therefore, with these definitions in mind, logistics can be defined as: the management of the flow of goods from production through to after sales service, including: transportation, warehousing, inventory management, packaging, etc. At the same time, logistics can be defined carriage of the right goods, in the right quantities, in the right condition, are delivered to the right place, at the right time, for the right cost. In logistics, these are called as the six rights (USAID 2011).

2.2.3 The Definitions of freight/Transportation Logistics

Transportation physically links the sources of supply chosen in sourcing with the customers we have decided to serve chosen as a part of the customer service policy (Frazelle, 2002). Similarly, Frantisek (2003) describes transportation as a basic element of the logistics activities which runs from vendors through to you, to your customers.

On the other hand, Tyndall and colleagues (1998) argues that the most significant advances in modern logistics practices have not been in cost reduction, but in improved processes to move goods and material between nations in a timely and seamless manner.

Transportation is the act of moving people or goods from one place to another (Encyclopedia, 2001). The book further explains that transportation takes people where they need or want to go, and it brings the goods they need or want. The term "transport services" is used broadly to denote any service that is useful in accomplishing international merchandise trade. As goods are exchanged across national borders, demand for services that provide to that trade is likely to be created. The most obvious mods in International Transportation Service are air, inland, and sea transport services, which are crucial in physically moving goods from the exporting to the importing country. Other types of services such as finance, communication, and several professional services are also very important in order to complete the international exchange of goods.As per Kveiborg (2005) transportation is a consequence of economic activities taking place at different geographic locations. According to this definition any economic activity

concluded between two parties in two different locations results the demand of transportation services.On the other hand Chopra &Meindl (2001) defines transportation from supply chain perspective as the movement of goods from one location to another as it makes its way from the begging of a supply chain to the customer. In this definition, transportation has been considered as an important part of supply chain because products are rarely produced and consumed in the same location where most of the consumers are located.

On the other hand International Multimodal transport has been defined by different authors from different perspectives. However, in simple terms Breda (2009) defines multimodal transport as the carriage of goods, at least by two or more different modes of transport, on the basis of a single transport contract, from a place in one country where the goods are taken in charge by the carrier, to a place designated for delivery situated in a different country. Actually it may come across with many more definitions of multimodal transport but the essence remains the same.

The Concepts of Transportation

Transportation services is critical for how supply chain functions, how raw materials get to factories, how goods get to markets, how food gets from farmers to kitchen tables, how peoples travel from original destinations and share their norms into others place and how energy products move from areas of production to areas of consumption (Nation, 2013). Therefore, freight transportation is critical to economic growth in any country. Efficient and effective freight logistics systems can strengthen the business competitiveness of a country (Wisetjindawat, 2011). Inland, water, air, cable and pipeline services provide a spectrum of competitive and complementary to freight transportation options, with each mode offering advantages and disadvantages in terms of price, speed, reliability, accessibility, visibility, security, and safety (Brogan et al., 2013).

In general,as described by Rodrigue*et al.,* (2006), sited by Tagel G, (2014), the Conceptsof transportation which focusing on very essential themes has been presented in summarized manner as the following points;

I. The Purpose of Transportation

The purpose of transportation is to overcome space, which is shaped by a variety of humanand physical constraints such as distance, time, administrative divisions and topography.Jointly, they

confer a friction to any movement, commonly known as the friction of distance.However, these constraints and the friction they create can only be partially constrained.The extent to which this is done has a cost that varies greatly according to factors such as thedistance involved and the nature of what is being transported.The goal of transportation is thus to transform the geographical attributes of freight, people orinformation, from an origin to a destination, conferring them an added value in the process.The convenience at which this can be done varies considerably. The under listed factorsdetermine transportation service delivery generally.

Transportability: - refers to the ease of movement of passengers, freight orinformation. It is related to transport costs as well as to the attributes of what is beingtransported (fragility, perishability and price). Political factors can also influencetransportability such as laws, regulations, borders and tariffs. When transportability ishigh, activities are less constrained by distance.

Direct derived demand: - refers to movements that are directly the outcome ofeconomic activities, without which they would not take place. For instance freighttransportation, all the components of a supply chain require movements of rawmaterials, parts and finished products on modes such as trucks, rail or containerships.

Indirect derived demand: - considers movements created by the requirements ofother movements. The most obvious example is energy where fuel consumption fromtransportation activities must be supplied by an energy production system requiringmovements from zones of extraction to refineries and storage facilities and, finally, toplaces of consumption.Consequently, the fundamental purpose of transport is geographic in nature, because itfacilitates movements between different locations. Transport thus plays a role in the structureand organization of space and territories, which may vary according to the level ofdevelopment (ibid).

II. Transportation and the Spatial Structure

All locations are relative to one another. However, locations are not constant as transportation developments change levels of accessibility, and thus the relations between locations. The development of a location reflects the cumulative relationships between transport infrastructure,

economic activities and the built-environment. The following factors are particularly important in shaping the spatial structure (ibid).:

Costs: -The spatial distribution of activities is related to factors of distance, namely its friction. Location decisions are taken in an attempt to minimize costs, often related to transportation.

Accessibility: -All locations have a level of accessibility, but some are more accessible than others. Thus, because of transportation, some locations are perceived as more valuable than others.

Agglomeration: - There is a tendency for activities to agglomerate to take advantage of the value of specific locations. The more valuable a location, the more likely agglomeration will take place. The organization of activities is essentially hierarchical, resulting from the relationships between agglomeration and accessibility at the local, regional and global levels.

III. The Importance of Transportation

Transportation is very important element in any human activities in any circumstances.Business firms require transportation services to facilitate their economic activities and beable to move their raw materials, finished goods and employees from place to place.Transport creates valuable links between regions and economic activities, between peopleand the rest of the world. Transport is a multidimensional activity whose importance is: - (ibid).

Historical: -Transport modes have played several different historical roles in the riseof civilizations (Egypt, Rome and China), in the development of societies (creation ofsocial structures) and also in national defense (Roman Empire, American roadnetwork).

Social: -Transport modes facilitate access to healthcare, welfare, and cultural or artisticevents, thus performing a social service. They shape social interactions by favoring orinhibiting the mobility of people. Transportation thus supports and may even shapesocial structures.

Political: -Governments play a critical role in transport as sources of investment and asregulators. The political role of transportation is undeniable as governments oftensubsidize the mobility of their populations (highways, public transit, etc.). While mosttransport demand relates to economic imperatives, many communication corridorshave been constructed for political

reasons such as national accessibility or jobcreation. Transport thus has an impact on nation building and national unity, but it isalso a political tool.

Environmental: - Despite the manifest advantages of transport, its environmentalconsequences are also significant. They include air and water quality, noise level andpublic health. All decisions relating to transport need to be evaluated taking intoaccount the corresponding environmental costs. Transport is a dominant factor incontemporary environmental issues.

Economic: -The evolution of transport has always been linked to economicdevelopment. The construction of transport infrastructures also permitted thedevelopment of a corresponding transport industry (car manufacturing, air transportcompanies, etc.). The transport sector is also an economic factor in the production ofgoods and services. It contributes to the value-added of economic activities, facilitateseconomies of scale, influences land (real estate) value and the geographicspecialization of regions. Transport is a factor shaping economic activities, but is alsoshaped by them.

IV. The Contemporary Trends Identified for the Increasing Importance ofTransportation

There are a lot of evidences witnessing the increasing importance of transportation in thecontemporary business world. Among them some are discussed here (ibid).

Growth of the demand:-The twentieth century, more than any other, has seen aconsiderable growth of the transport demand related to individual (passengers) as wellas freight mobility. This growth is jointly the result of larger quantities of passengersand freight being moved, but also the longer distances over which they are carried.Recent trends underline an ongoing process of mobility growth, which has led to themultiplication of the number of journeys involving a wide variety of modes thatservice transport demands.

Reduction of costs: -Even if several transportation modes are very expensive to ownand operate (ships and planes for instance), costs per unit transported have droppedsignificantly over recent decades. This has made it possible to overcome largerdistances and further exploit the comparative advantages of space. As a result, despitethe lower costs, the share of transport activities in the economy has remainedrelatively constant in time.

Expansion of infrastructures: -The above structural trends have obviously extended the requirements for transport infrastructures both quantitatively and qualitatively. Roads, ports, airports, telecommunication facilities and pipelines have expanded considerably to service new areas and add capacity to existing networks.Transportation infrastructures are thus a major component of land use, notably in developed countries (ibid).

V. Space/time Relationships

One of the most basic relationships of transportation involves how much space can be overcome within a given amount of time. The faster the mode, the larger would be the distance that can be overcome within the same amount of time. Notably improvements in transport systems, changes the relationship between time and space. When this relationship involves easier, faster and cheaper access between places, this result is defined as a space/time convergence because the amount of space that can be overcome for a similar amount of time increases significantly.The outcome has been significant differences in space/time relationships, between developed and developing countries, reflecting differences in the efficiency of transport systems. Four major factors are relevant in this process (ibid):

Speed: -More recently, speed has played a less significant role as many modes are not going much faster. For instance, an automobile has a similar operating speed today than it had 60 years ago and a commercial jet plane operates at a similar speed than one 30 years ago.

Economies of scale: -Being able to transport larger amounts of freight and passengers at lower costs has improved considerably the capacity and efficiency of transport systems.

Expansion of Transport Infrastructures: -Transport infrastructures have expanded considerably to service areas that were not previously serviced or were insufficiently serviced. A paradox of this feature is that although the expansion of transport infrastructures may have enabled distribution systems to expand, it has also increased the average distance over which passengers and freight are being carried.

Efficiency of Transport Terminals: -Terminals such as ports and airports have shown a growing capacity to handle large quantities of traffic over a short time period in a timely manner.

Thus, even if the speed of many transport modes has not increased, more efficient transport terminals may have helped reduce transport time.

VI. The Geographic Information Systems for Transportation (GIS-T)

In a broad sense geographic information system (GIS) is an information system specializing in the input, storage, manipulation, analysis and reporting of geographical (spatially related) information. Among the wide range of potential applications GIS can be used for, transportation issues have received a lot of attention. A specific branch of GIS applied to transportation issues, commonly labeled as GIS-T, has emerged. A geographic information system for transportation (GIS-T) refers to the principles and applications of applying geographic information technologies to transportation problems. The four major components of a GIS, encoding, management, analysis and reporting, have specific considerations for transportation.

2.2.4 Freight Transportation Service Modes

The transportation mode available for goods transportation, that is external transports, is by road, rail, air and sea. The modes can also be combined to cover the whole distance to the end destination by intermodal transportation (Jonsson, 2008). The modes advantages and disadvantages are presented and discussed in each mode below:

2.2.4.1 Freight Road Transportation Service

Road transport is used for both long and short transportation distance, as the method offers accessibility and uninterrupted transport to plants located on the same continent. The flexibility of destinations and variation of goods which are possible to transport, makes the mode suitable to apply in different markets (Jonsson, 2008). Several restrictions for other modes are non-essential for road transportation, for instance the size and value of goods; whereas, weight or distance are a limitation, as the flexibility of the mode offers tailor made solutions (Jonsson, 2008; Reis, 2014). The flexibility of road allows it to reach every customer, adjust to changes in traffic and offers the customer, the control of fast adjustments of arrivals and departures (Reis, 2014). The mode specific environmental consequences are in form of exhaust emissions, noise, road safety and traffic congestion (Jonson, 2008). Road transportation is depended upon in most developed

countries for national freight transportation, even though it is the most expensive and resource-consuming option (Medda and Trujillo, 2010).

