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DEPARTMENT OF BUSINESS ADMINISTRATION

**Assessment of Factors Affecting Multimodal Transport
operation System in Ethiopian Shipping and**

Logistics Services Enterprise

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ID No: SGS/0271/2011A

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STATEMENT OF DECLARATION

I do hereby declare to the committee of St. Mary's University Schools of Graduate Studies that the work which was being presented in this thesis entitled "Assessment of Factors affecting Multimodal Transport operation System in Ethiopian Shipping and Logistics Services Enterprise" with the guidance and support of the research advisor was my own original work, that it has not been submitted partially; or in full, by any other person for an award of a degree in any other university or institution and that all sources of material used for the thesis have been duly acknowledged.

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ENDORSEMENT

This is to certify that Mr. Haile Ababu who carried out his research work on the topic entitled “Assessment of Factors affecting Multimodal Transport Operation system in Ethiopian Shipping and Logistics Services Enterprise” his original works and is meet for the submission for the award of Masters of business administration.

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28/12/20

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ACRONYMS

MTO	Multimodal Transport operator
MMT	Multimodal Transport
MTSO	Multimodal Transport System Operator
B/L	Bill of Lading
CFS	Container Freight Station
CONCOR	Container Corporation
CY	Container Yard
DEA	Data Envelopment Analysis
ERCA	Ethiopian Revenue and Customs Authority
ESLSE	Ethiopian Shipping and Logistics Service Enterprise
ICT	Information Communication Technology
MDG	Millennium Developmental Goal
RORO	Roll On Roll Off
TEU	Twenty Feet Equivalent Units
UNCTAD	United Nation Conference on Trade and Development

Abstract

The purpose of this study is to assess the factors that affect multimodal transport system in Ethiopian Shipping and Logistics Services Enterprise in relation to regulation, infrastructure, competency, and ICT and delivery performance. Primary data were collected from 85 employee and managements through interview. Out of the 90 questionnaires distributed all the 85 questionnaires were successfully returned back. Descriptive analysis method was used to calculate the outputs (i.e. mean and standard deviation) using the Statistical Package for Social Sciences. The findings of the research showed that the majority of customers were agreed to improve factors that affect multimodal transport system. Although the finding of the research indicated that the majority of the respondents were agreed on the improvement of multimodal transport system. Hence based on the findings of the research it is to conclude that restricted regulations, poor infrastructure, lack of competency, poor ICT or lack of all enterprise operations not supported by automated computerized system, inefficient custom clearance process and poor dry port facilities affected this sector. These challenges were found to be sources of increased transit time and cost increment. Though, the enterprise has been trying to solve the Multimodal transport system inefficiency problem step by step to upgrade the multimodal transport system.

Key Words: *Multimodal Transport operation System and ESLSE*

CHAPTER ONE

1. INTRODUCTION

The purpose of this study was to assess and identifies the factors that affect multimodal transport operation system of the Ethiopian Shipping and Logistics Service Enterprise. This research basically would focus on the issue of factors of multimodal effectiveness and customer satisfaction in Ethiopian Shipping and Logistics Services Enterprise to improve logistics service to customers. The study aims at identifying the problems in order to improve the efficiency of the enterprise in providing services to customers and contribute to the economy of the country.

1.1 BACK GROUND OF THE STUDY

The transportation system was one of the key drivers in trade logistics. In developed nations, businesses enjoy the best logistics and transportation professionals, systems, and infrastructure in the world. According to Wood, Donald F., Barone, Anthony P., Murphy, Paul R. and Wardlow, Daniel L., (2002) cited by Tilahun and Mekonnen(2016)Transportation costs were higher when dealing with shipping materials over long distances in international trade. Although several authors defined the International Multimodal Transport differently, the most authoritative definition of the term was defined by UNCTAD (United Nations Conference on Trade And Development), (2001) which reads as follows: “the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods were taken in charge by the multimodal transport operator to a place designated for delivery situated in a different country.

The multimodal transport operator was any person who on his own behalf or through another person acting on his behalf concludes a multimodal transport contract and who acts as a principal, not as an agent or on behalf of the consignor or of the carriers participating in the multimodal transport operations, and who assumes responsibility for the performance of the contract UNCTAD, (2001).

As stated in the Growth and Transformation Plan (2010/11–2014/15), Ethiopia was undertaking several development and investment initiatives of Government and cooperative sectors toward reducing poverty and to realize country’s transformation strategy. These plans not only require the availability of financial resources, but also the availability of adequately

integrated service providers and strong implementation capacities too. Accordingly, one of the objectives of Millennium Developmental Goal (MDG) was to expand competent marine and dry port and dry land transit services with an expected output of improved in export–import trade and quality of marine, dry land and multimodal transport service system at the end of Growth and Transformation plan. The government of Ethiopia has been implementing a Multimodal Transport System since January, 2012 to realize the MDG related to Multimodal Transport system. In this system, Ethiopian Shipping and Logistics Services Enterprise (ESLSE), a public enterprise, has taken this national responsibility to manage the Multimodal Transport system in transporting cargo from abroad which was explained on the profile of ESLSE. The Multimodal Transport System was a concept aimed at improving trading efficiency and to transform the relationship between trading partners and international carriers under a single liability system, leading to better command, control and co-ordinated transport system.

Multimodal transport systems was one means of facilitating efficient and cost effective logistics service , our country’s international trade was widely expected to benefit from the system. In line to this, the enterprise has been designated as a sole multimodal operator (MTO) in the country. Even though the enterprise beneficial applying this Multimodal transport systems but not more effective as expected from the sector due to different factors.

In this study, theoretical and empirical review of literature internationally and nationally related to multimodal transport system would be addressed. For the study, descriptive and exploratory research method would be used to describe and investigate in detail the operational situation properly by gathering data through primary and secondary sources.

The purpose of this study was to assess factors that affecting multimodal transport operation system in Ethiopian shipping and logistics service enterprise which may be used as bench mark for and pave the way for further research to be undertaken. In addition, the factors that were assessing in this study may help for policy makers, multimodal transport managers, government and nongovernmental organizations as to give attention on efficient and effective multimodal transport operators.

1.2 BACKGROUND OF ETHIOPIAN SHIPPING AND LOGISTICS SERVICE ENTERPRISE (ESLSE).

Ethiopian shipping and logistics service enterprise (ESLSE for short), formerly known as Ethiopian Shipping Lines S.C. and changed its name to Ethiopian Shipping & Logistics Services Enterprise in November 2011. Ethiopian Shipping & Logistics Services Enterprise was founded before 55 years ago in 1964 and was based in Addis Ababa Ethiopia. It was established by the Ethiopian government jointly with American company named Towers Investment from the District of Colombia, U.S. and with the Dutch management team. Ethiopian Shipping Lines was the only national shipping carrier which competes with other international carriers. In the beginning three ships were built in Holland. The first three ships were called Queen Sheba, Lion of Judah and Lalibela and the operation was launched in 1966.

ESLSE in 2011 merging the former three public enterprises that have been operating separately in a rather similar and interdependent maritime sub-sector; namely, Ethiopian Shipping Lines S.C, Maritime and Transit Services Enterprise and Dry Port Enterprise and finally Comet transport S.C transferred in to ESLSE in 2014. The first three newly amalgamated enterprise came into being following the issuance of Regulation by the Council of Ministers (Regulation No. 255/2011), and was vested with the huge responsibility of rendering sea-transport & logistics services to the country's importers, exporters, and investors in a more effective and efficient

1.3 ESLSE'S RENDER SERVICES

1.3.1 MAJOR SERVICES PROVIDED BY SHIPPING SECTOR

Sea Transport Services: The main focus of the Shipping Sector of ESL was to provide Coastal and International Marine Transport services to and fro Djibouti Port, through the Ports of: Gulf and Indian sub-Continent, China, Korea, Japan, Singapore, South Africa, and Indonesia. The Shipping Sector provides uninterrupted sea transport service in and around the above ports with own ships as well as via slot chartering of major global carriers. Agency Services: ESL's Shipping Sector branch office, at city and port of Djibouti makes prompt notification to port authorities, whenever its own ships as well as other principal ships call to port and process all due formalities. It makes all the necessary provisions available for the ships and their crew. It prepares timely notifications for importers, and facilitates seamless flow and recollection of containers at Djibouti port. It also provides booking and canvassing services for huge amount of Ethiopian export goods destined to various parts of the world.

Stevedoring: ESL was one of the major stevedores in the port of Djibouti that provide efficient loading and discharging service of import and export cargoes, by making use of modern port equipment. In this case, ESL discharges various types of import cargoes from ships. It also renders stuffing service, thus facilitating the loading of cargoes for shipment. It also avails needed containers timely and expedites the recollection of empty containers to carriers.

Shore handling: This service includes safe storage of discharged cargoes from vessels in Djibouti Port until they have been transported to their destination in the country. ESL's Djibouti Branch offers coordinated and efficient shore handling services with its CLT (Container Lifting Trucks), trucks, truck trailers, tractors and forklifts of various capacities. Cargoes under ESL's custody were handled with care and with maximum discharging and dispatching rates. In case of bulk cargoes and other containerized goods, a quick direct delivery service was provided with minimum transit time. In this manner a number of gangs were operated in all the three shifts throughout the day.

1.3.2 SERVICES PROVIDED BY FREIGHT FORWARDING SECTOR

The Freight Forwarding Sector of the Enterprise was mainly concerned with multimodal and uni-modal service provisions of import and export cargoes. Multimodal transport service: Essentially, this was a door-to-door cargo service with SAD (single administrative document) from the point of origin to the point of destination. In ESL's case, the cargoes were shipped all the way from the port of their origin via Djibouti port and finally to Modjo Dry Port as well as other inland ports. Therefore, ESL as official Multimodal Operator /MTO/, takes all possible care to the cargo under its custody, as of the time the shipment was confirmed and ordered. Unimodal transport service by contrast involves one mode of transportation, i.e., sea, rail or road, or air freight of cargo. Here services were disintegrated, with many operators and agreements involved. In ESL's case, the unimodal service ends at port of Djibouti, after which the consignee would choose his/her transitor and/or transporter and enter agreement with to receive cargo in the hinterland of the country. Customs and port clearing: Introducing time saving and reliable documentation process, ESLSE accomplishes, with utmost care, port and customs formalities and enables imported/exported cargoes to arrive at appropriate destination. ␣Trucking: ESL was equipped with modern heavy trucks with the objective of speeding up transportation of freight from Djibouti to inland ports or other designated destinations and vice versa. In this regard, ESL originally had 60 heavy duty trucks with a total lifting capacity of 2400 tons of dry cargo at a

time. Its recently transferred company, Comet Transport SC, runs around 205 heavy duty trucks of its own. With Comet now merging with ESL, the Enterprise's (ESL's) present fleet size has risen to 265. o Besides, last June, ESL and Comet jointly entered into Agreement Contract with Renault Trucks for the supply of 215 brand new heavy duty trucks by early 2015. This would soon raise the land fleet capacity of ESL to 480 trucks. o Apart from its own trucks, ESL sub-contracts all the necessary trucks for direct or consolidated cargo delivery from private and public transport operators.

