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**ROAD FREIGHT TRANSPORTATION PERFORMANCE IN
ETHIOPIAN SHIPPING AND LOGISTICS SERVICE ENTERPRISE:
THE CASE OF ADDIS ABABA – DJIBOUTI CORRIDOR**

**BY
SIYADA DESSALEGN
(GSE/7236/10)**

**A Thesis submitted to the Addis Ababa University School of Commerce
in Partial Fulfillment of the Requirements for the Award of the Degree
of Master of Arts in Logistics and Supply Chain Management**

Advisor: Shiferaw Mitiku (Ph.D.)

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ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
DEPARTMENT OF LOGISTIC AND SUPPLY CHAIN MANAGEMENT

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APPROVAL BY BOARD OF EXAMINERS

Shiferaw Mitiku (Ph.D.)

ADVISOR

SIGNATURE

Tariku Jebena (Ph.D.)

INTERNAL EXAMINER

SIGNATURE

Tadiwos Menta (Ph.D.)

EXTERNAL EXAMINER

SIGNATURE

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*This is to certify that the thesis in title “**Road Freight Transportation Performance in Ethiopian Shipping and Logistics Service Enterprise: the case of Addis Ababa-Djibouti corridor**” that is being submitted by **Mr. Siyada Dessaegn** for the partial fulfillment of the requirements for the award of the degree of Masters of Art in Logistics and Supply Chain Management at Addis Ababa University, School of commerce is a record of bonafide work carried out by him under my guidance and supervision. The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree or diploma.*

Shiferaw Mitiku (PhD)

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Abstract

Effective Transportation management practices have become a potentially valuable way of securing competitive advantage through enhancing operational and improving organizational performances. By considering this fact and the central role of road freight transportation at every logistics activity, the studies was conducted with main objectives of assessing transportation management practices, identifying major factors affecting the performance and assess the overall performance of road freight transportation service using performance dimensions of cost, reliability, responsiveness, and flexibility. The study applied an explanatory type of research design. Data was collected through a questionnaire and distributed to 115 selected Ethiopian Shipping and Logistics Service Enterprise staffs of the Kality land Transport branch office. Out of the 115 distributed questionnaires, only 102 were used for the analysis. The data collected were analyzed using software SPSS version 25 and presented using descriptive texts, frequency tables, means, standard deviations, coefficient of correlation, multiple linear regression analysis, and sample T-test. The assessment of the study revealed that transportation management practices were perceived to be well practiced by Ethiopian shipping and logistics service enterprise except for the enterprise considers environmental and energy concerns of transport providers when selecting carriers, considers consolidation opportunities to reduce transport costs, submits transport instructions to carriers online paperless and time-saving, considers specialized training of drivers and operators in handling special cargo like dangerous or perishable cargo to reduce damages to goods in transit, and arranges for regular performance reviews with drivers and agree on areas of improvement. The study revealed that shortage of foreign exchange, lack of genuine spare parts and lack government support from the external factors and failure to use of automated systems or mechanisms to increase road freight transportation performance and failure to use information technology as a tool for helping in decision making as well as lack of sufficient skilled manpower in vehicle maintenance from internal factors are found to be the main factors affecting the performances of the road freight transportation in Ethiopian Shipping and Logistics Service Enterprise. Performance measured in terms of cost and reliability is perceived performing fair while performance measured in terms of responsiveness and flexibility is perceived to be not performing well. The hypothesis testing and regression analysis of the study variables revealed that Leadership Commitment, Coordination & Information Flow, Internal Process and Procedures, Legal & Political Factors, and Technological Factors were found positively related at significant value $p < 0.05$ with the overall performance of road freight transportation. Factors affecting transportation performance should be seriously considered and need to be dealt with for those factors in the control of the enterprise, and discussion with stakeholders and the responsible government bodies are required for those beyond control.

KEYWORDS: *Management Practices, Transportation Performance, Freight Transportation*

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List of Acronyms and Abbreviations

ESLSE	Ethiopian shipping and Logistics service Enterprise
FTA	Federal Transport Authority
GDP	Growth Domestic Product
ITT	In-transit time
KPA	Key Performance Area
KPI	Key Performance Indicators
KSI	Key Success Indicators
OTAP	On-time arrival percentage
OTDP	On-time departure percentage
PDP	Perfect delivery percentage
PLC	Private Limited Company
PRP	Perfect Route Percentage

CHAPTER ONE

INTRODUCTION

The purpose of this introductory chapter is to present an overview of the research, which is depicted in the following pages. This introduction starts by presenting background on the research, followed by the research aim and objectives, research problems, purpose and significance, and a summary of the structure of the thesis.