Infrastructure which is utilized by road transportation is governmentally funded and provided free of charge in many European Union (EU) countries. This is slowly changing as road user charges are introduced in several EU countries, such as in Germany. The charges are aimed at recovering capital and maintenance cost. The direct financing, planning and provision of road infrastructure are controlled by the public-sector rather than the market. The favoritism of road transportation can thus be explained (Baird, 2007).

2.2.3.2. Rail Transportation Service

The advantage of rail transportation, compared to road, is in transportation of large quantities combined with long distances and high-volume goods. The mode is capable to transport all type of goods, but high-value goods are less suitable as this can generate large amounts of tied-up capital. The mode has a disadvantage compared to road transportation regarding transportation time. Although, rail offers speed over long distance, the same route is less time consuming with road transportation. The type of goods selected for this mode are similar to maritime transportation, such as ore or timber, and rail has a large market share of the latter (Jonsson, 2008).

Compared to road transportation, rail has a disadvantage of less frequent departures, the network is not well developed and flexibility of rail regarding time and geography is a restriction. However, the disadvantage is possible to overcome by application of combined traffic. Rails advantage is of environmental cleanliness as a large quantity of goods can be transported over long distances without direct exhaust emissions that are if the locomotives are electric. Furthermore, the mode is energy-efficient when the fill-rate is high (Jonsson, 2008). The other disadvantage of rail is a finite capacity, track space is competing between freight and passengers and issues of connectivity across national borders. Additionally, the increase of capacity is limited by high capital cost and constrained legislation. The railway infrastructure, similarly, to road, is financed, planned, maintained, and owned by the public sector; thus, depend on governmental subsidies (Baird, 2007).

2.2.3.3. Air Transportation

The advantages of air transportation are within speed over long distances. Generally, the mode is used for high-value goods and/or low weight, time-sensitive express deliveries and emergency deliveries. Consequently, these types of deliveries are used as the mode has the highest cost per ton-kilometer (Tkm), i.e., quantity in tones multiplied by kilometers transported. Therefore, low-value goods and high volume are not suited for air transportation. Also, the mode is restricted regarding direct transportation as it is limited to terminals. The largest competitors are container ships between continents, within continent the mode competes with road transportation (Jonsson, 2008).

2.2.3.4. Maritime Transportation

Maritime transportation is a perquisite to global trade, 80 percent of global goods trade are transported by ship (Berle*et al.*, 2011). Compared with other modes, maritime transportation is the most time demanding. The transportation can be performed between ports and directly to a plant when the plant has port access (Jonsson, 2008). The port serves as a terminal or a node which enables the interchange of goods on a given route. Moreover, it is the interface between sea- and land-based modes, or a trans-shipment of goods between ships (Baird, 2007). Ports can have the advantage of scale economies but still be limited by lacking infrastructure and facility space. An expansion can be hindered by lack of space, policy or funds (Hesse and Rodrigue, 2004).

Ships are usually adapted to transport specific types of goods and routes. The varieties are container ships or Roll-on-Roll-of (RoRo) rolling carriers (trucks, trailer, cassettes and railway wagons). The goods transported by both methods are similar, but the RoRo traffic is most commonly used within continents; whereas, containers are shipped between continents. The economy of scale focuses the container flows to ports which are equipped with cranes and facilities to handle the container traffic. Container traffic is therefore common in ports which can handle large trans-oceanic ships. Bulk ships are equipped to transport solid goods, such as ore, whereas tanker ships carry liquid loads. The loading and unloading time for bulk is usually short (Jonsson, 2008).

The competitive advantage of the mode is within shipping of low-cost, bulk loads combined with long distance of transportation; in this segment the competitor is the railway. The majority of transported goods are of petroleum variety, but goods in bulk are also common; for mid-value goods, container shipment are also commonly applied (Jonsson, 2008). Maritime transportation presents the lowest operations cost per km, as well as the advantage of loading capacity compared to other modes.

Nevertheless, related to the high energy consumption, the emissions are relatively high (Jonsson, 2008). Certain advantages of maritime transport are specific for the mode, such as lack of traffic congestion and that capacity can be increased in a multiple way by increasing size and/or speed of ships or addition of more ships (Baird, 2007). Flexibility offered by the mode is considering transportation routes (Jonsson, 2008) but flexibility regarding response to unexpected demands is restricted (Beuthe and Bouffioux, 2008).

2.2.4. Freight Transportation Service Selection Criterions

Location of a production facility determines which transportation mode is relevant to utilize. Other aspects of mode decision are the modes transit time and material flow cost derived from both the location and the possible connection to infrastructure (Son *et al*., 2013). The goal of logistics is to create competitiveness and high performance, which is achieved by improvement of efficiency and effectiveness, by which the profitability of a company can be affected. To evaluate performance, a company can set and follow up goals regarding certain variables, such as customer service, flexibility and time. Different modes have various characteristics which can help to achieve the goals of the supply chain and logistics that a company might have (Jonsson, 2008).

2.2.4.1. Cost Factors

The total cost of transportation includes carrying, transferring/transshipment, loading and unloading, thus cost arises from performed activities (Beuthe and Bouffioux, 2008; Jonsson and Mattsson, 2011). Transport lead to tied-up capital during transportation, further cost is derived from stock-keeping, capacity-related costs and shortage-and delay costs. The different sources of

cost demand a holistic perspective as adjustment and decrease of cost in one activity, often leads to transference of the cost to another activity (Jonsson and Mattsson, 2011).

The cost aspect is weighed highly, approximately 60 percent, by decision makers regarding transportation mode selection. Competitive pricing is therefore an important aspect to consider as a transport provider. Rail and inland waterways lead to higher costs; however, the additional costs of the modes are more beneficial over long transportation distances where they can be more cost competitive. Road transportation is dominated over short distances. Moreover, if the transportation distance is less than 300 km, total cost is more important than transport time. The cost aspect is also important in distances longer than 700 km; this distance is where rail and maritime transportation has an increased probability of selection (Beuthe and Bouffioux, 2008).

2.2.4.2. Time Factors

Transit time is correlated with cost. Shorter transit time provided by for instance air will result in a higher cost, and longer transit time provided by for instance rail is less expensive. Shorter transit time will however provide the supply chain with operations with less need for inventory and fewer backorders, leading to lower costs of the material flow. Backorders can be a result from a longer transit time as there is a correlation between transit time and the order quantity when replenishing the inventory (Son *et al*., 2013). Time is weighed as the next most important criterion (Beuthe and Bouffioux, 2008) especially by the transportation provider as the gains of fast transportation is more to the advantage of the provider than the purchaser (De Jong *et al.*, 2014). Additionally, time criterion is rated higher for high-value goods over short distances (Feo-Valero *et al.*, 2011).

2.2.4.3. Frequency Factors

The variable of frequency can affect the mode selection decision (García-Menéndez *et al.* 2004). The delivery frequency is defined by the number of transports performed during a time. A high frequency enables the transportation purchaser to adapt to sudden variation of demand, with the benefit of an increasing flexibility in the supply chain. Additionally, stock capacity in the companies can decrease leading to a decrease of stock-keeping costs (Naim*et al.* 2006). Delivery flexibility is considered to be an important service attribute and means the capacity to adapt to and comply with changing customer requirements. The flexibility to changes of delivery volume

or time is commonly requested. Flexibility has an indirect consequence on customer service as well as the cost and tied-up capital, which can be achieved by offering the option of variation of delivery volume. Delivery flexibility can thus create customer value (Jonsson, 2008).

2.2.4.4. Reliability Factors

Reliability is defined as an average transportation delay (Arencibia, *et al.* 2015) and can be seen from two dimensions. Either a need from a Just-In-Time buyer to receive the goods within an acceptable time window related to the production process input, or the reliability needed to reduce buffer stock by which the cost of keeping inventory is minimized (Brooks, *et al*, 2012). Backorders can affect customer satisfaction which can compromise trust and loyalty and thus the relationship between a company and their customers. This can be prevented by keeping a higher level of inventory (Son *et al.*, 2013). Reliability and flexibility are of importance when transportation purchasers are using the road transportation in distances of less than 300 km for those attributes, which makes a modal shift unlikely as the focus is rather on optimizing the road transportation (Beuthe and Bouffioux, 2008).

2.2.5 Logistics Challenges

A Cambridge dictionary defines the word “Challenge” as (the situation of being faced with) something that needs great mental or physical effort in order to be done successfully and therefore tests a person's ability. According to Dinh and Hinh T. (2014) poor trade logistics penalize firms that rely on imported inputs and doubly affect exporters, causes long and uncertain delays, and it is unacceptable to most global buyers. They also mentioned that challenges that face logistics operations have become a great concern at this time since they result in poor performances of logistics.

I. The Physical Constraints of Transportation

Naturally the need of transportation posed by the distance and time gap exists between two places. The emergence of modern means of transportation has shortened the time that it takes to connect the two places much lower than before. This kind of tremendous achievement which have been seen in the last few decades, have contributed their part for the development of international trade and countries economy. Despite the above facts, the following factors

remained a challenge to the efficiency and effectiveness of international transportation service(Rodrigue*et al.*, (2006), cited by Tagel G, (2014).

Topography: - Features such as mountains and valleys have strongly influenced thev structure of networks, the cost and feasibility of transportation projects. The main land transport infrastructures are built usually where there are the least physical impediments, such as on plains, along valleys, or through mountain passes. Water transport is influenced by water depths and the location of obstacles such as reefs. Coastlines exert an influence on the location of port infrastructure. Topography can impose a natural convergence of routes that will create a certain degree of centrality and may assist a location in becoming a trade center as a collector and distributor of goods. Topography can complicate, postpone or prevent the activities of the transport industry.

Hydrographic: - The properties, distribution and circulation of water play an importantv role in the transport industry. Maritime transport is influenced greatly by the availability of navigable channels through rivers, lakes and shallow seas. 25 Several rivers such as the Mississippi, the St. Lawrence, the Rhine, the Mekong or the Yangtze are important navigable route ways into the heart of continents and historically have been the focus of human activities that have taken advantage of the transport opportunities. Port sites are also highly influenced by the physical attributes of the site where natural features (bays, sand dunes, and fjords) protect port installations.

Climate: - Its major components include temperature, wind and precipitation. Theirv impacts on transportation modes and infrastructure range from negligible to severe. Freight and passenger movement can be seriously curtailed by hazardous conditions such as snow, heavy rainfall, ice or fog.

Absolute barriers: - are geographical features that entirely prevent average movement. They must either be bypassed or be overcome by specific infrastructures. For instance, a river is considered as an absolute barrier for land transportation and can only be overcome if a tunnel or a bridge is constructed.

Relative barriers: - are geographical features that force a degree of friction on average movement. In turn, this friction is likely to influence the path (route) selected to link two locations. Topography is a classic example of a relative barrier that influences land transportation routes along paths having the least possible friction (e.g. plains and valleys). For maritime transportation, relative barriers, such as straits, channels or ice, generally slow down circulation.