1.3.3 SERVICES PROVIDED BY PORT & TERMINAL SECTOR

It was essential that all imported goods have to timely serve the purpose they were intended for. They should reach the ultimate user at the right time. However, just before the import cargoes were supplied to the desired clients, they should be safely kept and processed in the dry ports. The Port & Terminal Sector of the Enterprise was a point of destination to Ethiopia's imports and a point of consolidation for exports, where goods were loaded and unloaded; customs formalities were completed; goods were temporarily stored, stuffed and un-stuffed, made ready for transport, and dispatched to their final destinations. Major services delivered in Port and Terminal Sector includes: Receiving and delivering cargoes, loading and unloading, Stuffing and un-stuffing of container goods, temporary storage for import and export cargoes, Container cleaning and maintaining, Weight bridge, Costumes control and clearance. The Enterprise endeavors to make these services more efficient and convenient to importers and exporters and play a crucial role in the logistics value chain.

1.4 STATEMENT OF THE PROBLEM

According to Tessema (2017), Major challenges in the MMT system was absence of integrated ICT, shortage of qualified logistics personnel, absence of enabling environment and custom facilitation. However, the finding identified future Railroad construction; technological development; rate of fast economic growth of the country; Political stability; current and future programs of improvement in the infrastructure as prospects for the improvement of multimodal transport system implementation.

On contrary to the above national objectives, there were symptoms of Multimodal Transport System inefficiencies as studies and media shown. It has become open for complaining. According to Fekadu(2013), from the assessment made about Logistics practice in Ethiopia, he summarized in his study that Ethiopian logistics system was characterized by poor logistics management system and lack of coordination of goods transport, low level of development of logistics infrastructure and inadequate fleets of freight vehicles in number

and age, damage and quality deterioration of goods while handling, transporting and in storage. Following from the analysis made during the assessment, he recommended that there was an urgent need for research on the logistics gaps identified, and human resource needs in freight transport and logistics needs of the country.

According to World Bank report, 2018, Ethiopia's relative ranking in the World Bank Logistics Performance Index upgraded from 141 in 2012 to 131 in 2018 (out of 167 countries surveyed). The recent introduction of the Multimodal system, in particular, has stimulated substantial public debate. The sole MTSO (Multimodal Transport System Operator), ESLSE, was currently overwhelmed with the task at hand. There was a serious congestion problem in the dry ports; there was a problem of clearance finishing for import and export goods in Djibouti port and there was also transportation delay from Djibouti to Ethiopia. These all problem resulted in extensive operating costs, demurrages costs and storage costs for ESLSE.

In Ethiopia the issue of multimodal transport system operation performance was unseen by many researchers. This shows that even though the concept of multimodal transport system now being expanded in the country, but still ignored by the academic field of study as the area of research. Thus, given the emphasis to this issue have important role of multimodal transport system to the entire economy of the country; it was well-intentioned to study factors that affect multimodal transport system operations.

As a result, multimodal transport system operation has many impacts and proposed aim of this paper was an investigation of the existing practice and the factors that affect multimodal transport system in case of Ethiopian Shipping and Logistics Service Enterprise (ESLSE).

1.5 RESEARCH QUESTIONS

The present study was designed in order to find answers to the following research questions:

1. How was the existing multimodal transport operation system working at Ethiopian Shipping and Logistics Service Enterprise?
2. What were the internal and external factors that affect multimodal transport operation practice in Ethiopian Shipping and Logistics Service Enterprise (ESLSE)?
3. What was the magnitude of influence internal and external on multimodal transport operation system?

1.6 OBJECTIVE OF THE STUDY

1.6.1 GENERAL OBJECTIVE

The general objective of the study was to assess the Factors which were affecting Multimodal Transport operation System in Ethiopian Shipping and Logistics Services Enterprise

1.6.2 SPECIFIC OBJECTIVES

1. Assess the existing multimodal transport operation system in Ethiopian Shipping and Logistics Service Enterprise.
2. Identifying the internal and external factors that affect multimodal transport operation system in Ethiopian Shipping and Logistics Service Enterprise.
3. Identifying the magnitude of influence (factors) on multimodal transport s operation system in Ethiopian Shipping and Logistics Service Enterprise.

1.7 SIGNIFICANCE OF THE STUDY

The outputs of this study would be vital importance because of the inefficiency of trade logistics of the country and it was expected to help the ESLSE to identify the key factors in the operation of the services. The policy makers, academicians, researchers, and potential service users who directly or indirectly involve in the trade logistics would be benefited from this study if they make use of the outcome. This research use for policy makers as a guidelines or reference as well as supportive source to regulate in transportation sectors. This study supports the academicians as reference regarding to transportation sectors.

1.8 SCOPE OF THE STUDY

Ethiopian shipping and logistics enterprise was the result after the merging of four independently working enterprises and it's vested with a huge responsibility of rendering sea transport and logistics service to the importers and exports. The government of Ethiopia has been committed to implement multimodal transport operation system since 2012 to realize the millennium development goals. Ethiopian shipping and logistics service enterprise has taken this national responsibility to manage the system efficiently and effectively. Therefore, the scope of the study in this research was Factors affecting multimodal transport operation system in Ethiopian shipping and logistics service enterprise, and we use descriptive research type were methodological scope for this study.

1.9 LIMITATION OF THE STUDY

This research aims at assessing the key factors of Multimodal Transport operation System in Ethiopian Shipping & Logistics Services Enterprise. The researches would have limited to identify inland transport factors rather than identifying the sea transport in addition import trade rather than export trade.

For such study, secondary data found in Ethiopian Shipping and Logistics Service Enterprise were not sufficient to undertake the study, this can be considered as a limitation as it could be difficult to get primary data in detail related to multimodal transport operation system. and also the study have some limitations concerning with area limitation and methodology that apply for the study the researcher may use only questionnaire ,interviews which was not include focus group discussion in acquiring primary data due to treat of unwillingness of operational team supervisory for not giving their time for discussing with everyone at a time.

CHAPTER TWO

2. REVIEW OF RELATED LITRETURE

2.1 INTRODUCTION

This section outlines review of relevant literature related to the current study proposal. A literature review was the description of the literature that was relevant to a particular field or topic of our interest. Therefore, Literature review of this study include written documents attempting to describe, summarize, evaluate, clarify and/or integrate the content related to Factors affecting multimodal transport operation system in Ethiopian shipping and logistics service enterprise. Thus the study tries to make seek out reliable sources such as reputable academic journals, books and other scholarly works and look for the most recent information relating to the topic of this research. To present this literature review the study organizes in to two major parts as theoretical, empirical literature.

2.2 THEORETICAL LITERATURE REVIEW

2.2.1 CONCEPT OF MULTIMODAL TRANSPORT SYSTEMS:

Definition Multi modal transport means the carriage of goods by at least two different modes of transport on the basis of the multimodal transport contract from place of origin to place of destination at which the goods were taken in charge by the multimodal transport operator.

The Multimodal Transport concept can be defined as the combination of various types of transport modes used in a national or international transport operation, which provides door-to-door services, under the responsibility of one single transport operator (UNCTAD, 2001). The Multimodal Transport“ terminology was first coined by the United Nations Convention on Trade and Development (UNCTAD) on International Multimodal Transport of Goods in 1981, which authoritatively defines the term as the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods were taken in charge by the multimodal transport operator to a place designated for delivery situated in a different country (UNCTAD, 1981).

2.2.2 DEFINITIONS OF MULTIMODAL TRANSPORT

According to Bui Thi Bich Lien.(2011) at first, multimodal transport developed in Western Europe, America and Canada and Asia after that. In the 1960s and 1970s multimodal transport did not have any chance to develop because of limitations in technological conditions, organization and especially in regulation among countries and regions. However, in the 1980s when the United Nations Convention on the International Multimodal Transport of Goods was

adopted, there were more and more actors joining in: national Multimodal Transport Operators, train stations, port authorities, institutes and insurance companies. From that time, there were many conferences and workshops about the development of multimodal transport.

Containerization covered both inland and ocean transport and the advantages of containers were reducing of handling time and the convenience for development of intermodal and Trans modal operations. Multimodal transport was born as a prerequisite for the development of logistics service. It also means that shippers or logistics providers want to find suitable modes to transport cargoes to save costs, but still assure the quality of the service provided. Bui Thi Bich Lien. (2011).

Definition Multi modal transport means the carriage of goods by at least two different modes of transport on the basis of the multimodal transport contract from place of origin to place of destination at which the goods were taken in charge by the multimodal transport operator. Association of Southeast Asian Nations (ASEAN) 2014

The Multimodal Transport concept can be defined as the combination of various types of transport modes used in a national or international transport operation, which provides door-to-door services, under the responsibility of one single transport operator (UNCTAD, 2001).

Multimodal transport was defined as a system in which only one Multimodal Transport Operator (MTO) was responsible for transport activities. In a research of D'Este (1996), he gave a theory with five components of multimodal transport that the MTO managed and co-ordinated in door to door services. (D'Este, 1996)

According to Bui Thi Bich Lien.(2011) Containerization was born in the 1950s and has grown consistently since then leading to the modern concept of multimodal transport that includes the cargo delivery systems “port to port”, “Container Yard to Container Yard” and “door to door”.

Containerization was born as a prerequisite for multimodal transport to develop. Multimodal Transport can be viewed as “the chain that interconnects different links or modes of transport - air, sea, and land into one complete process that ensures an efficient and cost-effective door-to-door movement of goods under the responsibility of a single transport operator, known as a Multimodal Transport Operator (MTO) and on one transport document”. (Al-Muhaisen, 2005)

2.2.3 REQUIREMENTS FOR MULTIMODAL TRANSPORT

The use of multimodal transport implies overall structural changes covering new trade and transport practices. Various measures were needed to implement multimodal transport, from the streamlining of commercial regulations to the development of transport infrastructure. The

upgrade of three main elements was necessary for an efficient multimodal transport system. These elements were commercial practices, administrative requirements and transport infrastructure (Banomyong, 2000).