1.1 Background of the Study

Freight transport covers the movement of goods of all kinds from origin to destination using the best available mode(s) with the least cost, timely delivery, and minimum risk to satisfy transport demand. Freight transportation is a critical element in the overall demand-supply chain of commodities and services (Douglas, James & Lisa, 1998). The ability to transport goods quickly, safely, economically, and reliably is seen as vital to the success of businesses, and to a nation's prosperity and capacity to compete in a globalized economy (Debela, 2013). In Africa, East Africa has the highest transport cost in the world. The proportion in 2003 was about 15 percent of import value compared to 5.4 percent for the world average and 3.9 percent for developed countries. Regarding the Ethiopian corridor costs, in 2008, about 12.4 percent of export value and 17 percent of the import values or a weighted average of 16 percent of the foreign trade values were consumed by transport and transit costs. The freight rates of trucking in Ethiopia are between 40 percent and over 100 percent lower than the neighboring countries. In 2010 the ton-km cost of truck transport in Ethiopia is US\$ 0.07 compared to US\$ 0.102 in Sudan, US\$ 0.14 in Somaliland, and US\$ 0.21 in Kenya (Afro Consult & Trading PLC, 2010).

In Ethiopia, freight transport services are delivered by government and private organized freight transport operators. The systems of service delivery have a challenge starting from origin to the final destination principally including the existence of inefficient, unreliable and in competitive freight transport operators, the problem of cargo security, escalation of operating cost, delays at customs, inadequate storage, the problem of integrated planning and others. To modernize the freight transportation and maximize the capacity of freight

transport operators, increasing of vehicles annual kilometers coverage and fleets, to reduce freight transport cost and to overcome efficient, reliable and competitive freight transport the federal transport authority has been doing to implement fleet management technology in all freight transport operators (Endale, 2017).

As the mode of transport that brings most goods to their final destination, the road transport sector plays a role of outstanding importance in any national economy, both through its direct contribution to GDP and employment as well as through the provision of services which are indispensable for the development of all other economic sectors (Heinrich, 2009). Most of the Ethiopian expenditure is spent on the import of goods from abroad through the port of Djibouti. So that there is a high demand for safe and reliable transportation services for this freight. Ethiopia is one of the developing countries that need to be integrated with the global economy and that can only possible through efficient and effective flows of goods to and from the country in international trade. In supply chain and logistics activities, inefficiency is one of the activities which can be exhibited in terms of higher cost, delay, and unpredictability in delivering the product and service to the customer, in turn, impacts the economic growth of a country (Dagmawi, 2016).

The underdevelopment of logistics management system, inadequate fleets of vehicles or means of transport for goods, cargo and truck congestions, lack of coordination of goods transport, organization and management tools that are required to promote the intermodal system and due to lack of conceptual understanding of how an intermodal system should operate, the unavailability of well-equipped garages, the inability of taking immediate actions for the maintenance of roads. Shortage of different facilities, poor cargo handling, and cargo transport equipment shortage within the port, lack of efficiency of customs offices, and inadequate and unavailable infrastructures are some of the causes of freight transportation performance inefficiency while transporting from origin to some other destinations (Kalkidan, 2017).

Therefore, the study was intended to assess the overall road freight transportation performance of the Ethiopian Shipping and logistics service enterprise based on empirical and statistical evidence.

1.2 Problem Statement

The success of any tasks or jobs entrusted to logistics service providers is measured by performance. Good performance means the logistics service providers succeed in fulfilling customers' requirements and perceptions. Among customers' requirements are the delivery of goods on-time, reasonable costs, the safety of their goods, and so forth. However, nowadays this performance is being disturbed by road congestion problems due to the flooding of road logistics transportations which are used to deliver products or goods to their customers. As a result, the delivery of customers' goods is delayed and the operation costs also increased (Amentae, 2015).

The growing economies of Ethiopia undoubtedly drive the demand for freight transport services to increase at a high rate. Almost 95% of import-export goods to Ethiopia and from Ethiopia is done using the port of Djibouti (Ayub, 2017). With the principal aim to make the movement import-export goods more efficient, through faster transit times and reduced costs, Ethiopian shipping and logistics service enterprise is delivering road freight transportation service since the implementation of multimodal transportation service. As state-owned Logistics Company, road freight transportation service that ESLSE provides is expected to support the multimodal transport service efficiently and the enterprise is expected to play an exemplary role and stabilize market price in the industry to improve the overall performance of freight movement. But during the transportation of this freight, the enterprise incurs a huge amount of extra costs for long time storage and pay demurrage cost to the third party due to shortage of freight transporting vehicles and road freight transport performance inefficiency. According to ESLSE, from the year 2012 to 2016 GC 3,510,950.40 average ton of freight are unloaded each year at the port of Djibouti. But only 2,720,542.20 average ton of freight are forwarded each year to Ethiopia. This means 790,408.20 average ton of freight is stored each year in Djibouti which is subjected to an additional yearly payment of 54,538,165.80 USD. For this, road freight transportation performance inefficiency is one contributing factor.