2.2.6 Potential prospects to enhance the freight logistics

To achieve an efficient multimodal system demands a concerted and integrated effort by all parties involved. There is collaboration between different types of carrier in different forms ranging fromconference agreements to strategic alliances and vertical to horizontal (Panayides, 2001).From a policy viewpoint the critical feature is that logistic are the primary concern of the firm which iswhere the trading off has to take place. Moreover, the very complexity, and situation specific nature of the tradeoffsmeans that it is only the firm which can determine what is the best arrangement. Hence the role of the statemust not be to decide what the best arrangement of transport for firms is, but merely to facilitate the actions offirms in making those commercial arrangements in a way which recognizes the social as well as the private costsof those decisions. It seems to me that it is on that basis alone that the public agenda should be founded (Gwilliam and Ken,2009). In the majority of developing countries, the policy to preserve transport rights for national flag carriers ismisguided. According to UNCTAD (2003), cargo reservation for national flag carriers shields them fromcompetitive pressures in the international ocean transport market, with the result that the cost of their services ishigher than that of the international carriers. The loss to domestic importers and exporters is the differencebetween what they pay for the carriage of cargo and what they would have to pay in a free market (UNCTAD,2003).

In our case, the government of Ethiopia is well perceived that, the logistics industry is a critical element for the Ethiopian economy. Since the Ethiopian economy is largely dependent on agricultural products mainly Coffee and oilseeds, logistical efficiency is very crucial. As a result, the Ethiopian government practiced many reforms in response to changes in the economy and makes the logistic activities to be regulated under the Ministry of Transport. Specifically, the country issued proclamations, deregulated the transport sector, by merging logistics enterprises, and restructured the Customs Authority and established dry ports which are the major move in the country that gave

recognition to trade logistics *(Shewangizaw, 2009).* According toDebela F (2013), the major strategic directions of the government is mainly building the capacity of the dry ports and enhancing Multimodal Transport system therebyimproving the logistics service. Though,recognizing the importance of investment for economic developmentEthiopian government has been working hard to attract investors by facilitatingthe process, cutting bureaucracy and allowing duty free import ofequipment and machineries. Investors who are working in the countryarementioning the logistics of the country is not competitive to export their products. The government is receiving these comments and pouringbillions of dollars to develop the logistics infrastructure such as roads,railways and air transport. Ministry ofTransport has established Freight Transport and Logistics Excellence Center(EthioLog), in collaboration with Addis Ababa Institute of Technology(AAIT), Addis Ababa University (AAU), Swedish University ofAgricultural Sciences (SLU), Ethiopian Public and Private Transport SectorOrganizations in April 2011.

2.3 **Empirical Review**

2.3.1 **Logistics Challenges in different Countries**

According to the study by Vietnam Ministry of Transport and the World Bank (2002) the major logistics constraints the Vietnam manufacturing industries faces are its dependence on imported inputs, its difficulty in establishing direct relationship with buyers, taxes and the restrictions placed on foreign owned companies. Related to this, insufficient container handling capacity, insufficient road development and maintenance, underused railways capacity, insufficient management, insufficient airfreight facility are the major problems in logistics infrastructures (Ministry of Transport, Vietnam & The World Bank, 2002).

Similarly, Goh and Pinaikul (2002) studied the factors hindering logistics development in Thailand and found that inefficient logistics information systems, acute transportation bottlenecks, climate changes, lack of modern logistics management techniques and expertise, high cost of acquiring and installing automated logistics equipment, and the current inefficiency of the logistics information systems.

According to Edward (2004) the main logistics and supply chain management barriers in Europe are built inefficiencies in supply chain, ineffective communication structures, poor exchange of

information, inappropriate culture, excessive reliance on forecasting and stockholding, managing problems rather than eliminating their causes.

Donald and David (1997) explored that the major logistics challenges facing Brazilian logisticians is inability to access and apply the growing logistics knowledge base and the wide variance in customer sophistication.

Clifford (2011) also mentioned the top ten logistics challenges as: infrastructure, the price of diesel, rising truck rates, capacity, the economy, ocean shipping, security, the green movement, the election and increased truck weight limits.

On the other hand, Alan and Remkovan (2008) described that extended lead time of supply and extended and unreliable transit time are the main logistics challenges.

A study by Thomas (2009) reported in the fifth state of logistics survey that the increasing logistics cost in South Africa continue to be constraints and challenges to expand market into international trade.

Even the industry in China grows year of year, there were some major logistics challenges that interrupt the development like rising cost, financing bottlenecks, in-house mind-sets to handle logistics, localized services, lack of unified top level institutional coordination and imbalance transport infrastructure development (Li & Fung Research Centre, 2008). Other challenges in China as reported by Armstrong and Associates (2004) were poor infrastructure, regulation, bureaucracy and culture, poor training, ICT, undeveloped domestic industry, high transport costs, climate changes, poor warehousing and storage, regional imbalance and domestic trade barriers.
On the other hand, David, Robin, Robert and Louis (2007) in their study argues that uncertainty and variability, human behavior, limitations of current information systems, data overload and bad data, product proliferation and shortening life cycles and misaligned decisions and performance measures are the major logistics problems for many manufacturing logistics sectors.
A study by Neil (2011) to identify the logistics challenges and present solutions for Sydney, Australia especially on the transportation sector explored that logistics challenges of Australia are grouped in to six: they were logistics challenges related to geography (traffic congestion, road changes, higher distances, geographical location of some places), demography (ageing population and growing concentration of population), environment (climate changes, green

logistics, seasonal problems, natural disasters like cyclones and floods), legislation(transport regulations and funding disagreements) and technology (costly new technology, lack of integrated system, resistance to change, dependency on technology) as well as other challenges(rising fuel prices, security issues, delay due to maintenance of roads). In response to the identified challenges he gave potential solutions like increased driver training, better forecasting and planning, improving transport networks and infrastructure. A well-developed transport and communication infrastructure, a sound governmental industrial policy and a well-developed educational system are the necessary conditions for improved logistics and manufacturing. Until recently, African firms did not have this autonomy because of the heavy involvement by the government. As a result, bureaucratic procedures inside and outside the firm impeded the flexibility of the firm (Biersteker, 1992; Mkandawire, 1994 as cited in Hans, 1999).

The research made by (NCFRP, 2012) with the objective of identifying the challenges and opportunities of multimodal freight transport system of GLSLB/Great Lakes–Saint Lawrence Basin/ found out the following constraints/barriers and prospects of multimodal transport system.

Modal integration challenges, lack of jurisdictional coordination, lack of multimodal funding mechanisms, modal inequality, insufficiency of data and performance metrics, lack of awareness of importance and role of freight transportation system, and labor constraints are the constraints were listed as challenge.Whereas the opportunities or initiatives to improve performance of multimodal freight transport system were the existence of opportunity for better freight transportation performance data and performance measures, opportunity for gateway and corridor or supply chain specific performance analysis, opportunity for better modal and jurisdictional coordination, opportunity for regional strategic framework to identify multimodal freight transportation priorities, opportunity for multimodal funding and funding mechanisms, opportunity for greater infrastructure investment, and educating and raising awareness.

2.5.2. Freight Logistics Challenges and prospects in Ethiopia

Since Ethiopia is locked country, the only means of logistics activity depend on port Djibouti and currently the government tries to negotiate to use Somali land and Mombasa ports as an option. Also, according to Tilahun (2014), in Ethiopia, problems in the maritime transport sector have become one of bottlenecks to international trade. Similarly, Fasika, Klaus and Marcus (2014) in

their research on the 12 types of industries found that long delays in customs and port handling as well as complex tariff for imported items are becoming the challenge for logistics and supply chain processes. They also found that the major supply challenges are inconsistency of quality raw material during bidding time and final delivery, unavailability of local suppliers for imported items and long processing and delivery time due to lengthy bureaucratic procedure involved in the purchase of the imported raw material. Their study also indicated that the major transportation challenges are Ethiopia having no access to sea (Land-locked country) and back ward transport infrastructure. Due to this the deliver process was expensive and challenging. This hinders the firms' competitiveness of the country.

Girum and Florian (2013) in their study indicated that the recently introduced 'Export Trade Duty Incentive Schemes Proclamation No 768/2012' has several instruments to minimize the problems of inventory stocking and lead time for establishments that import inputs, such as chemicals, for the production of commodities for the export market. They found that bonded input supplies warehouse scheme is one of such instruments whereby exporters are allowed to store inputs without duty payments under the supervision of the customs authority. It is also indicated that this scheme reduces customs clearing time, overstocking of raw material inventory and lead time.

According to the World Bank Report (1991) efficiently organized flows of goods and information are only possible if there is a well-developed transport and communication infrastructure. The report also described that in sub-Saharan African countries, this infrastructure is poorly managed and maintained. Until recently about half of the region's paved roads and 70 percent of its unpaved roads were only in a fair to poor condition and required substantial repair.
The study by Fasika, Klaus and Marcus (2014) on Ethiopian manufacturing industries supply practice found that most of companies have prepared a standard contract for all suppliers. However, it was common practice to ignore the contract and go to new buyers if they have got a price advantages. In relation to this they found also most of the respondent companies practiced price negotiation and direct purchase for local material from wholesaler and the companies used different supplier selection criteria such as the quality of material, price, delivery time, previous experience, and reliability of suppliers especially for international suppliers.

The study by Bemnet (2004) on Ethiopian transport system explored that transport costs are very high in Ethiopia. For instance, in garment processing trade, overall transport cost cover 28 percent of the total value added. This is a high proportion compared to the world average and Africa's average which are 6.1 and between 15 and 20 percent respectively. Transportation, warehousing, cargo consolidation and border clearance costs, form a critical component of the price of our commodities, and hence our Global Competitiveness, creating the urgent need of an effective National Logistics Strategy.

The study by Fekadu (2013) on the logistics practices of Ethiopia found that the density and quality of transport infrastructure is very low, the main freight transport companies lack capacity in terms of skilled human resource, management skills and number and quality of fleets of trucks, the main/big companies are government owned that will result in inefficiency, the inefficiency of customs authority is causes a lot of delays at check points, and the number of days required to get foreign currency from national bank is also very long. In their study they also found that the supplier evaluation is largely based on minimum cost and contract breakdown will be done for minor price changes.

2.4 Summary of Literature and Research Gaps

The previous section has addressed several theory and empirical literatures related to freight logistic, andfind out the deferent countries best practice, challenge and prospective.

Numerous arguments have been postulated by diverse authors in relation to the concepts and theories of practices of fright transport systems,its importance, challenges, and prospects so far. This section summarizes and presents those concepts and theories only relevant to the topic under study.

The modern transport patterns and practices have been improved by the growth of containerized transportation together with technological development. This is improving the system for transferring cargo between different modes of transport. In response to new modes of production, in the context of globalization, and with respect to a highly competitive market environment integrated supply chain management has developed (Waters, 2010).