Dewan M.Z. Islam, J. D. (2006) described successful implementation of multimodal transportation requires government coordination, technology, infrastructure, information system and knowhow of logistics management theory and practices.

2.2.4 THE ROLE OF ICT IN MULTIMODAL TRANSPORTATION

Information and communication technology (ICT) was today radically changing the way in which international trade and transport were conducted. Electronic means of communication were used to exchange information, enter into contracts and trace goods during transit. Transport users and providers were using them internally and also to exchange information among them. A successful example of the use of ICT in developing countries was the Advance Cargo Information System (United Nations Conference on Trade and Development, 2003).

2.3 EMPIRICAL LITERATURE REVIEW

The development of trade not only within the country but also between countries all over the world has led to door to door services becoming more and more popular. Multimodal transport was one of the most significant tools to help multimodal transport operators provide door to door service. While multimodal transport in the world developed from the 1950s with the establishment of containerization. In Vietnam, multimodal transport was still in the first stage because the government has not invested enough money to improve the infrastructure serving for multimodal transport and enterprises were not good enough to take a risk with multimodal transport service. Therefore, in this chapter the author wants to introduce the multimodal transport system in Vietnam and give some comments about the advantages and disadvantages for the future development of this system.

According to (Amentae,T.k. and Gebresenbet,G., 2015)Customer satisfaction level were measured with five parameters, delivery, liability and insurance, documentation, cost and facilitation on multi modal service performances. The result indicated that majority of the customers were not satisfied with many of the service performances.

The top three key challenges of Multimodal Transport System were the challenges of network connectivity, the problem of ICT usage at each and challenges of railways physical infrastructure ranked first, second and third respectively the research held by (Lemmi T.,Bogale M., 2016)

Practices and challenges of Multimodal transport operation in Ethiopian Shipping Logistics Services Enterprise were study by (G.Tagel, 2014), he conclude that customer expectation and the services rendered were not much. Awareness about multimodal transported system has not created to the customers as well as to the new employees.

2.3.1 ENABLING ENVIRONMENT FOR MULTIMODAL TRANSPORT

Dewan M.Z. Islam, J. D. (2006) described that government must ensure simple and flexible customs procedures to allow door-to-door movement of containerized cargo. Customs authorities have to develop a system or procedure to facilitate such movement. In their findings there was consensus that procedures such as arranging guides and the bonded warehouse system have restricted effective door-to-door delivery, as it has the outdated attitude of distrust in the customs client relationship. Introduction of Automated System for Customs Data (ASYCUDA) was improving the customs clearance system, but procedures should be simplified to facilitate quicker clearance of consignments (UNCTAD, 1996).

To achieve an efficient multimodal system demands a concerted and integrated effort by all parties involved (Razzaque, 1997.) There was collaboration between different types of carrier in different forms ranging from conference agreements to strategic alliances and vertical to horizontal (Panayides, 2001).

From a policy viewpoint the critical feature was that logistic were the primary concern of the firm which was where the trading off has to take place. Moreover, the very complexity, and situation specific nature of the trade- offs means that it was only the firm which can determine what was the best arrangement. Hence the role of the state must not be to decide what the best arrangement of transport for firms is, but merely to facilitate the actions of firms in making those commercial arrangements in a way which recognizes the social as well as the private costs of those decisions. It seems to me that it was on that basis alone that the public agenda should be founded (Gwilliam and Ken, 2009).

2.3.2 INFRASTRUCTURE ROLE IN MULTIMODAL TRANSPORT

Where transport infrastructure was poor, the development of multimodal transport may not be easy. In order to be able to gain maximum benefit from multimodal transport, infrastructure that was capable of handling containers must be in place, Banomyong, (2000). Multimodal transport requires efficient transport systems supported by efficient infrastructural and institutional facilities so that goods move smoothly, safely and rapidly from door to door.

The major infrastructural facilities include railroads, roads, airports, seaports, inland container depots and container freight stations (Sanders, 1990). Containerized cargo also requires less but better qualified personnel in ports, where reforms were still pending in many developing countries (Nassoro (2011).

It further requires port, rail and road infrastructure, as well as the corresponding regulations and labor regimes. In many developing countries, particularly least developed countries, these inland links were often incomplete and poorly maintained. This was one of the main practical obstacles to transport providers offering multimodal transport (UNCTAD, 2003). Multimodal was a quality indicator of the level of integration between different modes: more multimodal means more integration and interconnectivity between modes, which provides scope for more efficient use of the transport system.

2.3.3 IMPERICAL EVIDENCE OF MULTIMODAL TRANSPORT IN ESLSE.

Below table shows annual report of 2017/2017 multimodal transport operation performance of Ethiopian shipping and logistics service enterprise in table 2.1

Table 2.1 2017/18 ANNUAL PLAN OF MULTIMODAL TRANSPORT OPERATION PERFORMANCE.

No.	Function	Measurement	Planning	Budget Year performance	Comparison Percentage	Last year performance	Comparison Percentage
1.	Increasing the volume of container transport	TEU	189,899	173,892	92%	179,169	97%
1.1.	□ Delivery to a dry port,	TEU	170,910	163,736	96%	168857	97%
1.2.	□ delivery bonded warehouse	TEU	18,917	10,175	54%	18394	55%
2	RORO transporting (less than 3 tons vehicle)	Number	18,759	6,902	37%	9464	73%
3	Opening container operation	B/L	54,256	42,056	78%	48,401	87%
4	Opening RORO operation	B/L	7,818	2,298	29%	3,518	65%
5	Improving transport Vehicle Supply	Number	96,828	80,449	83%	95,976	84%
6	Preparing Freight Invoices:	Box	135,644	148,558	110%	148,971	100%
7	Preparing a Deposit Return	Box	108,517	133,307	123%	124,436	107%
8	Releasing deposit Guarantee	Document	43,276	33,219	77%	38,662	86%
9	Transportation Payment Preparation	Number	240,739	225,658	94%	245,015	92%
10	transport Vehicle Frequency for Djibouti corridor	Frequency	4.17	2.21	53%	2.69	82%
11	Occurrences of risk	Number	0	333	0.41%	276	121%

Source: Freight forwarding sector annual performance report (ESLSE, 2017/2018)

2.4 RESEARCH FRAMWORK

Based up on the review of literature the researcher has identified the basic requirements for effectively and efficiently implementation of multimodal transportation system. These were information technology, infrastructure, human resource, national peace and security, Operational bureaucracy, currency and other stockholders.

2.5 CONCEPTUAL FRAME WORK OF MULTIMODAL TRASPORT SYSTEM

The below conceptual frame work shows the activities of multimodal transport operation systems in this paper. Based upon the literature review the researcher has identified the basic factors of the multimodal transport system of Ethiopian Shipping and Logistics Service. The model connects all the theoretical concepts together which ultimately represents the below conceptual framework. The theoretical model is aligned with the research questions; the model emphasizes the factors that affect multimodal transport operation system and the network of partners shows how to affect multimodal transport system. The factors are: Regulations, infrastructure, ICT, competency and delivery performance. On the other hand, solving and improving the above factors means minimizing cost, time and document burden reduction and increase customer satisfaction in multimodal transport system.

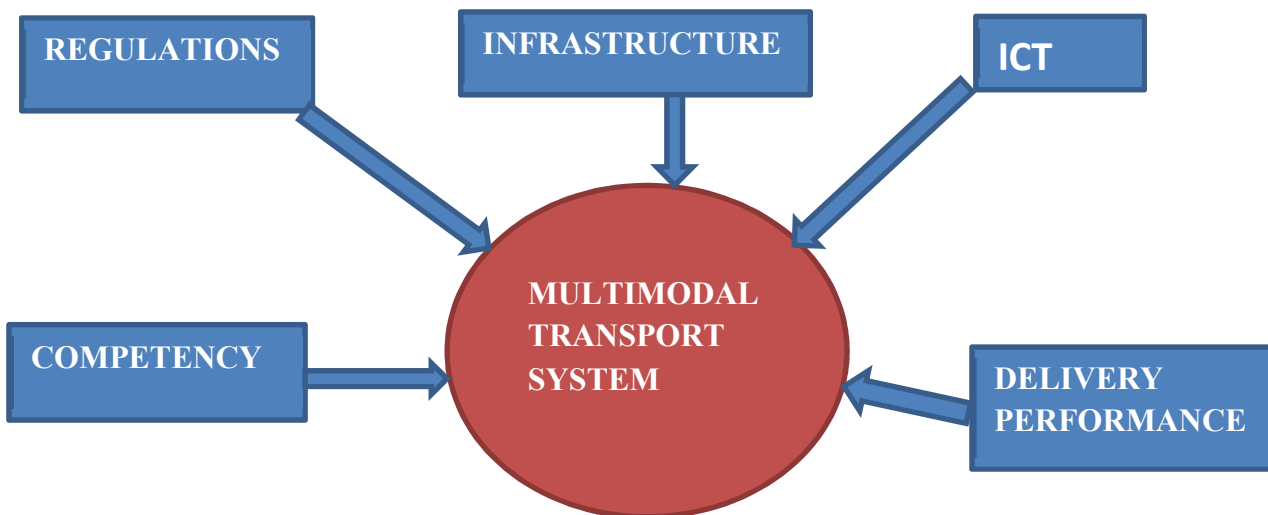


Fig.2.1.Source: <https://www.google> conceptual framework of multimodal transport system (Modified by the Author)

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter devoted to presenting the research methodology employed in the present study. It describes research approach, design, target population, sampling techniques and the sample size. In addition, it presents data collection methods employed in the study and rationale for employing these techniques methods of analysis. Hence, for the purpose of this study the researcher use those identified variables and collect the data on those researches were on factors that influence multimodal transport operation by users.

3.2 RESEARCH DESIGN

3.2.1 RESEARCH APPROACH

The study would utilize both quantitative and qualitative research approach to give answer for the research question. The reason for utilizing quantitative research approach was to identifying facts of the existing multimodal transport system in case of Ethiopian shipping and logistics service enterprise and Qualitative research approach for gathering opinions, perception feelings and detail operational information from the respondent.