Today, logistics is an important part of the business economic system and major global economic activity. The logistics cost are estimated to be between 9-20 % of the GDP. The global logistics

industry has registered significant growth in the last decade wherein the big driver has been the emergence on Third Party Logistics (3PL) and Fourth Party Logistics (4PL) players in the industry who are expected to play much more important role in the years to come. Concerning logistics practices Lambert & Stock (2001) argues that good logistics practices can create a competitive advantage. More specifically they claim that best logistics practice plays an important role in the following critical elements of marketing concept. Which are, an effective transport service in logistics activities could provide better logistics efficiency,reduce operation cost, andpromote service quality.

There are many components of logistics that interact to impact supply chains and ultimately influence international trade flows. Freight logistics is the single most expensive component of logistics; it joins the separated activities (Shewangizaw, 2009). The significance of freight transport service is to stimulate both local and global economy or to simplifying international trades flow.

Generally, the above arguments indicated that logistics practice is increasingly recognized as the key enabler or prospects. Hence, increasing logistics performance efficiency help to deliver the products to markets at competitive quality and prices. Given that, the Transportation, Logistics, Warehousing and Packaging Sector is expected to become a more specialized and niche expertise area where high premium will be charged for increased quality and quantity of services delivered by logistic service provider. Despite, logisticsactivities are ever growing and the problems of accommodating the freight flows in an efficient and sustainable way is exposed to a real challenge. Hence, the challenges that face logistics operations have become a great concern at this time since they result in poor performances of logistics. Poor trade logistics penalize firms that rely on imported inputs and doubly affect exporters, causes long and uncertain delays, and it is unacceptable to most global markets(Dinh and Hinh T., 2014).

On the other hand, the research made by (NCFRP, 2012) with the objective of identifying thechallenges and opportunities of multimodal freight transport system of GLSLB/Great Lakes–Saint Lawrence Basin/ found out the following constraints/barriers and prospects ofmultimodal transport system. Modal integration challenges, lack of jurisdictionalcoordination, lack of multimodal funding mechanisms, modal inequality, insufficiency ofdata and performance metrics, lack of awareness of importance and role of freighttransportation system, and labor

constraints are the constraints were listed as challenge.Whereas the opportunities or initiatives to improve performance of multimodal freighttransport system were the existence of opportunity for better freight transportationperformance data and performance measures, opportunity for gateway and corridor or supplychain specific performance analysis, opportunity for better modal and jurisdictionalcoordination, opportunity for regional strategic framework to identify multimodal freighttransportation priorities, opportunity for multimodal funding and funding mechanisms,opportunity for greater infrastructure investment, and educating and raising awareness.

Study by Neil (2011)cited by Yirga T. (2018), categorized major challenges of fright transportation service as; Geography, demography,environment, legislation, technology andother challenges.Fright Logistics challenges related to geography (landlocked, traffic congestion, road changes, higher distances, geographical location of some places and poor infrastructure), demography (ageing population and growing concentration of population, human behavior and poor training,), environment (climate changes, green logistics, seasonal problems, natural disasters like cyclones and floods), legislation(transport regulations and funding disagreements) and technology (costly new technology, lack of integrated system, resistance to change, dependency on technology) as well as other challenges; rising fuel prices, security issues, bureaucracy and culture, undeveloped domestic industry, high transport costs, poor warehousing and storage, regional imbalance and domestic trade barriers, uncertainty and variabilityare the major fright logistics challenges.

In case of Ethiopia, logistics challenges faced due to “hardware”, “software”, “orgware”, “finware”, and “ecoware”.Barrier throughout the country also makes the road transportation activity very slow and ineffective. Furthermore, as a landlocked country, Ethiopia primarily uses the port of Djibouti as a gateway for the vast majority of its internationally traded goods with most of the goods essentially transported to and from the port by trucks. This situation has made Ethiopia’s fright logistics very expensive and uncompetitive. The country’s capacity to provide intermodal transport service that is reliable and cost effective is dependent on the use of advanced technology and infrastructure. In this regard, Ethiopia’s challenge may be more severe than elsewhere because the country presently the transport infrastructure in road sector is under development stage and not yet reached out tothe required level. On the other hand Ethiopia

began multimodal transport system very recently (2011) and the experience of the system to the country is new phenomenon. As the intermodal transport system is implemented recently its performance needs to be evaluated for possible solutions. In general, the five challenges mentioned by Janic, M. (2001) the “hardware”, “software”, “orgware”, “finware”, and “ecoware” are all relevant factors to Ethiopia in implementation of intermodal freight transport.

Thus,the study will address the identified challenges and prospects (“barriers or critical success factors”) of freight logistics the case of ESLSE.

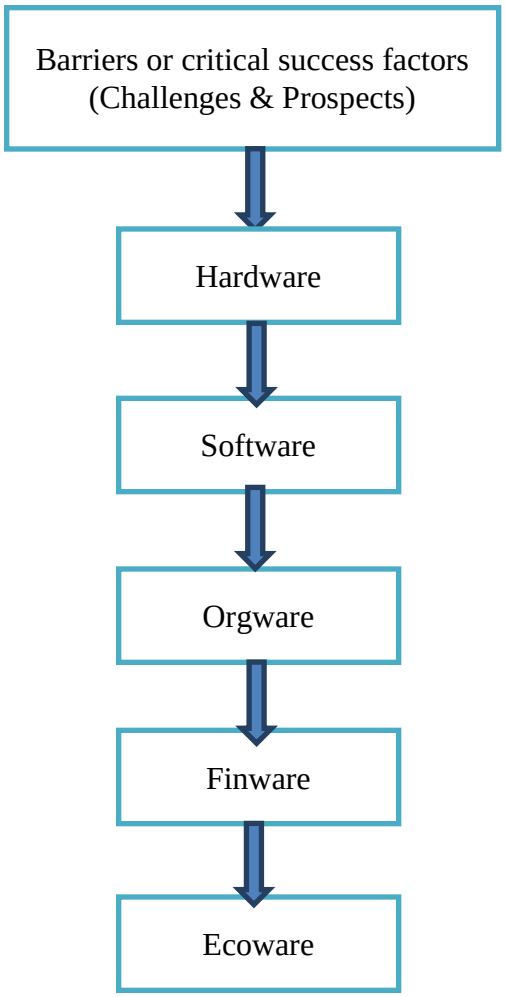
2.4.1 Conceptual Framework

As discussed above, both theoretical and empirical reviews were made and indicated the deficient of empirical studies in Ethiopia regarding the phenomenon being study. This section also constrained the direct linkage of the findings of several of the studies to the conceptual framework. The analytical framework and analysis that follows below is expected to make some connection on the importance of logistics with the conceptual framework.

A well-developed logistics and communication infrastructure, a sound governmental industrial policy and a well-developed educational system are the necessary conditions for improved logistics and fright transportation of Ethiopia. Based up on the review of literature the researcher has identified the basic requirements for effectively and efficiently implementation of fright logistic system.When policymakers talk about improving competitiveness as a goal, they are usually seeking to promote the expansion of businesses within their geographic region. Freight transportation improvements can serve this goal through several avenues. If critical challenges and prospects of fright logistic recognized well, it could be easy to make the necessary corrective masseur timely of improvements.Improvements in freight transportation can reduce freight transit times, improve the reliability and predictability of freight shipments, and reduce the cost of freight transportation. Reduced transit times can allow businesses to access suppliers in a largermarket region or sell their products into a larger market area. Improvements in the reliability predictabilityof transit times can allow businesses to reduce inventory levels and rely more on just-in-time shipments, reducing their total logistics cost of production. Freight transportation improvements that enable businesses to produce products with lower total input costs will allow them to achieve a relative advantage against other firms who have higher costs.

Reducing the total logistics costs associated with obtaining supplies and moving finished goods to market improves productivity by allowing businesses to produce more with fewer resources. Access to low-cost suppliers can also reduce input costs. Businesses may either pass these savings on to consumers or retain them as profits, or some combination of these. If the savings are passed on to consumers through reduced prices, this may allow businesses to increase demand for their products, capture market share and expand production (Laurence O, 2015). Freight transportation improvements thus enable reduces freight transit times, reduce the cost of freight transportation, as well as insure the reliability and predictability of freight logistic service of the country.

Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Description of the Study Area

The preceding chapter has indicated the literature anddocuments related to the Ethiopian freight transportation as a whole and made emphasis on challenge and prospects for a detailed understanding of the existing conditions and develop the conceptual framework to fill the identified literature gap.

This chapter looks at the research methodology. The research methodology is the systematic, theoretical analysis of the procedures applied to a field of study (Kothari, 2004). It describes the research philosophy, research design, empirical model, target population, sample design, data collection instruments, data collection procedure, data validity, data reliability data analysis and presentation and diagnostic tests. To meet this objective, the following research methodology is followed in the course of conducting the research.

3.2 Research Approach

There are three types of research approaches, qualitative, quantitative and mixed approach. Quantitative method is a means for testing objective theories by examining the relationship among variables. Data collected is number and statistics. The data is based on precise measurements and the final report will be statistical report with correlations, comparisons of means and statistical significance of the findings. On the other hand, qualitative method is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The final report is narrative report with contextual descriptions and direct quotations from research participants. The mixed method focuses on collecting, analyzing and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approach in combination provides a better understanding of research problems than either approach alone. (Kothari, 2004).

In this study mixed approaches will be used. Because the researcher will use questionnaire and interview the instrument of data collection as noted earlier this approach on collecting, analyzing and mixing both quantitative and qualitative data in a single study or series of studies, to minimize limitations attached to each of the approaches. In fact, there are many types of research

approaches, depending on the types of data that the researcher wants to collect and analyze, such as experiment, survey, case study, action research and grounded theory. However, this study employsurvey study within a cross sectional design in this research. These determines a single time, which in turns to aimed at attracting a wider sample group with a given time period.

3.3 Research Design

The researcher will approach a descriptive research design.In descriptive method the study focuses on the determination of the frequency with which an event occurs and how variables are related in a particular context.Depending on the objectives of the study descriptive research design was chosen and used. According to Kothari(2004) descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual, or of a group, selecting of the descriptive research method helps to describe the research findings using major statistical measures such as median and mode.

3.4 Population and Sample

The total population of the study comprises the entire number of multimodal transportcustomers of ESLSE and multimodal staffs. According to unpublished data of the enterprise currently the enterprisehas more than 5,000 multimodal transport customers. Therefore, all of 78 staffs and customers ofmultimodal transport system are the total population of the study and they have beenrepresented by the sample group.

3.4.1 Sampling Technique

The study used probability sampling techniques. The reason behind using the techniques the study focuses to include respondents from head office, nearby branches and different positional level such as, Managers, supervisors, coordinators, and officers of ESLSE. The sampling frame is the list of all customers ofmultimodal transport from which the sample group was taken. From probability samplingtechnique, simple random sampling method is used to determine the actual sample groupwho fill the questionnaire prepared. It is because this method is giving equalchance of being selected into the sample group for every member of a population.

3.4.2 Sample Size Determination Method

According to University of Florida (2014), in addition to the purpose of the study and population size, there are three criteria required to be fulfilled to determine the appropriate sample size. These are: 1)the level of precision, sometimes called sampling error, which is the range in which the true value of the population is estimated to be. The range is often expressed in percentage points (e.g., ±1 percent). 2) The level of confidence or risk level is based on ideas encompassed under the Central Limit Theorem. The key idea encompassed in the Central Limit Theorem is that when a population is repeatedly sampled, the average value of the attribute obtained by those samples is equal to the true population value. In a normal distribution, approximately 95% of the sample values are within two standard deviations of the true population value (e.g., mean). In other words, this means that if a 95% confidence level is selected, 95 out of 100 samples will have the true population value within the range of precision specified. There is always a chance that the sample you obtain does not represent the true population value. This risk is reduced for 99% confidence levels and increased for 90% (or lower) confidence levels. 3) The degree of variability in the attributes being measured refers to the distribution of attributes in the population. The more heterogeneous a population, the larger the sample size required to obtain a given level of precision. The less variable (more homogeneous) a population, the smaller the sample size required. Furthermore, the values obtained by these samples are distributed normally about the true population value.

Using Census for small population, sample size imitation from similar studies, usingpublished tables, and applying formulas are the four methods described to determine a samplesize University of Florida, 2014). For this specific research, the researcher used formulamethod using the sample size determination formula provided by the website of theuniversity and calculated the sample size as below. Since the formula is the right method ofsample size determination in case of infinite or large population size. As it is discussed earlierthe population of the study is large and that witnesses the appropriateness of the formulamethod.

$$n = \frac{Z^2pq}{E^2}$$

Where:-

n = denotes sample size,

Z2 = represents the abscissa of the normal curve that cuts off an area α at the tails (1- aequals to the desired confidence level, that is 95%). The value of Z is found instatistical tables which contain the area under the normal curve.

e = is the desired level of precision, or sampling error.

p = is the estimated proportion of an attribute that is present in the population, and the researcher estimated the proportion of an attribute that is present in the population since the population is attributed by homogeneous character. It means that there is very less variability in the population.

q = is 1-p.

Before calculating the sample size, the three most important criteria of the formula which arebases to use the formula, have been assessed and determined first as indicated hereunder.

Z= 1.96, for 95% ,e = 5%, p = 0.2, q= 1-p 1-0.2 = 0.8

$$n = \frac{(1.96)2(0.2)(0.8)}{(0.05)2} = \frac{(3.842)(0.160)}{0.003} = \frac{0.615}{0.003} = 205$$

n =205

Regarding staff respondent, a total of 78 populations (MTS staffs) have been considered. In general, responses for questionnaire collect 283 respondents from both customers and staffs of ESLSE MTS. The Questionnaire consists of closed choice or fixed questions and open-ended questions.

3.4.3 Data Sources and Types

The research used both primary and secondary sources of data. The study also uses structuredand semi-structured observation, questionnaires to obtain primary information from respondents. Secondary data also collected by visiting different libraries, procuring relevant documents from the respective institutions, from journals, websites and so on.

3.5 Procedures of Data Collection

Before undertaking the actual works of data collection, the researcher carried out thenecessary activities which were prerequisite to the success of the data collection and designingof the right questionnaire with the required copies.

Then the researcher arranges the right time when to distribute and collectthe questionnaires. After thatbranch offices of the enterprise informed the arranged schedules, the researcher used theschedule to carry out the data collection activities to best of the enterprise willingness.

3.6 Data Analysis

After data have been collected, data processing hasbeen carried out. The raw data converted into suitable form for analysis and interpretation. This has achieved through sequences of activities including editing, coding, entry, and tabulation. The objective has to check the completeness, internal consistency and appropriateness of the data to each of the variables. The data collected through the questionnaire were processed and analyzed using the statisticalsoftware called Statistical Package for the Social Science/SPSS/. Descriptive statistics enable to describe or comparevariables numerically. The median and the mode are the two most commonly used ways ofmeasuring central tendency. These two measures of central tendency were used to analyzeand interpret the output of likert scale questionnaire data collected. According to Saunders,

Lewis and Thornhill (2003) the median or middle value can be calculated by ranking all thevalues in ascending order and finding the mid-point (50th percentile) in the distribution. Forvariables that have an even number of data values the median will occur halfway between thetwo middle data values. Both the median and the mode have the advantage that they are notaffected by extreme values in the distribution. The median is a recommended measure ofcentral tendency for ordinal data type. The mode is the most frequently occurring value in aset of observations (Shajahan, 2004). However, respondents' profile related data weredescribed using the frequency statistics calculated by SPSS.

3.7 Ethical Consideration

The data collected have to subject to the following ethical considerations:

- Any relevant data for the study collected by issuing an official letter to the concerned entity.
- Respondents wereinform fully about the purpose, methods and intended possible uses of the research, what their participation in the research entails and what risks, if any, are involve.

- The confidentiality of information supply and the anonymity of respondents will have respect.

3.8 Validity and Reliability

Validity: To ensure precision, relevance and content validity of the instrument, the questionnairewas subjected to critical evaluation by the researcher and the advisor. Discussions wereheld with peers and professional experts in multimodal transportcustomers and staffs of ESLSE.

Reliability: To measure the consistency of the scores obtained, and how consistent they are for each individual from one administration of an instrument to another and fromone set of items to another, the study used Cronbach's alpha (a measure of theinternal consistency of the questionnaire items) using data from all the respondents.

Separate reliability tests for each of the variables were computed. The key statistics ininterpreting the reliability of the scale was the alpha listed under the reliability coefficientsection at the end of the output. The value of coefficient alpha ranges from zero(no internal consistency) to one (complete internal consistency); accordingly, a reliability coefficient of .70 or higher is considered"acceptable" in most social science research situations). Hair et al. (2007) mentioned thatthe rationale for internal consistency is that the individual items or indicators of the scaleshould all be measuring the same construct and thus be highly inter-correlated. Themeasurement scales for the variables in this study were based on a 5-point Likert scaleranging from "strongly agree" to "Strongly disagree".

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

The chapter is all about data presentation and data analysis. It presents response rate, respondent's profile, Reliability and validity tests and the analysis interpretation of data collected for the study that describe regarding the challenges and prospects offreight logistic service. The analysis and interpretation from the information collected through structured questionnaires were collected and analyzed by the Statically Package for Social Science (SPSS) version 20. In the same scenario, data collected from primary sources through interview also analyze in a brief and precise way.

4.1 Rates of Response

Responses from enterprise'scustomers and stuffs were used in the data analysis. The chapter presents results on the challenges and prospects of freight logistic service. 213 questionnaires were distributed to collect date form sample respondent. Out of 283 questionnaires distributed the researcher received 228 questionnaires giving a response rate of 81%. Even though, from the response 15 questionnaires (6.5%) were unusable due to uncompleted questionnaires. Hence, it can be concluded that the usable response rate 75% gained in this study is acceptable and big enough for analysis.

4.2 Profile of Respondent

The below table illustrates number and percentage of the characteristics respondents' response on gender, age, education level, and work experienceas indicate in the below table; Response on their Sex ratio prevail in the final study of213respondents show that 108(51%) of male respondents and 105(49%) of female respondents Response on age show that 64(30%) of the sample employees are18-30age intervals, 91(43%)are 31-45age intervals, 52(24%) are 46-60age intervals, and the rest 6(3%)of respondent are above 60 ages.According to the below table employees work experience show that 49(23%) of the sample employees are below 1 years, from 1-3 years 62(29%), from 4-7 year 81(38%) and the rest are above 7 years which is 21(10%) of the sample employees. Regarding qualification;from the sample respondents109(6%) are diploma holders, 186(87%)are at degree level, and the rest 14(7%) are above degree level.Regarding their role all of the respondents either have direct or indirect role in freight

logistics activity including Company Owner/importer and Customs forwarder/transistor. Company owner or manager 16(8%).Customs forwarder or Transistor124(58%), and the rest 73(34) are stuffs. Therefore, majority of respondents were seen as experienced enough and sufficiently aware the phenomenon being studied and they respond in accordance.

Table.1: respondent profile

Status	Variables	Category	Frequency	Percent
Valid	respondents gender	Female	105	49
		Male	108	51
		Total	213	100
Valid	Age of respondents	18-30	64	30
		31-45	91	43
		46-60	52	24
		above 60	6	3
		Total	213	100
Valid	Work Experience	Below 1 year	49	23
		1-3 years	62	29
		4-7 years	81	38
		Above 7	21	10
		Total	213	100
Valid	Educational level	Diploma	13	6
		BA degree	186	87
		Masters Degree	14	7
		Total	213	100
Valid	Role	company owner	16	8
		Customs forwarder/Transitor	124	58
		Staff	73	34
		Total	213	100
Total			213	100

Source: self-constructed

4.3 Reliability Test

Reliability and validity tests are important to ensure the accuracy and consistency of the variables. According to Hair et al. (2007) for a scale to be reliable the questions must be answered consistently by respondents in a manner that is highly correlated. If they do not, the scale would not be reliable. For the purpose of this research, reliability was assessed using Cronbach alpha coefficient because it has the most utility for multi-item scales at the interval level of measurement, requires only a single administration and provides a unique, quantitative estimate of the internal consistency of a scale (Cooper & Schindler, 2006). Cronbach's alpha ranges between 0 (denoting no internal reliability) and 1.0 (denoting perfect internal reliability

(Bryman, 2007). The closer the coefficient is to 1.00, the more reliable the measurement (Mertens, 2010; Zikmund et al. 2010) view that Cronbach's alpha between 0.8 and above are considered to have very good reliability and those between 0.7 and 0.8 good; while those between 0.6 and 0.7 indicate fair and satisfactory reliability. In this study the Cronbach's Alpha value is 0.78 (between 0.7 and 0.8)the result indicate good reliability as shown below Table 1.

Table 2: Cronbach's Alpha value Summery

S.N.	Variables	Cronbach's alpha	No. of Items
1	Information communication Technology (ICT)	0.824	6
2	Dry port and Terminal Services	0.875	4
3	Inland Transport Services	0.789	4
4	Policy and Regulatory Aspects	0.749	4
5	Custom facilitation	0.834	4
6	Freight logistic Operation performance	0.607	8
TOTAL		4.678	6
Total Cronbach's alpha for total N of Items		0.780	

Source: Source: self-constructed

4.4 Data Analysis and Interpretation

In this section, the data collected, analyzed and presented by using descriptive statistics on Statistical Package for Social Science (SPSS) simple and understandable manner. To know the respondents level of agreement on ESLSE's freight logistics challenges and prospects, the parameters under listed statements were asked to the respondents and analyzed and interpreted accordingly.

The three open ended questions which were included in the questionnaire have been summarized manually and presented in this chapter.

The total number of questions included in the questionnaire was 39. Out of those questions 30 of them were designed in likert five scale formats. However, the other six questions and three questions were profile related and open ended questions respectively. The likert questions were analyzed using the two measures of central tendency called mean and standard deviation since these measures are found to be the right measures for scale type of data. However respondents'

profile data were presented using frequency tables. But the responses of open ended questions have been summarized manually and presented under separate section.

The likert five scale ranges from scale level 1 to 5. Hence, each number represents as 1=strongly disagree(SDA) 2=Disagree(DA), 3= Neutral(N), 4= Agree (A)and 5= Strongly Agree (SA). Were used to know the respondent's level of agreement on ESLSE's freight logistics challenges and prospects, the parameters under listed statements were asked to the respondents and analyzed and interpreted accordingly. To make easy interpretation, the mean score ranging 1-1.8= considered as Strongly disagree(SDA); 1.81-2.6 = Disagree(DA),; 2.61-3.4= Neutral(N); 3.41-4.20= Agree; and 4.21-5 = Strongly Agree (SA) Best, (cited in Simachew, 2014). The respondents were provided with six parameters to measure the level of agreement on Information communication Technology (ICT). In order to collect the respondents' attitude whether the enterprise face challenges related to ICT deployment.