3.2.2 RESEARCH DESIGN

In this study descriptive research may use to describe systematically to assess factors affecting multimodal transport operation system and Explanatory research to involve individuals with different types of expertise related to multimodal transport system who has knowledge of an issue at an appropriate level of details and who was capable of communicating their knowledge in this study to get reliable information and to collect key factors that affects multimodal transport system. The research strategy in this study was case study research strategy. Case study research strategy was a procedure in quantitative research in which researchers administer a survey to a sample or to the entire population of people to describe the attitudes, opinions, behaviors, or characteristics of the population.

3.3 POPULATION AND SAMPLE DESIGN

3.3.1 POPULATION

Employees of Ethiopian shipping and logistics service enterprise were the population for this study. According to data obtained from Ethiopian shipping and logistics service enterprise there were 3500 permanent employees out of which 90 taken as employees of

multimodal operation workers in the enterprise, those populations were run the activities of multimodal transport operation system directly or indirectly would selected for special interview this makes the data reliable obtained from them.

3.3.2 SAMPLING FRAME

The sampling frame was in accordance with the level of importance from the selected population for the study. Therefore, sample frame for the study would list of multimodal transport system operation employees in the enterprise.

3.3.3 SAMPLING UNIT

Sampling units can be taken from sampling frame. It would be multimodal transport system operation employees, others private land transport organizations, rail transport enterprise, customs clearing, and forwarding agent representatives and multimodal transport operation managers.

3.3.4 SAMPLING TECHNIQUES AND SAMPLING PROCEDURES

The population for this study would be ESLSE in multimodal transport system operation employees, others private land transport organizations, rail transport enterprise, customs clearing, and forwarding agent representatives and multimodal transport operation department managers. Therefore, probability sampling with simple random sampling technique would be used to get information from employees of ESLSE in multimodal transport operation department. Non- probability sampling with purposive sampling technique apply for interview of others private land transport organizations, rail transport enterprise, customs clearing, and forwarding agent representatives and multimodal transport operation department managers.

3.3.5 SAMPLING SIZE

Given the lesser heterogeneity of the population, the researcher believes that it was possible to capture the representative data from a reasonable sample size. Yeman (1967) provides a simplified formula to calculate sample sizes. The formula would use to calculate the sample sizes of Ethiopian Shipping and Logistics Service Enterprise.

$$n = \frac{N}{1 + N(e)^2}$$

Where,

N=total population

n=sample size from the population

e=the level of perception

The formula was being applied to select sample size from the total population of Ethiopian shipping and logistics service enterprise

$$n = \frac{90}{1 + 90(0.05)^2}$$

$$n = 85$$

3.4 SOURCE OF DATA

In order to meet the objectives of the study, data would be collected from primary and secondary sources. The respondent from the questionnaire categories for primary source were the workforce of multimodal transport department in Ethiopian Shipping and Logistics Service Enterprise (ESLSE), multimodal managers, customers, customs clearing and forwarding agents. In addition to the primary sources of data, the researcher would also utilize secondary data related to the multimodal transport operation and it can be collected from the enterprise publication and reports.

3.5 METHODS OF DATA COLLECTION

Data would be collected using questionnaires based on Likert Scale for collecting quantitative data.

Interviews would be used for collecting qualitative data from key informants through purposive sampling technique from, multimodal transport operation department managers of Ethiopian Shipping and Logistics Service Enterprise (ESLSE), customs clearing manager and forwarding agent managers and Dry Port Manager.

Observation would be for capturing what was happening and what respondents would miss. Such observation would help to get firsthand information and would involve observing and taking photographs of the study area to describe and provide visual data to the study.

3.6 METHOD OF DATA ANALYSES AND PRESENTATION

For quantitative data, the researcher would use standard statistical software called statistical package for social science (SPSS) for data entering and data would be analyzed by using descriptive statistics. The respondents would be asked a five point Likert Scale questions on which they were expected to rate their level of agreement and interviews would be held from multimodal transport operation department managers of ESLSE, customs clearing manager and forwarding agent managers and Dry Port Manager. Whereas data collected from primary and secondary sources would be presented by tables, figures, graphs and charts. In general both primary and secondary data would be organized and presented by statistical tools, according to the type and nature of the collected data.

CHAPTER FOUR

4. RESULTS, DICUSSION AND INTEPRETATION

4.1 GENERAL OVERVIEW OF THE DATA

The survey was to assess the Factors that Affect Multimodal Transport System: The Case of Ethiopian Shipping and Logistics Services Enterprise. To find out the effectiveness of multimodal transport system, 90 questionnaires was prepared and distributed to the multimodal transport operation department employee of Ethiopian Shipping and Logistics Service Enterprise. Furthermore the researcher also used secondary data to combine the results.

In this study both descriptive statistic were used to analyze the data. The descriptive statistics utilized in this research, describe the respondent's characteristics with mean score, standard deviation and percentages. Moreover, based on the findings recommendations were forwarded. The discrete variables (dependent and independent) were available in the dataset. Analysis of the data is presented below:

Table 4.1Number of questionnaire distributed and collected

Questionnaires	Respondents	
	Number	Percentage
Release questionnaires	90	100
Returned	85	94
Not returned		6

Source: My own Survey Questionnaire, 2020

As it is stated in the table 4.1, for 90 respondents, questionnaires were distributed and 85 were returned. This makes the response rate 94%. The time of data screening for exactness and completeness no questionnaire was found to be unworkable, the reason behind was the respondents were given enough time to reply all parts and items completely. 5 questionnaires were not returned

4.2 ANALYSIS OF DESCRIPTIVE STATISTICS

4.2.1 DEMOGRAPHIC OF RESPONDENTS

This part discusses demographic of the respondents" such as Age, Gender, Education Background, work Years stayed at the organization/Experience and Job title.

Table 4.2 Age of questionnaire distributed and collected

Age				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid < less 25 years	12	14.1	14.1	14.1
> 26 years and < 30 years	22	25.9	25.9	40.0
>31 years and < 35 years	30	35.3	35.3	75.3
> over 36 years	21	24.7	24.7	100.0
Total	85	100.0	100.0	

Source: My own Survey Questionnaire, 2020

The above table 4.2 shows the age background of respondents and it shows 14 percent respondents were under age of 25 years, 26 percent respondents were the age of above 26 and under 30 years, 35 percent respondents were the age of above 30 and under 35 years and the remaining 25 percent respondents were age of above 36 years respectively.

Table 4.3 Gender of questionnaire distributed and collected

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	43	50.6	50.6	50.6
Female	42	49.4	49.4	100.0
Total	85	100.0	100.0	

Source: My own Survey Questionnaire, 2020

As shown in the above table4.3 gender respondents and it shows 51 percent respondents were male and the remaining 49 percent respondents were female.

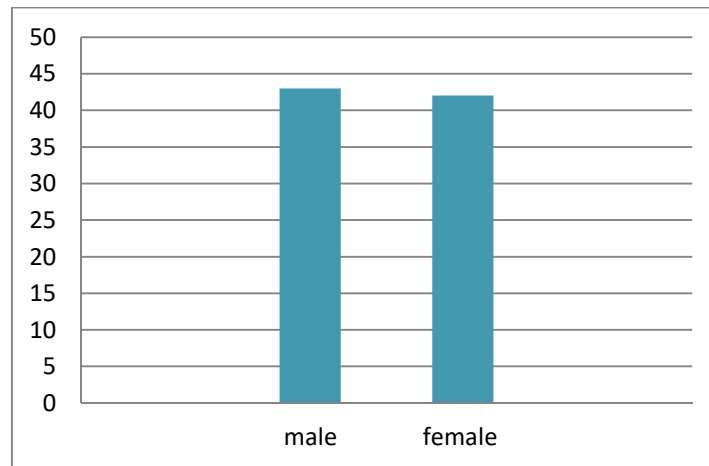


Fig 4.1 Gender distribution

Table 4.4 Education Background of questionnaire distributed and collected

Education Background					
		Frequency	Percent	Valid Percent	Cumulative Percent
valid	College Diploma	5	5.9	5.9	5.9
	First Degree	65	76.5	76.5	82.4
	Second Degree and Above	15	17.6	17.6	100.0
	Total	85	100.0	100.0	

Source: My own Survey Questionnaire, 2020

The above table 4.4, the educational background of respondents and it shows 5.9 percent respondents were college diploma, 76.5 percent first degree holders, the remaining were 17.6 percent respectively were master degree holders.

Fig 4.2 Education background distribution

Table 4.5 Experience of questionnaire distributed and collected

Years stayed at the organization/Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<2 years	5	5.9	5.9	5.9
	>2 years and <5 years	15	17.6	17.6	23.5
	>6 years and 10 years<	35	41.2	41.2	64.7
	> above 10 years	30	35.3	35.3	100.0
	Total	85	100.0	100.0	

Source: My own Survey Questionnaire, 2020

As shown in the above table 4.5, 6 percent of the respondents have been doing for less than two years in multimodal transport system, 18 percent of the respondents have been doing for more than 2 years and under 5 years, 41 percent of the respondents have been doing for more than 6 years and under 10 years, . The rest 35 percent of the respondents have been doing for more than 10 years in the enterprise respectively.

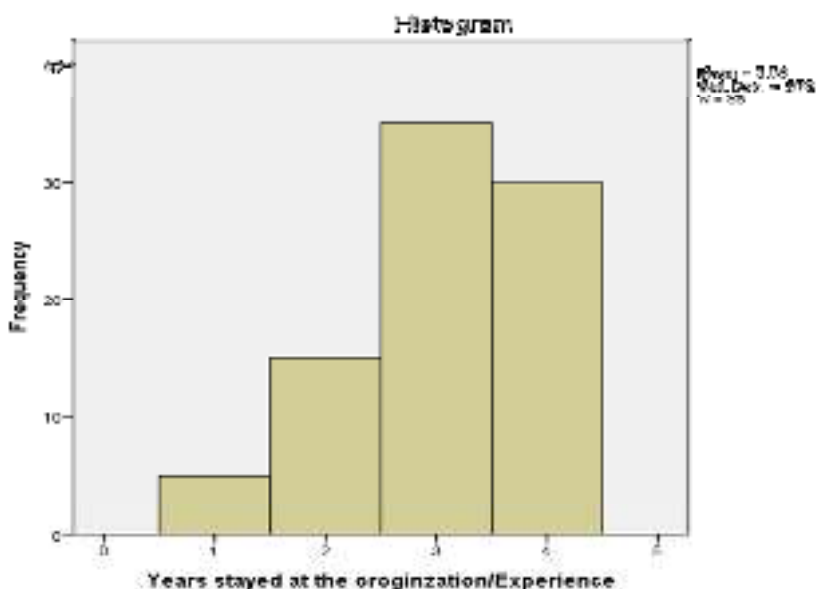


Fig 4.2 job experience

Table 4.6 Job Title of questionnaire distributed and collected

		Job Title			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Junior officer	29	32.2	34.1	34.1
	Officer	39	43.3	45.9	80.0
	Senior Officer	12	13.3	14.1	94.1
	Division Head	4	4.4	4.7	98.8
	Director	1	1.1	1.2	100.0
	Total	85	94.4	100.0	
Missing	System	5	5.6		
Total		90	100.0		

Source: My own Survey Questionnaire, 2020

As in the above table 4.6 shows, 34 percent of the respondents were junior officer, 46 percent of the respondents were officer, 14 percent of the respondents were senior officer, 5 percent were division head and the remaining 1 percent of the respondents was directors respectively.