4.4.1 Respondents level of agreement related to parameters of Information communication Technology (ICT)

Table 3: Respondents level of agreement on Information communication Technology (ICT)

Parameters	N	SDA	DA	N	A	SA	Total	Mean	Std. D
The enterprise provide customers information about freight transport rates online	Frequency	4	104	61	26	18	213	2.7653	0.98638
	Percent	1.9	48.8	28.6	12.2	8.5	100.0		
The enterprise provides customers information about how long it will take to get their cargo at their premise online	Frequency	30	89	48	42	4	213	2.5352	1.02097
	Percent	14.1	41.8	22.5	19.7	1.9	100.0		
The enterprise provide an online booking service for the customers on continuous basis	Frequency	30	89	48	42	4	213	2.5775	.97606
	Percent	14.1	41.8	22.5	19.7	1.9	100.0		
The communication system among ports is well integrated	Frequency	2	110	26	62	13	213	2.8779	1.03893
	Percent	.9	51.6	12.2	29.1	6.1	100.0		
All the time the information disseminated by all sectors of ESLSE is reliable and dependable for business decision.	Frequency	28	80	38	63	4	213	2.6948	1.0885
	Percent	13.1	37.6	17.8	29.6	1.9	100.0		
Applying Warehouse Management Software for stock control	Frequency	20	91	50	48	4	213	2.6479	0.9919
	Percent	9.4	42.7	23.5	22.5	1.9	100.0		
grand mean								2.6831	1.01712

Source: self-constructed

The above Table 3: result indicates that respondents replied relatively insignificance on majority of parameters regarding enterprise Information communication Technology **(ICT)** applicationsince, the grand mean of 2.68, laydown in the range of 2.61-3.4with a standard deviation of 1.017 which signify that the respondent have no confidence towards over all parameters provided to ICT. From this the researcher conclude that there is absence of information and communication technology infrastructure in the enterprise to provide online information to the customers about on transit time, online booking service and online multimodal transport rate as well as the information that disseminated by all sectors of ESLSE is not reliable and dependable for business decision. This implies that, the enterprise have face challenges related to ICT infrastructure.

4.4.2 Dry port and Terminal Services

The dry port and terminal service is one of the fundamental services being provided by ESLSE under the multimodal transport system. As per the information obtained through deferent literatures and the ESLSE profile, port and terminal service include loading and unloading, temporary storage, stuffing, unsnuffing services for incoming and outgoing goods. In this case the researcher provided four major inquiries to the respondents pertaining to port and terminal service accessibility, availability and capacity the finding result presented as follow.

Table4:Dry port and Terminal Services

Parameters	N	SDA	DA	N	A	SA	Total	Mean	Std.
Accessibility of dry port and terminal facilities are well throughout the country.	Frequency	14	94	38	54	13	213	2.80	1.08
	Percent	6.6	44	18	25	6	100		
Availability of dry ports and terminals facilities are well equipped with all the necessary equipment and machineries.	Frequency		106	38	52	17	213	2.91	1.03
	Percent		49.8	17.8	24.4	8.0	100.0		
Dry ports and terminals have enough space and capacity to accommodate all incoming and outgoing cargoes even in peak periods.	Frequency		82	42	76	13	213	3.09	0.99
	Percent		38.5	19.7	35.7	6.1	100.0		
Dry port and terminal operations are well managed and efficient in their service.	Frequency		55	51	103	4	213	3.26	0.87
	Percent		25.8	23.9	48.4	1.9	100.0		
Grand mean								3.02	

Source: self-constructed

As the above table result reviled, almost all parameters, regarding the enterprise's dry port and terminal service facilities, availability of equipment, capacity to accommodate all incoming and

outgoing cargoes and manage of port score were ranging from 2.8 to 3.26 this score laid down under "2.61-3.4|" which considered as "Neutral". Likewise, the grand mean of 3.02 with standard Davisson of .99 confirms the lowest rank given by more than half the respondents. scored indicates that most of the respondents do not thinkthat the available spaces in dry ports can accommodate and hold all the incoming and outgoing goods together.

4.4.3 Inland Transport Services

Inland transport is an integral part of freight logistic system which ensures the movement of cargos from place to place using vehicles or some other land movables. The information obtained through interview confirms that our country's land transport system is entirely dependent on road transport using trucks. In multimodal transport system trucks are used to transport imported goods from Djibouti port to all available dry ports or/and to bonded customers' warehouses and also delivers export goods and empty containers to Djibouti port. Here some very important parameters have been provided to range the inland transport service performance level in order to identify the main challenges faced by the operational division currently.

Accordingly, the respondents were asked to indicate the extent to which they agreed with statements concerning the suitability of current transport infrastructure to provide door to door inland transport service, sufficiency of trucks and expertise related with freight logistic like inventory managers, transport managers; and training center for the expertise to render effective and efficient Inland Transport Services. The results display as in the Table 5 below.

Table 5: Inland Transport Services

Parameters	N	SDA	DA	N	A	SA	Total	mean	Std. D
The current transport infrastructure is suitable to provide door to door MMT service	Frequency		78	56	75	4	213	3.02	0.89
	Percent		36.6	26.3	35.2	1.9	100.0		
Number of trucks the enterprise ownedis enough to render effective and efficient transportation service	Frequency		13	65	58	77	213	2.93	0.95
	Percent		6.1	30.5	27.2	36.2	100.0		
The enterprise have enough expertise related with logistic like inventory managers, transport managers	Frequency		105	47	59	2	213	2.80	0.88
	Percent		49.3	22.1	27.7	.9	100.0		
The enterprise have a training center for the expertise	Frequency		85	59	52	17	213	3.00	0.98
	Percent		39.9	27.7	24.4	8.0	100.0		
Grand mean								2.95	0.93

Source: self-constructed

In relation to suitability of infrastructure to provide door to door inland transport services, the respondents response their level of agreement with the mean score of 3.02 with standard deviation of 0.89 which means laid down under the range of neutral. In relation sufficiency of trucks and expertise related with freight logistics like inventory managers, transport managers; the respondents response their level of agreement with the mean score of 2.93 with standard deviation of 0.95, 2.80 with standard deviation of 0.88, respectively. This means, the score result for each statement laid down under the range of neutral too. In contrast, regarding training center for the expertise, the respondents response their level of agreement with the mean score of 3.78 with standard deviation of 0.57.This means, the score result for each statement laid down under the range of agreement. From the researcher conclude that the enterprise has no suitability of infrastructure to provide door to door inland transport services, enough logistics expertise, and expertise from related field. In the other hand, the enterprise has training center for the up grading of expertise.

As per the information gathered via open ended question, the respondunt confirmed that the delay intransportation from Djibouti to Modjo or some other dry ports is definite. But lack of heavytrucks in the market and the load capacity of our old bridges found in between Djibouti anddry ports were cited as major problems and the later hinders to use the actual capacities oftrucks. That means more than half of the respondents were not happy with the inland transport services satisfaction level achieved by the enterprise. Therefore, it is possible to understand even though, that the enterprise has its training center; ensuring on time delivery of imported goods especially from Djibouti to dry ports and/or bonded warehouses remain a challenges.

4.4.4 Regulatory Aspects

In relation to the regulatory framework in the freight logistics system, respondents have been given four positive statements to rank their level of agreement or disagreement in the questionnaire. The finding result present as follow,

Table 6: *Regulatory Aspects*

Parameters	N	SDA	DA	N	A	SA	Total	Mean	Std. D
The surveillance system employed by ESLSE for monitoring rules violation is strong	Frequency	14	69	75	51	4	213	2.82	0.93
	Percent	6.6	32.4	35.2	23.9	1.9	100.0		
The compliance system employed by ESLSE for monitoring rules violation is strong	Frequency		105	23	72	13	213	2.97	1.04
	Percent		49.3	10.8	33.8	6.1	100.0		
The Board of Directors (BoD) are good enough in supervising ESLSE's Multimodal transport activities	Frequency		109	60	42	2	213	2.70	0.81
	Percent		51.2	28.2	19.7	.9	100.0		
Exchange rate policy hinders the operation of enterprises	Frequency		64	80	69		213	3.02	0.79
	Percent		30.0	37.6	32.4		100.0		
								2.88	0.89

Source: self-constructed

According to the above Table.6, Pertaining to strength of the surveillance system installed by the enterprise to ensure monitoring of rules violation in freight logistics system, and Exchange rate policy hinders the operation of enterprises, the grand mean values obtained were 2.88 with standard deviation of 0.89, which laid down under(neutral). The neutral position tells that the respondents are not quite sure to witness the strength or weakness of the provided statements. That is why they showed their agreement level in the middle position. Score value of the responses further indicates the questionability of the enterprise's performance in relation to avoiding violation practices being committed on freight logistics rules and regulations. Its performance in this regard needs more improvement in.

4.4.5 Customs' facilitation in freight logistics Operation

Table 7: *Customs' facilitation in freight logistics Operation*

Parameters	N	SDA	DA	N	A	SA	Total	Mean	Std. D
The customs offices' readiness and willingness to facilitate goods clearing process timely is excellent	Frequency	2	72	58	79	2	213	3.03	0.89
	Percent	.9	33.8	27.2	37.1	.9	100.0		
There is flexibility in the custom station to clear cargos from the station	Frequency	30	56	48	77	2	213	2.84	1.10
	Percent	14.1	26.3	22.5	36.2	.9	100.0		
The customs' goods clearing procedures well facilitate multimodal operation	Frequency	16	75	97	25		213	2.62	0.79
	Percent	7.5	35.2	45.5	11.7		100.0		
The existing coordination level between customs offices and ESLSE is strong	Frequency		63	111	37	2	213	2.90	0.71
	Percent		29.6	52.1	17.4	.9	100.0		
Grand mean								2.85	

Source: self-constructed

According to Table No.7 respondents were given for positive statements in relation to Customs' facilitation in freight logistics Operation to rank based on their knowledge. In connection to the customs offices' readiness and willingness to facilitate goods clearing process timely is excellent, most of the respondents laid down under range of (Neutral) with mean score values of 3.03 with standard deviation of 0.89. That means more than half the respondents were not happy with the service readiness shown by the customs offices to assist freight logistic customers. As per the results obtained the customs offices are not performing as per the requirements of multimodal transport system. That has been manifested by the unsatisfactory level of readiness and willingness showed by the customs offices to their freight logistic customers.

The second statement was about flexibility in the custom station to clear cargos from the station. As to this statement the mean score and standard deviation values obtained were 2.84(neutral) and 1.10 respectively. The mean value indicates that more than half of the respondents were not sure to decide in either position and that is why they preferred to stay in a neutral position.

Like the first two variables the respondents showed a mean score values of 2.62 and 2.9 which considered as(neutral) when they rank the wellness of The customs' goods clearing procedures to facilitate freight logistics operation and strength of existing coordination level between customs offices and ESLSE. In general, the grand mean values obtained were 2.85 withstandard deviation of 0.87, which lay down under the range of "neutral". Score value of the responses further indicates the questionability of that the customs operational set up,procedures and document requirement are not facilitating the operations of the freight logistics as it is supposed to be,likewise the existing cooperation between customs offices and ESLSE. This indicates, the customs offices were not supporting the operation of multimodal transport system as to the required level.

4.4.6 Freight logistic Operation performance

Table 8: Freight logistics Operation performance

Parameters	N	SDA	DA	N	A	SA	Total	Mean	Std. D
The customer service set up of enterprise operation is highly responsive.	Frequency	14	64	62	71	2	213	2.92	0.97
	Percent	6.6	30.0	29.1	33.3	.9	100.0		
Shipments are brought to the designated dry ports timely and correctly.	Frequency	70		70	73		213	3.01	0.82
	Percent	32.9		32.9	34.3		100.0		
Customer service complaints are resolved by information & customer service division within short period of time.	Frequency		85	57	71		213	2.93	0.86
	Percent		39.9	26.8	33.3		100.0		
Enterprise Measure and evaluate customer satisfaction level	Frequency		2	39	170	2	213	4	0.44
	Percent		0.9	18.3	79.8	0.9	100.0		
Transportation of goods is an environment friendly manner	Frequency		67	22	124		213	3.27	0.91
	Percent		31.5	10.3	58.2		100.0		
The consignment/ goods stuffing and transshipment secured	Frequency		7	79	114	13	213	3.62	0.65
	Percent		3.3	37.1	53.5	6.1	100.0		
Storing freight goods according to recommended storage guidelines	Frequency		52	82	75	4	213	3.15	0.81
	Percent		24.4	38.5	35.2	1.9	100.0		
The enterprise Proper organizing of Invoicing and collection methods	Frequency	11	119	59	24		213	2.45	0.76
	Percent	5.2	55.9	27.7	11.3		100.0		
Grand mean								3.15	0.78

Source: self-constructed

Among all of the freight logistic service performance, measuring and evaluating customer satisfaction level is found to be the leading practice, with mean score 4 and 4.4 of standard deviation. The mean score value indicates that it is moderately practiced. Other customer service practices that have been also practiced moderately are: security practice on consignment/ goods stuffing and transshipment of the enterprise, scored value of 3.62 mean with 0.65 of standard deviation The score indicate that majority of respondents believed that the enterprise have good performance with respect to; measuring and evaluating customer satisfaction and safety and security practice of the consignment/ goods stuffing and transshipment of the enterprise. In contrast, pertaining proper organizing of Invoicing and collection methods is scored 2.45 values of mean score with standard deviation of 0.76. Which means, these parameters is not well practiced by firms.The remaining construct such as; Responsiveness of customer service, timeliness and dependability of shipment to designated dry ports, resolution of Customer service complaints, environmental friendly Transportation of goods and Conformity of Storing freight goods with recommended storage guidelines were lay down under the rang of neutral with

maximum score value of 3.27 and minimum mean score value of 2.92, and the grand mean of 3.15 was registered which representing the rang of “neutral” which means majority of the respondent were not confortable about the performance of freight logistic service of the enterprise. This implies, even though, that the enterprise has good performance with respect to; measuring and evaluating customer satisfaction and safety and security practice of the consignment/ goods stuffing and transshipment of the enterprise, the questionability of the enterprise’s performance in relation toResponsiveness of customer service, timeliness and dependability of shipment to designated dry ports, resolution of Customer service complaints, environmental friendly Transportation of goods and Conformity of Storing freight goods with recommended storage guidelines wereremain a challenges for freight logistics performance for the enterprise.

Discussion on response of open ended quotations

Three open ended questions were provided to the respondents in relation the subject understudy. Their responses has been summarized and presented here in the research report. The first open ended question delivered to the respondents, requested them to list some of themajor challenges faced by freight logistics based on their own experience. Theprevalence of poor inland transport facilities, lack of committed and ethically responsibleprofessionals in operational areas, lack of port equipment and facilities, frequent interruptionof communication networks, dry ports capacity limitation and extended customs goods clearing procedures were disclosed as the main challenges to system’s operation. Further theypointed out few more points such as the poor networks of integration with external support offices, system’s awareness gap by customers, corruption at operational areas, unavailabilityof safe parking area, unavailability of standard restaurants and resting rooms at dry ports,frequent meeting programs by supervisors and longer time taking case settlement style arebelieved by respondents as additional challenge to freight logistic service of the enterprise.

The second question gave chance to the respondents to forward possible solutions that theythink helpful to get rid of those challenges which they stated above.

Most of them believe delivering continuous task oriented and ethical trainings for the existingemployees and recruiting of professionals for new posts will improve the service quality

ofthe new system at this level. Also they added that deployment of modern heavy trucks andlatest port handling equipment and improvement of means of communication and buildingdry ports around Addis Ababa, periodical customer satisfaction measurement scheme,making the service customer focused and delivering service always in accordance with therules, regulations and directives of the enterprise will have a vital role.

At last the respondents have been given another opportunity to forward pointspertaining to potential prospects of freight logistics service of the enterprise, Rail road construction, Economic growth, Political stability, Technological development, Foreign direct investment, Being member of WTO were listedas potential prospects for the improvements of freight logistic performance of the enterprise in order to become more efficient and effective.

Discussion on response of interview quotations

Three points were raised to discuss with the ESLSE officials regarding how to solve the current critical freight logistics problems and how to bring improvement in future freight logistics. As per their experience, they are stated the critical problems like shortage of heavy trucks, hard currency problem, and availability of fleet managementit is not sufficient to Ethiopian Economy,there is no sufficient services regarding the sector.

Therefore, to improve future freight logistics service the concerned body has to be increase the fleet size, banks has to be facilitate to get documents on time and avoid the delayance due to many reasons, the government and National Bank of Ethiopia must give serious attention and priority to avoid hard currency problem,the government and concerned body has to be focus on service integration with stockholders like Banks, Customs offices, Road Authority.

As per the respondents opinion to improve the road condition (infrastructure problem) particularly from Djibouti sea port up to Djibouti Galafi and to increase number of heavy trucks the government should do the following three things.

- It needs close collaboration with Djibouti government to reconstruction of roads,
- To import more vehicles reduce the import tax and support those vehicles importers,
- Provide more wagons and make the cargo train service more efficient and effective.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION ANDRECOMMENDATION

The preceding chapter presented the results and discussion, while this chapter presents the conclusions and recommendations. Accordingly, section 5.1 presents summary of major findings while the section 5.2 presents the conclusion of the research finding. 5.3 present recommendations of the researcher and the last section 5.4 covers the Limitations and Directions for Future Study.

5.1 Summary of Major Finding

Hence, the researcher summarized the major findings of the study results from qualitative and quantitative data analysis for each corresponding basic research questions as follows:

Information communication Technology (ICT)

As the study result indicates that respondents replied relatively insignificance on majority of parameters regarding enterprise Information communication Technology (ICT) application. From this the researcher conclude that there is absence of information and communication technology infrastructure in the enterprise to provide online information to the customers about on transit time, online booking service and online multimodal transport rate as well as the information that disseminated by all sectors of ESLSE is not reliable and dependable for business decision. This implies that, the enterprise have face challenges related to ICT infrastructure. This is categorized under challenge of “Software”.

Dry port and Terminal Services

As the finding result reviled, almost all parameters, regarding the enterprise’s dry port and terminal service facilities, availability of equipment, capacity to accommodate all incoming and outgoing cargoes and manage of port score were ranging from 2.8 to 3.26 this score laid down under “Neutral”. Likewise, the grand mean of 3.02 confirms the lowest rank given by more than half the respondents. Therefore, the researcher concludes that the dry ports and terminals are not well equipped with required loading and unloading equipment as well as the facilities too. This

implies that, the enterprise has face challenges related to design and management of ports, terminals and transfer points. This is categorized under challenge of “Orgware”.

Inland Transport Services

As the study result reviled, suitability of infrastructure to provide door to door inland transport services, the score result for each statement laid down under the range of neutral too. In contrast, regarding training center for the expertise, the respondent’s response their level of agreement with the mean score of 3.78. This means, the score result for each statement laid down under the range of agreement. Therefore the researcher conclude that the enterprise has no suitability of infrastructure to provide door to door inland transport services, enough logistics expertise, and expertise from related field. On the other hand, the enterprise has training center for the up grading of expertise. Therefore, it is possible to understand even though, that the enterprise has its training center; ensuring on time delivery of imported goods especially from Djibouti to dry ports and/or bonded warehouses remain a challenges. This is categorized under challenge of “Orgware”too.

Regulatory Aspects

The finding result reviled, Pertaining to strength of the surveillance system installed by the enterprise to ensure monitoring of rules violation in freight logistics system, and Exchange rate policy hinders the operation of enterprises, the grand mean values obtained were 2.88, which laid down under(neutral). The neutral position tells that the respondents are not quite sure to witness the strength or weakness of the provided statements. Score value of the responses further indicates the questionability of the enterprise’s performance in relation to avoiding violation practices being committed on freight logistics rules and regulations.

Freight logistics Operation performance

Among all of the freight logistics service performance, measuring and evaluating customer satisfaction level is found to be the leading practice, with mean score 4 and 4.4 of standard deviation. The mean score value indicates that it is moderately practiced. Other customer service practices that have been also practiced moderately are: security practice on consignment/ goods stuffing and transshipment of the enterprise, scored value of 3.62 mean. The score indicate that

majority of respondents believed that the enterprise have good performance with respect to; measuring and evaluating customer satisfaction and safety and security practice of the consignment/ goods stuffing and transshipment of the enterprise. In contrast, pertaining proper organizing of Invoicing and collection methods is scored 2.45 values of mean score. Which means, these parameters is not well practiced by firms.The remaining construct such as; Responsiveness of customer service, timeliness and dependability of shipment to designated dry ports, resolution of Customer service complaints, environmental friendly Transportation of goods and Conformity of Storing freight goods with recommended storage guidelines were lay down under the rang of neutral with maximum score value of 3.27 and minimum mean score value of 2.92, and the grand mean of 3.15 was registered which representing the rang of "neutral. This implies, even though, that the enterprise has good performance with respect to; measuring and evaluating customer satisfaction and safety and security practice of the consignment/ goods stuffing and transshipment of the enterprise, the questionability of the enterprise's performance in relation to Responsiveness of customer service, timeliness and dependability of shipment to designated dry ports, resolution of Customer service complaints, environmental friendly Transportation of goods and Conformity of Storing freight goods with recommended storage guidelines were remain a challenges for freight logistics performance of the enterprise.

Finding from response of open ended quotations

Three open ended questions were provided to the respondents in relation the subject under study. Their responses has been summarized and presented here in the research report. The first open ended question delivered to the respondents, requested them to list some of the major challenges faced by multimodal transport system based on their own experience. The prevalence of poor inland transport facilities, lack of committed and ethically responsible professionals in operational areas, lack of port equipment and facilities, frequent interruption of communication networks, dry ports capacity limitation and extended customs goods clearing procedures were disclosed as the main challenges to system's operation.

The second question gave chance to the respondents to forward possible solutions that they think helpful to get rid of those challenges which they stated above.