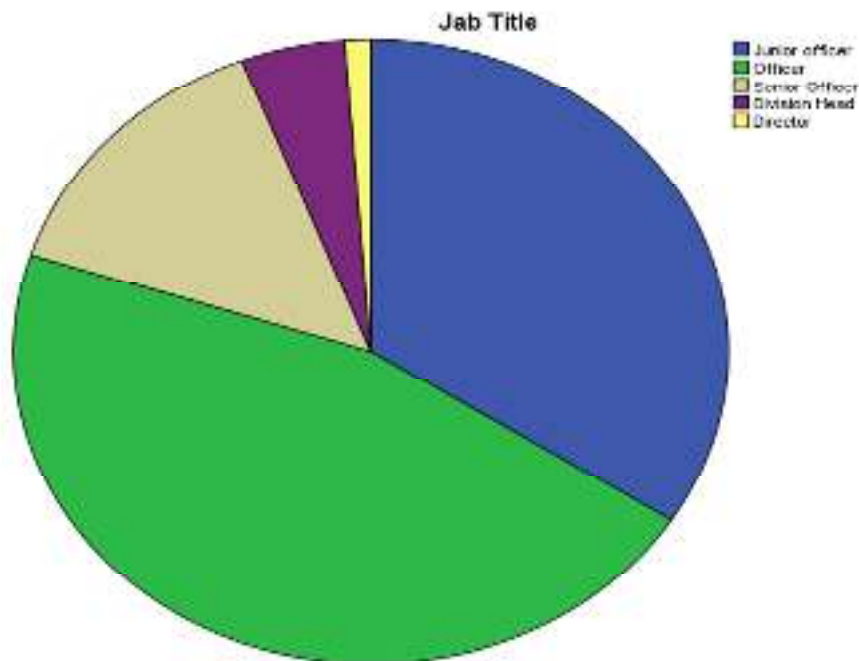


Fig 4.3 job title

4.2.2 MULTIMODAL TRANSPORT REGULATION

The multimodal transport system challenged by strict government regulations, the Ethiopian Ministry of Transport issued a Multimodal Transport Implementation Directive effective as of January of 2012. This old directive requires all government owned shipment to be transported by the Ethiopian Shipping and Logistics Enterprise and to be delivered to dry ports and warehouses recognized by the Ethiopian Revenues and customs Authority. The directive also instructs vehicle shipments of more than three tons to be delivered to dry ports and warehouses. Private importers with Letters of Credit from State banks are similarly expected to deliver container shipments to ERCA dry ports and warehouses according to the directive. State banks will organize a directive to organize Letters of Credit for vehicle importers taking delivery of their shipment at dry ports. It is expected that the directive will reduce the foreign currency spent on warehousing fees at Port Djibouti by streamlining shipment processing according to officials. The directive allows for a monopoly of the multi modal system by the ELSE until private operators are licensed. These directives fall under multimodal transport regulations and harm the multimodal transport sectors. Because, the sector would be open for private multimodal operators. One of the most important advantages of using multimodal transport system is to maintain cargo safety and security.

Table 4.7 frequencies of Multimodal transport Regulation

Variables	Scale	Percentage	Mean
Multimodal transport systems are too restricted for bulky goods.	Disagree	2.4	3.81
	Neutral	43.5	
	Agree	24.7	
	Strongly Agree	29.4	
Containerization enhances the multimodal transport systems performance.	Agree	50.6	4.49
	Strongly Agree	49.4	
The present ethnic's conflict and security problem has barrier for multimodal transport system.	Neutral	1.2	4.49
	Agree	48.2	
	Strongly Agree	50.6	
Electronically designed customs procedures for multimodal transport service can increase customer satisfaction	Agree	43.5	4.56
	Strongly Agree	56.5	
Customs laws and formalities are greater barrier for multimodal transport system.	Agree	52.9	4.47
	Strongly Agree	47.1	
A state-owned multimodal transport system has increased customer satisfaction.	Strongly disagree	36.5	2.01
	Disagree	45.9	
	Neutral	2.4	
	Agree	10.6	
	Strongly Agree	4.7	
lack of prompt response, lack of integration between network partners, material theft, corruption are an internal factors for multimodal transport system	Agree	52.9	4.47
	Strongly Agree	47.1	
lack of effective infrastructure, capacity of rail, security and ethnics problem are an external factors for multimodal transport system	Agree	38.8	4.61
	Strongly Agree	61.2	
Djibouti-Ethiopia road corridor infrastructures	Strongly Disagree	2.4	4.40

has comfort for drivers and for transport carriers	Agree	50.6	
	Strongly Agree	47.1	
Djibouti-Ethiopia road and railway corridor has ethnic's conflict and security problem for drivers, transport carriers and importers.	Agree	37.6	4.62
	Strongly Agree	62.4	
Average Score			4.193

Source: My own Survey Questionnaire, 2020

Table4.8 Descriptive Statistics of regulations

	N	Minimum	Maximum	Mean	Std. Deviation
Multimodal transport systems are too restricted for bulky goods.	85	2	5	3.81	.893
Containerization enhances the multimodal transport systems performance.	85	4	5	4.49	.503
The present ethnic's conflict and security problem has barrier for multimodal transport system.	85	3	5	4.49	.526
Electronically designed customs procedures for multimodal transport service can increase customer satisfaction.	85	4	5	4.56	.499
Customs laws and formalities are greater barrier for multimodal transport system	85	4	5	4.47	.502
A state-owned multimodal transport system has increased customer satisfaction.	85	1	5	2.01	1.118
lack of prompt response, lack of integration between network partners, material theft, corruption are an internal factors for multimodal transport system	85	4	5	4.47	.502

lack of effective infrastructure, capacity of rail, security and ethnics problem are an external factors for multimodal transport system	85	4	5	4.61	.490
Djibouti-Ethiopia road corridor infrastructures has comfort for drivers and for transport carriers	85	1	5	4.40	.727
Djibouti-Ethiopia road and railway corridor has ethnic's conflict and security problem for drivers, transport carriers and importers.	85	4	5	4.62	.487
Valid N	85				
Overall Std. Deviation					0.625

Source: My own Survey Questionnaire, 2020

From the above table 4.7 and 4.8, the result of the first question shows that, 2.4 percent disagree, 43.5 Percent neutral, 24.7 percent agree and 29.4 percent strongly agrees. In fact, 54.10 percent of the respondents were agreed on the multimodal transport systems are too restricted for bulky goods. The result of the second question shows, 50.6 percent agree, and 49.4 percent strongly agree. The same with the first question all of respondents were satisfied and more satisfied on Containerization enhances the multimodal transport systems performance. Whereas the result of the third question shows 1.2 percent respondents were neutral, 48.2 percent agree, and 50.6 percent strongly agree on the current ethnic's conflict and security problem has barrier for multimodal transport system. This result shows ethnics conflict and security problem were barriers for multimodal transport system because of road closing, rail stopping and transport interrupted. The response for the fourth question was consolidated as, 43.5 percent were agreed and 56.5 percent strongly agreed. We can conclude that almost all percent of respondents were agreed with electronically designed customs procedures for multimodal transport service can increase customer satisfaction. The response for the fifth question was combined 52.9 percent were agreed and 47.1 percent were strongly agreed. Therefore, from this result we conclude that Customs laws and formalities would be changed to simplify he multimodal transport system. Whereas the result of the six questions shows that 36.5 percent respondents were strongly disagreed, 45.9 percent disagreed, 2.4 percent neutral, 10.6 agreed and strongly 4.7. so from this question we conclude that most of respondents not satisfied and state owned multimodal transport sector was not satisfied the customers and shall to be privatized the monopolized

company. The result of the seventh question shows 52.9 percent respondents were agreed and 47.1 percent respondents were strongly agreed. This result shows, lack of prompt response, lack of integration between network partners, material theft, corruption are an internal factors that affect multimodal transport system. The same as eighth questions shows 38.8 percent respondents were agreed and 61.2 percent respondents were strongly agreed and we conclude that external factors affect multimodal transport system and slight difference from internal factors. From the above table 4.6, the result of the ninth question shows that, 2.4 percent respondents were agreed, 50.6 percent respondents were disagreed and 47.1 percent respondents were strongly disagreed. So we conclude that the infrastructure was not good, because most of respondents not satisfied. The last question was forwarded to know whether or not ethnic's conflict security problem for Ethio-Djibouti road and railway corridor, drivers, transport carriers and importers. The result shows that, 37.6 percent of respondents were agreed and 62.4 respondents were strongly agreed. In general the result shows that ethnic's conflict has highly security problem in Ethio-Djibouti road and rail Corridor.

4.2.3 MULTIMODAL TRANSPORT INFRASTRUCTURE

Brooks (2008), a literature review shows that, transportation infrastructures such as highways and railways can reduce distribution margins of the transportation cost in narrowing the gap between prices faced by producers and consumers, thereby facilitating better improvements for both; in general efficient transportation infrastructures lower transaction costs, raise value added, and increase potential profitability.

Ruth Banomyong, (2000), in order to benefit fully from multimodal transport service the minimum level of transport related infrastructure must be in place. Thus, the importer would be benefited from multimodal transport service, as goods he has ordered, will be delivered to his premises at minimum cost and in good conditions. According to Tadesse Kenea (2014), a literature review entails that the country's capacity to provide multimodal transport system that is reliable and cost effective is depend on many factor among which are the use of advanced technology and infrastructure. In this regard Ethiopia is not extremely free from the challenges rather it may be severe. In summary as per the customer evaluation of the infrastructure the following challenges are prevail in the current multimodal transport system as far as infrastructure is concerned, which are inland and the road and the overall performance of transport related infrastructure in supporting the efficient and effective performance of multimodal transport system is not satisfactory. According to Islam (2005), a literature review

depict that if the transport infrastructure are weak and ports and terminals lack multimodal access and other facilities then the goods movement and modal transfer will result in higher transit time, transport cost, loss or damage and higher uncertainty and unreliability.

Table 4.9 frequencies of Multimodal transport Infrastructure

Variables	Scale	Percentage	Mean
providing Sufficient containers	Agree	52.9	4.47
	Strongly Agree	47.1	
Providing Sufficient trucks	Agree	38.8	4.61
	Strongly Agree	61.2	
Dry port facility is supportive	Agree	52.9	4.47
	Strongly Agree	47.1	
Providing Sufficient rails.	Strongly Disagree	1.2	3.48
	Disagree	10.6	
	Neutral	45.9	
	Agree	23.5	
	Strongly Agree	18.8	
Railways building is convenient	Agree	52.9	4.44
	Strongly Agree	47.1	
Highway building is supportive	Agree	41.2	4.59
	Strongly Agree	58.8	
The present Ethiopian railways improved multimodal transport system.	Strongly Disagree	1.2	3.40
	Disagree	10.6	
	Neutral	49.4	
	Agree	24.7	
	Strongly Agree	14.1	
Average Score			4.21

Source: My own Survey Questionnaire, 2020

Table 4.10 Descriptive Statistics of Infrastructure

	N	Minimum	Maximum	Mean	Std. Deviation
providing Sufficient containers	85	4	5	4.47	.502
Providing Sufficient trucks	85	4	5	4.61	.490
Dry port facility is supportive	85	4	5	4.47	.502
Providing Sufficient rails.	85	1	5	3.48	.959
Railways building is convenient	85	4	5	4.44	.499
Highway building is supportive	85	4	5	4.59	.495
The present Ethiopian railways improved multimodal transport system.	85	1	5	3.40	.902
Valid N	85				
Overall Std. Deviation					0.621

Source: My own Survey Questionnaire, 2020

As indicated in the table 4.9 and 4.10, seven variables have been provided to evaluate the infrastructure element in providing efficient multimodal transport system. Out of the seven variables stated above, almost all respondents were agreed on the improvement of infrastructure and related infrastructure. The result of the first question shows, 52.9 percent respondents were agreed and 47.1 percent respondents were strongly agreed. This result indicates that all respondents were agreed that providing sufficient containers increases multimodal transport systems efficiencies. As we show second questions, 38.8 percent respondents were agreed and 61.2 percent respondents were strongly agreed. The same as first question all respondents agreed and this result indicates that, providing sufficient trucks improves multimodal transport system. Third question respondents were highly agreed to developing dry port facility and 52.9 percent respondents were agreed and 47.1 percent respondents were strongly agreed and we conclude that supporting dry port facility is improve multimodal transport system. The fourth questions result indicates that 1.2 respondents were strongly disagreed, 10.6 respondents were disagreed, 45.9 respondents were neutral, 23.5 percent respondents were agreed and 18.8 percent respondents were strongly agreed. This indicates that the majority of the respondents were silent because the majority of respondents were neutral. The fifth questions result shows 52.9 percent respondents were agreed and 47.1 percent respondents were strongly agreed. This result shows Railways building is convenient for multimodal transport system. The six question result shows 41.2 percent respondents were agreed and 58.8 percent respondents were strongly agreed and this result indicates almost all respondents agreed on Highway building were supportive. From infrastructure questions the last question result shows 1.2 percent respondents were strongly

disagreed, 10.6 percent respondents were disagreed, 49.4 percent respondents were neutral, 24.7 percent respondents were agreed and 14.1 percent respondents were strongly agreed. This result indicates that even though some respondents were not satisfied but more than average would be agreed on present Ethiopian railways improved multimodal transport system.

4.2.4 MULTIMODAL TRANSPORT ICT APPLICATION

ICT facilitates the management of interconnecting major information flows related to goods flows Evangelista (2002). In order to measure the overall use and application of information technology in multimodal transport system, seven explanatory variables were used. So as to get a clear picture of responds about information exchange and documentation system in multimodal transport system the following questions were forwarded to customers.

Table 4.11 frequencies of Multimodal transport ICT Application

Variables	Scale	Percentage	Mean
Using ICT system it improves the multimodal transport system.	Neutral	15.3	4.26
	Agree	43.5	
	Strongly Agree	41.2	
Ethiopian shipping and logistics service enterprise have sufficient online information service for multimodal transport system operations.	Strongly Disagree	40.0	2.44
	Disagree	24.7	
	Neutral	3.5	
	Agree	15.3	
	Strongly Agree	16.5	
To simplify multimodal transport system, it needs integrated information system between ESLSE, customs, and freight forwarders, carriers and transistors.	Agree	52.9	4.54
	Strongly Agree	47.1	
Using modern ICT applications in ESLSE have significant effect for multimodal transport system.	Agree	61.2	4.39
	Strongly Agree	38.8	
Average Score			3.90

Source: My own Survey Questionnaire, 2020

Table 4.12 Descriptive Statistics of ICT Application

	N	Minimum	Maximum	Mean	Std. Deviation
Using ICT system it improves the multimodal transport system.	85	3	5	4.26	.710
Ethiopian shipping and logistics service enterprise have sufficient online information service for multimodal transport system operations.	85	1	5	2.44	1.539
To simplify multimodal transport system, it needs integrated information system between ESLSE, customs, and freight forwarders, carriers and transistors.	85	4	5	4.54	.501
Using modern ICT applications in ESLSE have significant effect for multimodal transport system.	85	4	5	4.39	.490
Valid N	85				
Overall Std. Deviation					0.81

Source: My own Survey Questionnaire, 2020

As per the above table 4.11 and 4.12, four questions have been provided to evaluate ICT application, the first question of Using ICT system it improves the multimodal transport system, 15.3 percent respondents were neutral, 43.5 percent respondents were agreed and 41.2 percent strongly agreed. The mean score is 4.26, which means most of the respondents agree on the Using ICT system to improve multimodal transport system. The second question result shows 40 percent respondents were strongly disagreed, 24.7 percent disagreed, 3.5, percent were neutral, 15.3 agreed and 16.5 were strongly agreed. The mean score is 2.44, which means most of the respondents were not satisfied on Ethiopian shipping and logistics service enterprise’s online information service for multimodal transport system operations. The third question result indicates 52.9 percent respondents were agreed and 47.1 were strongly agreed. The mean score is 4.54, which means almost all of the respondents were agreed on to simplify multimodal transport system, it needs integrated information system between ESLSE, customs, and freight forwarders, carriers and transistors. The fourth and the final question for ICT applications result indicates

61.2 percent respondents were agreed and 38.8 were strongly agreed. The mean score is 4.39, which means almost all of the respondents were agreed on using modern ICT applications in ESLSE have significant effect for multimodal transport system.

4.2.5 MULTIMODAL TRANSPORT COMPETENCE/SKILL

Competence is termed for the human capability to utilize a set of relevant knowledge, skills, and abilities to perform in critical tasks and deliver the desirable outcome in a defined as job profiling. Competence is defined as the quality of performing functionally adequate in the specified tasks and positions with the requisite knowledge, skills and attitudes including other attributes associate with job performance.

Table 4.13 frequencies of Multimodal transport Competence/Skill

Variables	Scale	Percentage	Mean
The structure of ESLSE is suitable for multimodal transport system development.	Strongly Disagree	38.8	2.88
	Neutral	34.1	
	Agree	27.1	
There are professional and competent employees in ESLSE.	Strongly Disagree	14.1	1.89
	Disagree	82.4	
	Neutral	3.5	
To improve multimodal transport system, the sectors leads to be by logistics professional.	Neutral	15.3	4.29
	Agree	40.0	
	Strongly Agree	44.7	
Good competency in multimodal transport system has greater significant for the sectors efficiency.	Disagree	4.7	4.12
	Neutral	16.5	
	Agree	41.2	
	Strongly agree	37.6	
Providing well logistics training	Neutral	20.0	4.15
	Agree	44.7	
	Strongly agree	35.3	
Average Score			3.466

Source: My own Survey Questionnaire, 2020

Table 4.14 Descriptive Statistics of competency/ skill

	N	Minimum	Maximum	Mean	Std. Deviation
The structure of ESLSE is suitable for multimodal transport system development.	85	2	4	2.88	.808
There are professional and competent employees in ESLSE.	85	1	3	1.89	.409
To improve multimodal transport system, the sectors leads to be by logistics professional.	85	3	5	4.29	.721
Good competency in multimodal transport system has greater significant for the sectors efficiency.	85	2	5	4.12	.851
Providing well logistics training	85	3	5	4.15	.732
Valid N	85				
Overall Std. Deviation					0.704

Source: My own Survey Questionnaire, 2020

As per the above table 4.13 and 14 five questions have been provided to evaluate Competence, the first question was structure of ESLSE as suitable for multimodal transport system development, and 38.8 percent respondents were strongly disagreed, 34.1 percent respondents were neutral and percent 27.1 agreed. The mean score is 2.88, which means, most of the respondents were not agreed on ESLSE structure. The second question result shows 14.1 percent respondents were strongly disagreed, 82.5 percent disagreed, 3.5, percent were neutral,. The mean score is 1.89, which means most of the respondents were not satisfied for the professional employee of Ethiopian shipping and logistics service enterprise’s this indicates that there were less professionals workers in the enterprise. The third question result indicates 15.3 percent respondents were neutral, 40.0 were strongly agree 44.7 strongly agree. As we shows in the table most of the respondents were as agreed to improve multimodal transport system the sector would be leads by logistics professional. The fourth question result indicates that 4.7 percent respondents were disagreed, 16.5 percent respondents were neutral, 41.2 percent respondents were agreed and 37.6 percent respondents were strongly agreed and the mean score is 4.12, which means almost all of the respondents were satisfied on good competency in multimodal transport system has greater significant for the sectors efficiency performance and the fifth and final question for multimodal transport Competence variable result indicates 20.0percent

respondents were neutral, 44.7 respondents were agreed and 35.3 were strongly agreed. The mean score is 4.15, which means almost all of the respondents were agreed on providing well logistics training would be improve multimodal transport system.