Most of them believe delivering continuous task oriented and ethical trainings for the existing employees and recruiting of professionals for new posts will improve the service quality of the new system at this level. Also they added that deployment of modern heavy trucks and latest port handling equipment and improvement of means of communication and building dry ports around Addis Ababa, periodical customer satisfaction measurement scheme, making the service customer focused and delivering service always in accordance with the rules, regulations and directives of the enterprise will have a vital role.

pertaining to potential prospects of freight logistics service of the enterprise, Rail road construction , Economic growth , Political stability, Technological development , Foreign direct investment, Being member of WTO were listed as potential prospects for the improvements of freight logistic performance of the enterprise in order to become more efficient and effective.

5.2 Conclusion

The general objectives of this study were to examine the challenge and prospect of freight logistics service the case of ESLSE. In order to meet this general objective, the researcher was collected 213 usable responses from the target population of the study using Non-probability (deliberate or purposive or judgment) sampling technique. The study Questionnaire containing different dimension of variables based on the basic research questionwhich determine thechallenges and potential prospectpertaining to freight logistics operation of the enterprise, I:e Information communication Technology (ICT), Dry port and Terminal Services, Policy and Regulatory Aspects, Custom facilitation, Freight logistic Operation performance. The analysis was conducted using descriptive statistics using statistical package for social science (SPSS) version 20. Finally, the overall conclusions that drown from the study results were presented below.

Concerning the first basic research question; the challenges that facing the ESLSE's freight logistics operation related to;

- Information communication Technology (ICT): there is absence of information and communication technology infrastructure in the enterprise to provide online information to the customers about on transit time, online booking service and online multimodal transport

rate as well as the information that disseminated by all sectors of ESLSE is not reliable and dependable for business decision which considered as challenge of “Software”.

- Dry port and Terminal Services: facilities, availability of equipment, capacity to accommodate all incoming and outgoing cargoes and manage of port were not well equipped with required loading and unloading equipment. This implies that, the enterprise has face challenges related to design and management of ports, terminals and transfer points, which is reflected as challenge of “Orgware and hardwere”.

- Inland Transport Services, the researcher conclude that the enterprise has no suitability of infrastructure to provide door to door inland transport services, enough logistics expertise, and expertise from related field. In the other hand, the enterprise has training center for the up grading of expertise. Therefore, it is possible to understand even though, that the enterprise has its training center; ensuring on time delivery of imported goods especially from Djibouti to dry ports and/or bonded warehouses remain a challenges which is also considered as challenge of “Orgware and hardwere”.

- Regulatory Aspects: Pertaining to strength of the surveillance system installed by the enterprise to ensure monitoring of rules violation in freight logistics system, and Exchange rate policy hinders the operation of enterprises.

- Customs’ facilitation in freight logistics Operation: readiness and willingness to facilitate goods clearing process timely, flexibility in the custom station to clear cargos from the station, and strength of existing coordination level between customs offices and ESLSE were not supporting the operation of freight logistics system as to the required level which is considered as external challenge facing the enterprise.

- Freight logistic Operation performance: even though, that the enterprise has good performance with respect to; measuring and evaluating customer satisfaction and safety and security practice of the consignment/ goods stuffing and transshipment of the enterprise, responsiveness of customer service, timeliness and dependability of shipment to designated

dry ports, resolution of Customer service complaints, environmental friendly Transportation of goods and Conformity of Storing freight goods with recommended storage guidelines were remain a challenges for freight logistics performance of the enterprise which can considered as challenges of “finware” and “ecoware”.

In general, the prevalence of poor inland transport facilities, lack of committed and ethically responsible professionals in operational areas, lack of port equipment and facilities, frequent interruption of communication networks, dry ports capacity limitation and extended customs goods clearing procedures were disclosed as the main challenges to system’s operation.

the prospects of ESLSE’s freight logistics operation to become more efficient and effective were rail road construction, Economic growth , Political stability, Technological development , Foreign direct investment, Being member of WTO were listed as potential prospects for the improvements of freight logistic performance of the enterprise in order to become more efficient and effective.

Concerning the third basic research question; measures need to take by government of Ethiopia in order to improve the services of fright logistic performance were possible solutions that they think helpful to get rid of those challenges which they stated above.

Most of them believe delivering continuous task oriented and ethical trainings for the existing employees and recruiting of professionals for new posts will improve the service quality of the new system at this level. Also they added that deployment of modern heavy trucks and latest port handling equipment and improvement of means of communication and building dry ports around Addis Ababa, periodical customer satisfaction measurement scheme, making the service customer focused and delivering service always in accordance with the rules, regulations and directives of the enterprise will have a vital role.

5.3 Recommendations.

Based on the above conclusions of the major finding, the researcher drowns as the main cause for these problems or challenges were related to;

- Inadequate Information communication Technology (ICT) support, in efficient management of dry port and Terminal Services, Policy and Regulatory problem,
- Lake of Custom facility,
- Inefficiency performance of freight logisticsoperations.

Thus, In order to, taking the necessary corrective action timely as well as exploit the possible solutions helpful to get rid of those challenges which they stated above; from the analysis made during the assessment, the study forwarded the following recommendations to be considered by concernedbody.

- There is a need of facing challenges of freight logistics service of the enterprises,
- Develop organizational and consolidation infrastructure and services to link producers (farmers) to consumers (market),
- Create managing body for efficient and effective goods flow in the network from producers to consumers,
- Support and encouragetransport companiesto build their capacity in terms of human resources, number of heavy trucks and better age of their trucks fleets, coordination of their services, and integration of their services,
- Warehouses and terminals are recommended to do value adding activities like consolidation, packaging, etc.
- Logistics service providers, forwarders, transitors, shipping agents and brokers need to be encouraged in terms of technical skills, human resources and finance,
- To give efficient and effective services for exporters/importers Customs Authority and National Bank of Ethiopia need to overhaul their services to expedite freight movement for the benefit of the country,
- As the infrastructure provider,Ethiopian governmenthas to invest the limited resources prudently on road, railway, dry ports and terminal infrastructures in line with intermodal transport requirements,
- Need further research on the logistics gaps identified and human resource needs in freight transport and logistics needs of the country.

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APPENDIX – I

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF COMMERCE
LOGISTICS AND SUPPLY CHAIN MANAGEMENT UNIT

Dear respondent,

First of all I would like to thank you for giving your precious time to fill this questionnaire. The objective of this questionnaire is to gather firsthand information that will help to assess the challenges and prospects of freight logistics in the case of Ethiopian Shipping and Logistics Services Enterprise/ESLSE/. This study is undertaken as a partial requirement for the completion of Masters of Logistics and supply chain management. Your highly esteemed responses for the questions are extremely important for successful completion of my thesis. The information that you provide will be used only for the purpose of the study and will be keeping strictly confidential. Please answer each question with no fear of consequence. No need of writing your name.I would like to thank you very much again for your cooperation and spending your valuable time for my request.

Part I: Background Information

Please put (✓) mark in *best represent you in the selected box* or *use the blank space for question requiring your exact answer and for the rest of questions.*

1.Gender: ☐ Male ☐ Female

2. Age: ☐ 18-30 ☐ 31-45 ☐ 46-60 ☐ Above 60

3. Current education level:

☐ Diploma ☐ BA degree ☐ Master Degree

☐ Above Master Degree

1. Work Experience:

☐ w 1year1 to 3 Ye ☐ 3 to 6 yea ☐ More Than 6 Yea ☐

2. What is your role at the company where you are working in or representing for?

Company Owner/importer ☐ Customs forwarder/Transitor ☐

Procurement Manager ☐ Staff ☐

Procurement Officer ☐

6. Where does your major foreign trade partners originate?

China and IndiaAfricaOth☐ntries ☐ ☐

Middle East and Far East Eu☐nd America ☐

Part Two: Questionnaires related to ESLSE Multimodal Transport System Operational Activities.

Instruction: indicate your degree of agreement or disagreement with the following statements by Mark "√" or "x" for the right hand side for appropriate number (1-Strongly Disagree; 2-Disagree; 3-Neutral; 4-Agree; 5-Strongly Agree).

	Statements	degree of agreement/disagreement				
		SDA 1	DA 2	N 3	A 4	SA 5
Information communication Technology (ICT)						
1	The enterprise provide customers information about freight transport rates online					
2	The enterprise provides customers information about how long it will take to get their cargo at their premise online					
3	The enterprise provide an online booking service forthe customers on continuous basis					
4	The communication system among ports is well integrated					
5	All the time the information disseminated by all sectors of ESLSE is reliable and dependable for business decision.					
6	Applying Warehouse Management Software for stock control					
Dry port and Terminal Services						
1	Accessibility of dry port and terminal facilities are well throughout the country.					
2	Availability of dry ports and terminals necessary equipment and facilitiesare good enough.					

	Statements	degree of agreement/disagreement				
		SDA 1	DA 2	N 3	A 4	SA 5
3	Dry ports and terminals have enough space and capacity to accommodate all incoming and outgoing cargoes even in peak periods.					
4	Dry port and terminal operations are well managed and efficient in their service.					
Inland Transport Services						
1	The current transport infrastructure is suitable to provide door to door MMT service					
2	Number of trucks the enterprise owned is enough to render effective and efficient transportation service					
3	The enterprise have enough expertise related with logistic like inventory managers, transport managers					
4	The enterprise have a training center for the expertise					
Regulatory Aspects						
1	The surveillance system employed by ESLSE for monitoring rules violation is strong					
2	The compliance system employed by ESLSE for monitoring rules violation is strong					
3	The Board of Directors (BoD) are good enough in supervising ESLSE's Multimodal transport activities					
4	Exchange rate policy hinders the operation of enterprises					
Customs' role in freight logistics operation						
1	The customs offices' readiness and willingness to facilitate goods clearing process timely is excellent					
2	There is flexibility in the custom station to clear cargos from the station					
3	The customs' goods clearing procedures well facilitate multimodal operation					
4	The existing coordination level between customs offices and ESLSE is strong					
Freight logistic Operation performance						
1	The customer service set up of enterprise operation is highly responsive.					
2	Shipments are brought to the designated dry ports timely and correctly.					
3	Customer service complaints are resolved by information & customer service division within short period of time.					
4	Enterprise Measure and evaluate customer satisfaction level					
5	Transportation of goods is an environment friendly manner					
6	The consignment/ goods stuffing and transshipment secured					

7	Storing freight goods according to recommended storage guidelines					
8	Storing freight goods according to recommended storage guidelines					

Part Three: Open ended questions related to freight logistics Activities.

1. State some of themajor challenges faced the ESLSE freight logistics services in your opinion based on your own experience?

   _____
   _____
   _____

2. What are the major prospects of freight logistics of ESLSE in order to provide effective and efficient logistics services that you think helpful to get rid of those challenges?

   _____
   _____
   _____

3. What you suggest for concerned body in order to take a corrective major against the facing challenges

   _____
   _____
   _____

Part Four: Interview questions related to freight logisticsfuture prospects.

1. From your past experience, please discuss about one or two most complex problems you faced freight logistics and what was your contribution to solve them.

2. How do we solve the current critical problem or what do you expect from the concerned body to involve and get permanent solution?

3. To bring improvements in future logistics, which Activities would we focus on?