4.2.5 MULTIMODAL TRANSPORT DELIVERY PERFORMANCE

The overall multimodal transport delivery performance evaluated in terms of cost, time, clearance and safety of goods. In this regard multimodal transport system in ESLSE has not efficient and effective.

Table 4.15 frequencies of Multimodal transport Delivery performance

Variables	Scale	Percentage	Mean
Cargo Safety is dependable	Agree	51.8	4.48
	Strongly Agree	48.2	
Delivery time is efficient	Strongly Disagree	14.1	1.87
	Disagree	84.7	
	Neutral	1.2	
Finishing clearance at dry port from ESLSE side is effective.	Strongly Agree	23.5	1.78
	Disagree	75.3	
	Neutral	1.2	
Delivery cost is fair.	Strongly Disagree	1.2	2.87
	Disagree	10.6	
	Neutral	88.2	
Customer satisfaction is high.	Strongly Disagree	74.1	1.26
	Disagree	25.9	
Average Score			2.45

Source: My own Survey Questionnaire, 2020

As per the above table 4.15 five questions have been delivered to evaluate delivery performance, the first question was Cargo Safety is dependable by multimodal transport system in ESLSE and 51.8 percent respondents were agreed and 48.2 percent respondents were strongly agreed. The mean score is 4.48, which means, almost of the respondents were agreed and satisfied on ESLSE Cargo Safety. For the detail data, See below table 4.15.1.

Table 4.15.1. Cargo Safety is dependable

	Frequency	Percent	Mean	Std. Deviation
Valid Agree	44	51.8		
Strongly Agree	41	48.2	4.48	.503
Total	85	100.0		

Source: My own Survey Questionnaire, 2020

From the above table 4.15, the result of the second question shows that, 14.1 percent strongly disagree, 84.7 Percent disagree, 1.2 percent neutral. This mean score is 1.87, which means; most of the respondents were disagreed and not satisfied on ESLSE delivery time. For the detail data, See below table 4.15.2.

Table 4.15.2 Delivery time is efficient

	Frequency	Percent	Mean	Std. Deviation
Valid Strongly Disagree	12	14.1		
Disagree	72	84.7	1.87	.371
Neutral	1	1.2		
Total	85	100.0		

Source: My own Survey Questionnaire, 2020

From the above table 4.15, the outcome of the third question shows that, 23.5 percent strongly disagree, 75.3 Percent disagree, 1.2 percent neutral. The mean score is 1.78, which means; most of the respondents were disagreed and not happy on finishing clearance at dry port from ESLSE side. For the detail data, See below table 4.15.3.

Table 4.15.3 Finishing clearance at dry port from ESLSE side is effective.

	Frequency	Percent	Mean	Std. Deviation
Valid Strongly Disagree	20	23.5		
Disagree	64	75.3	1.78	.447
Neutral	1	1.2		
Total	85	100.0		

Source: My own Survey Questionnaire, 2020

From the above table 4.15, the outcome of the fourth question shows that, 1.2 percent strongly disagree, 10.6 Percent disagree, 88.2 percent neutral. The mean score is 2.87, which means; most of the respondents neither agree nor disagree on the fairness of delivery cost. This means most of respondents had not information regarding multimodal transport system freight cost. For the detail data, See below table 4.15.4.

Table 4.15.4 Delivery cost is fair.

		Frequency	Percent	Mean	Std. Deviation
Valid	Strongly Disagree	1	1.2	2.87	.371
	Disagree	9	10.6		
	Neutral	75	88.2		
	Total	85	100.0		

Source: My own Survey Questionnaire, 2020

From the above table 4.15, the outcome of the fifth and final question shows that, 74.1 percent respondents were strongly disagreed and 25.9 Percent disagree. The mean score is 1.26, which means; all of the respondents strongly disagree and not satisfied on the customer satisfaction performance. This means ESLSE need to do on customer satisfaction by improving the whole multimodal transport system operations. For the detail data, See below Fig, 4.4.

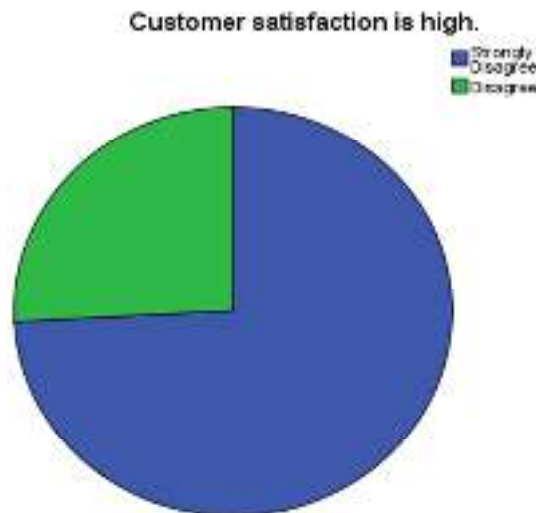


Fig 4.4 customer satisfaction

4.3 ANALYSIS OF INFERENCE STATISTICS

4.3.1 CORRELATION ANALYSIS

The relationship between variables is detected with correlation coefficient. A correlation coefficient expresses quantitatively the magnitude and direction of the relationship between two variables. One of the most common correlation coefficients is called Pearson correlation (r). It varies from + 1.0 -1.0. The sign of the coefficient tells us whether the relationship is positive or negative. The numerical portion of the coefficient describes the magnitude of the relationship. A coefficient of + 1.0 indicates that a perfect relationship exists between the two variables. Contrarily, a value of 0.0 indicates no relationship.

Correlation between the independent variables with the dependent variable was undertaken the summary of correlation presented as follow:

Table 4.16 Pearson Correlations Coefficients of independent and dependent variables

Variance		
	Correlation	P-Value (Sig)
Regulation	0.268*	0.05
Infrastructure	0.600**	0.000
ICT Application	0.350**	0.000
Competence/Skill	0.477**	0.001
Delivery performance	0.715**	0.000

Source: My own Survey Questionnaire, 2020

It is also observed that, government regulation is positive relation with correlation 0.268, infrastructure has a positive relationship with logistics effectiveness with a correlation coefficient of (0.600). ICT application for logistics effectiveness has a positive relation with correlation. This indicates that, if the enterprise supports the service with information technology, enough port machineries, and online payments, tracking and tracing system. Staff Competency also positive relationship with correlation coefficient 0.477 and delivery performance has also a positive and strong relationship with multimodal effectiveness with correlation coefficient (0.715**) significant (0.000).therefore Ethiopian shipping and logistics services enterprise working on those facilities , technology and competency the customer will be attracted and contribute a lot on logistics performance of the country.

4.3.2 REGRESSION ANALYSIS

According to Daniel, L. (1991, p.421), correlation between two variables does not imply that one event causes the second to occur. Therefore, to know how the dimensions the determinate of multimodal transport determine multimodal transport effectiveness and to test the hypotheses, multiple regressions were carried out. Checking the assumptions of normality of the distribution, P-P plot test and multicollinearity of the variables were already analyzed and got normal to precede the regression.

The researcher was preferred to a stepwise multiple linear regression method was followed to get the smallest possible set of predictors in the model. The independent variables estimated to predict multimodal effectiveness were regulation, logistics infrastructure, ICT, competency and delivery performance. Using all these predictors, the stepwise multiple regression analysis.

The general formula of multiple regressions is estimated by:

$$Y = a + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + b_4X_{4t} + b_5X_5 \quad \text{Where } t=1,2,\dots,n$$

A is constant, x_1 is government regulation, x_2 is infrastructure, x_3 ICT, x_4 competency and x_5 delivery performance.

Table 4.17 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.567 ^a	0.592	0.553	.32017

Source: My own Survey Questionnaire, 2020

a. Predictors: (Constant), government regulation , infrastructure ,ICT, Competency and delivery

b. Dependent Variable: multimodal effectiveness

Determination of multiple regression adjusted R square (R^2) is 0.553 (55.3%). Interpretation 55.3% of the total variation of multimodal transport effectiveness is explained by the independent variables (regulation, infrastructure, and ICT, competency and delivery performance). This result can be interpreted as, the model is significantly predicts the outcome variable and the null hypothesis is clearly rejected since the p-value is 0.000 which is sufficiently low. This indicates that the variation explained by the model is not due to chance and it (the model) is well fitted at significant level. The coefficients of the independent variables are given below:

Table 4.18 Coefficients of regression analysis

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.268	0.373		0.718	0.057
Regulation	0.195	0.064	0.292	3.027	0.004

Infrastructure	0.236	0.092	0.475	2.127	0.040
ICT Application	0.274	0.131	0.274	2.084	0.044
Competence/Skill	0.345	0.100	0.444	3.449	0.001
Delivery performance	0.324	0.084	0.335	0.287	0.046

Source: My own Survey Questionnaire, 2020

All independent variables are significant at α level of significant 0.05. The value of coefficients, constant value 0.268, regulation of multimodal is 0.195, infrastructure 0.236, ICT 0.274, competency 0.345 and delivery performance 0.324, using these coefficients the model is given below:

$$\text{Multimodal effectiveness} = 0.268 + 0.195 \text{ regulation} + 0.236 \text{ Infrastructure} + 0.274 \text{ ICT} + 0.345 \text{ competency} + 0.324 \text{ delivery}$$

The model is interpreted as, a 1 percent improvement of government regulation which brings 0.195 percent increase in multimodal effectiveness or 10 percent improvement in transit cost lead to 1.95 percent increase in multimodal effectiveness. 1 percent improvement in logistics infrastructure will bring 0.236 percent increase in multimodal effectiveness. Likewise, 1 percent improvement in ICT, competency and delivery performance brings multimodal effectiveness 0.274 percent, 0.345 and 0.324 percent respectively. This indicates that the organization (ESLSE) has to focus on improvements of all factors government regulation, logistics infrastructure, support the service with information technology. Furthermore the human skill in the area is very important.

CHAPTER FIVE

5 SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter presents a summary of the findings, conclusions and recommendations made to help and improve the performance of multimodal transport system based on the objectives of the study. The chapter also concludes with recommended areas for further research work.

5.3 SUMMARY OF MAJOR FINDINGS

It is clear that logistics predominantly multimodal transport is the most vital factor for the overall growth and development of the country in line with other infrastructural activities. Multimodal transport has been growing transport system around the world; one of the reasons is increasing in containerization of cargo. Containerization reduction logistics costs by moving more goods within container. It moves long distance with safety and minimizing the liability of multimodal operators. Cargoes can be moved from one country to another with single administration document (SAD) and one multimodal operator or carriers. Globally, most of countries get benefit of multimodal transport that can minimize logistics cost and transit time. The study finds how ESLSE multimodal transport department employees evaluate the five factors affecting measurements: The Case of Ethiopian Shipping and Logistics Services Enterprise; Regulation, Infrastructure, ICT Application, Competence/Skill and Delivery performance.

For Regulations of multi modal transport system evaluation ten questions were provided to the respondents. As per the respondents' evaluation result, most of them were agreed to improve the current multimodal transport system regulation, government policy and ESLSE directives. And the average mean and standard deviation of the total items represents 4.19 and 0.625 respectively, this implies that the majority of the responded evaluated Regulations of multi modal transport system agree. Thus the regulations of multi modal transport system are not suitable to delivery efficient multimodal transport system.

Infrastructure for multi modal transport system In relation to the performance level of infrastructure, seven questions have been provided to the respondents. Out of the seven questions provided, the respondents scored were almost all agreed on the seven questions provided, the average mean and standard deviation of the total items represents 4.21 and 0.621 respectively, this implies that the majority of the responded evaluated to increase and develop infrastructure performance as agrees. Thus, the current transport related infrastructure is not comfort to provide

best multimodal transport system and the result shows that logistics infrastructure one of the factors that hampers multimodal transport effectiveness. For fast movement of cargoes modern logistics infrastructures are need. This in try reduces cost, transit time and safety of the cargo.

ICT Application from four questions analysis of descriptive statistics, the mean score of respondents score is 3.90 and Std. deviation score is 0.81 which means moderate result and high variance respondents respectively. This implies that majority of the respondents did not satisfied by ICT Application rendered by ESLSE.

Competence/Skill: For competence performance evaluation, five questions were provided to the respondents. The some respondents show their disagreement in this regards there is no enough skill and capability in ESLSE to run multimodal transport system as a multimodal transport operator and few respondents agreed as to improve management and employee skill during data survey. The average mean and standard deviation of the total items represents 3.47 and 0.704 respectively, this implies that the majority of the responded evaluated competence performance as neutral. Thus the management and employee in ESLSE have no the competence to provide efficient multimodal transport system.

Delivery performance: For delivery performance evaluation, five questions were provided to the respondents. The majority of respondents show their disagreement in this concern completely there is no delivery performance in ESLSE to operate multimodal transport system from Cargo Safety, delivery time, clearance and customer satisfaction perspective. The average mean and standard deviation of the total items represents 2.45 and 0.426 respectively, this implies that the majority of the responded evaluated delivery performance as strongly disagreed. Therefore, delivery performance needs improvements in ESLSE to provide efficient multimodal transport system by solving internal and external problem factors. Finally, from these measurement dimensions of Regulations, infrastructure, and ICT Application, competence and delivery performance result indicates 72.8% of the descriptive statistics of the majority respondent not satisfied and agreed on the improvement of multimodal transport system as a general.

5.4 CONCLUSION

This research is conducted on Assessment of Factors Affecting Multimodal Transport System: The Case of Ethiopian Shipping and Logistics Services Enterprise. The researcher finds that, Ethiopian Shipping and Logistics Services Enterprise challenged by so many kinds of problem to apply multimodal transport system in the country for instance infrastructure, Djibouti corridor security problem, government and national bank regulations and directives which were imposed

on the sectors, ICT, lack of logistics professionals employee etc. In addition, ESLSE has a multimodal transport system with a complete dominance of the government owned enterprise monopoly with no private competition. As per the finding of the researcher, these monopolistic privileges of the multimodal transport system given by ESLSE harms the free market oriented execution, restrict the quality of services and increase transit time and transport costs. Though, multimodal transport system for Ethiopia is not a choice rather to improve performance of the sectors. So, the researcher concludes with research evidence that the current multimodal transport system is not efficient and effective performance as per the above stated researcher evaluation measurements. Generally, multimodal transport to be effective, changing old working trend, reducing old port machinery from the ports, heavy track vehicle and minimizing rental containers, buying and using own containers, then the logistic system should be modernized with professional human capital, information technology; dry ports facility should be well organized with modern port machineries, coordination with shareholders and stakeholders, finally the government should be solve the security issues those who interrupt Djibouti road and rail corridor.

5.5 RECOMMENDATIONS

Based on the result of the finding and the conclusions stated in the previous sections, the following recommendations are forwarded. As the result of the finding reveled ESLSE has no integrated information and communication technology which enables it to coordinate all parties toward the successful implementation of the system. Therefore, the researcher recommends ESLSE better if they install latest output of information and communication

According to the findings of the study the researcher forwarded the following points as recommendation. The researcher agreed that applying those recommendations would be minimize the problems of multimodal transport system and improve the performance of multimodal transport services. If not, the enterprise takes such kind of actions the multimodal transport system will not achieve the planned objectives of proposed customer satisfaction, reducing operational cost, and freight cost and delivery time and the mission of the enterprise. Thus, based on the result of the finding and the conclusions stated in the previous sections, the following recommendations are listed.

- ESLSE recommended to hire logistics professional employee
- ESLSE need to avoid Djibouti road corridor infrastructure problem by making discussion with stockholders and governmental concerned body.
- ESLSE better to improve dry port facility and infrastructure problem.
- Improving the current oracle cloud information system and should use future developed new information communication technology in the enterprise and its branch office.
- ESLSE as well as Ethiopian Government has to highly work with regional government to avoid security problem and ethnic's conflict which were interrupted Djibouti line corridors.
- The Ethiopian Government has to deeply work with Djibouti government to avoid high bureaucracy and complex clearance procedure at Djibouti port.
- ESLSE recommended avoiding the complex customs procedures which were applied in different enterprise dry port within discussion of customs commission authority.
- ESLSE need to integrate the branch offices with partners and head offices by IT and one stop service should be applied.
- ESLSE recommended provide its own containers and trucks
- ESLSE recommended provide right training for right employees.
- Government better to amend some restriction of regulations of multimodal transport system.

In general, the researcher recommends the enterprise would be focus on the factors those affect multimodal transport system and identified in this thesis to make use the findings of this research.

5.6 LIMITATIONS AND FOR FURTHER STUDY

The findings of this study should be observed with certain limitations in noticed. The study focused on inland transportation which was from Djibouti to Ethiopia corridors only, not included sea transportation, due to ESLSE multimodal transport system concept perspective and area limitation. And the study mainly focused on multimodal transport system on import goods. Since, multimodal transport service did not start for export goods by ESLSE yet.

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APPENDIXES

Assessment of Factors Affecting Multimodal Transport System: The Case of Ethiopian Shipping and Logistics Services Enterprise Survey Questionnaire.

Dear respondents, I would like to thank you in advance for your willingness to read and respond to this questionnaire, I am conducting a research on “Assessment of Factors Affecting Multimodal Transport System: The Case of Ethiopian Shipping and Logistics Services Enterprise”. This research is conducted in the partial fulfillment of the Masters of Art in Business administration. Therefore, the researcher kindly requests you to be extremely objective and genuine while you give your response. The information will be used for academic purpose only and the researcher strongly assures you of the confidentiality of your answer. Thank you once again for being cooperative and volunteer to devote your precious time and effort in filling this form

General instruction

1. You are not requested to write your name on this questionnaire
2. The questionnaire has two parts please answer all items under each part
3. For any enquiry about this survey: Please feel free to contact with email ababuhaile@gmail.com

PART I: Demographic Information

1. Education Background:

- College Diploma First Degree Second Degree and above

2. Job Title

- Dep't director Division Head Senior Officer Officer Junior Officer

3. Years stayed at the organization/Experience

- Under 2 years 2-5 years 6-10 years over 10 years

Your department/work unit.....

4. Age

- Under 25years 26-30 years 31-35 years over 36 years

5. Gender

- Male Female

Part II: Instrument for multimodal transport system

With regard to the statement provided below, please ‘thick’ the appropriate box to indicate the extent to which you agree or disagree with each statement. The items scales are five point Likert type scales with 1= strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree.

	1. Regulation	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
.1.1.	Multimodal transport systems are too restricted for bulky goods.					
.1.2.	Containerization enhances the multimodal transport systems performance.					
.1.3.	The present ethnic’s conflict and security problem has barrier for multimodal transport system.					
.1.4.	Electronically designed customs procedures for multimodal transport service can increase customer satisfaction.					
.1.5.	Customs laws and formalities are greater barrier for multimodal transport system					
.1.6.	A state-owned multimodal transport system has increased customer satisfaction.					
.1.7.	lack of prompt response, lack of integration between network partners, material theft, corruption are an internal factors for multimodal transport system					
.1.8.	lack of effective infrastructure, capacity of rail, security and ethnics problem are an external factors for multimodal transport					

	system					
.1.9.	Djibouti-Ethiopia road corridor infrastructures has comfort for drivers and for transport carriers					
.10.	Djibouti-Ethiopia road and railway corridor has ethnic's conflict and security problem for drivers, transport carriers and importers.					
	2. Infrastructure					
.2.1.	providing Sufficient containers					
.2.2.	Providing Sufficient trucks					
.2.3.	Dry port facility is supportive					
.2.4.	Providing Sufficient rails.					
.2.5.	Railways building is convenient					
.2.6.	Highway building is supportive					
.2.7.	The present Ethiopian railways improved multimodal transport system.					
	3. ICT Application					
3.1.	Using ICT system it improves the multimodal transport system.					
3.2.	Ethiopian shipping and logistics service enterprise have sufficient online information service for multimodal transport system operations.					
3.3.	To simplify multimodal transport system, it needs integrated information system between ESLSE, customs, and freight forwarders,					

	carriers and transistors.					
3.4.	Using modern ICT applications in ESLSE have significant effect for multimodal transport system.					
	4. Competence/Skill					
.4.1.	The structure of ESLSE is suitable for multimodal transport system development.					
.4.2.	There are professional and competent employees in ESLSE.					
.4.3.	To improve multimodal transport system, the sectors leads to be by logistics professional.					
.4.4.	Good competency in multimodal transport system has greater significant for the sectors efficiency.					
.4.5.	Providing well logistics training					
	5. Delivery performance					
5.1	Cargo Safety is dependable					
5.2	Delivery time is efficient					
5.3	Finishing clearance at dry port from ESLSE side is effective.					
5.4	Delivery cost is fair.					
5.5	Customer satisfaction is high.					

1. Please list main challenges of multimodal transport.

2. Please propose the possible solution to solve the above stated problems

Thank you very Much!!