According to ESLSE, freight which reaches the port of Djibouti is stored for two months or more due to a shortage of freight vehicles or due to miss management of the vehicles.

Shortage of vehicle, poor road infrastructure, vehicle break down and freight congestion at transfer station due to lack of proper synchronization and unbalance between the delivery and convey vehicles are among the problems that the company is facing during freight transportation.

Hence, to address the above shortcomings the study assessed the transport management practices and road freight transportation performance of the ESLSE. Besides, the research aims at identifying major factors affecting the enterprise's road freight transportation performance. Furthermore, since the logistics service plays a central role in Ethiopia's economic growth, appropriate recommendations are put in place to improve the performance of the capability of the logistics service.

1.3 Research Question

- How road transport management is being practiced at Ethiopian shipping and logistics service enterprise?
- What is the performance of road freight transportation in Ethiopian shipping and logistics service enterprise?
- What are the major factors affecting the performance of road freight transportation in Ethiopian shipping and logistics service enterprise?

1.4 Research Objective

1.4.1 General Objective

The general objective of this study was to assess the road freight transportation performance of Ethiopian shipping and logistics service enterprise along the Addis-Ababa Djibouti corridor.

1.4.2 Specific Objectives

The specific objectives are:

- To assess the road freight transport management practices of Ethiopian shipping and logistics service enterprise.
- To determine the performance of road freight transportation in Ethiopian shipping and logistics service enterprise.

- To identify factors affecting the road freight transportation performance of the Ethiopian Shipping and logistics service enterprise.

1.5 Significance of the Study

The study offers a valuable contribution to several audiences. Transport companies operating in Ethiopia will find the study findings relevant in their understanding of how transport management practices influence the performance of road freight transportation in logistics operations and identify areas for improvement. More importantly, the study will offer value to the body of operation management discipline by assessing transport management practice and road freight transportation performance that will form the basis of further study by identifying the knowledge gap that will arise from the study.

The study will be beneficial to the academicians in contributing to the existing literature as a useful source of reference in the field of transport management in particular and Logistics in general.

In practice, the findings of the study will benefit logistics companies by providing an insight into how transport companies effectively manage their performance to create customer value as well as a competitive strategy in Ethiopia's increasing freight movement. The study also offers an understanding of the importance of transport management practices and how they can be integrated within the supply chain to gain a competitive advantage.

1.6 Scope of the study

Though ESLSE has different branches, the Kality land transport branch is specifically engaged in road freight transport activity. The branch has its' own maintenance garage and is equipped with different facilities and manpower in the field of vehicle maintenance. The dispatching of a vehicle along the Addis Ababa-Djibouti corridor starts from the kality land transport branch. Due to this, the researcher has selected the Kality land transport branch office as the geographical area of the study. Specifically, the study has focused on the Ethiopian Shipping and Logistics service enterprise owned trucks only and the study takes into account the journey from Kality to Djibouti port. Conceptually, the scope of the study was limited to assess transport management practices and road

freight transportation performance of the Ethiopian Shipping and logistics service enterprise along the Addis Ababa-Djibouti corridor. The study assessed the current transport management practice and road freight transportation performance of the ESLSE.

1.7 Delimitation of the study

The study assessed transport management practices and road freight transportation performance of Ethiopian shipping and logistics service enterprise along the Djibouti-Addis Ababa corridor by identifying major factors affecting road freight transportation performance. Though the enterprise uses sea, rail, and road modes of transportation services to transport freight, the study only focuses on road freight transportation.

1.8 Definition of terms/ Operational Terms

- ❖ **Storage Cost:** Amount charged to store goods in transit at the point of origin, destination, and ports of entry during the transport (Dereje, 2015).
- ❖ **Transit Time:** The total amount of time from freight being picked up to freight being delivered (Robinson, 2019).
- ❖ **Trucks downtime:** Period during which trucks are not functional or cannot work. It may be due to technical failure, service, maintenance, or non-availability of inputs such as drivers, fuel, and lack of cargo to be loaded and unloading problems (Wubishet, 2018).
- ❖ **Tone-Kilometer:** A unit of measurement equal to the actual ton-km carried divided by the maximum available ton-km capacity (European Environment Agency, 2010).
- ❖ **Vehicle Productivity:** defined as the ratio of outputs such as tonne-km or vehicle-km to inputs such as fuel, tire, spare parts, vehicles, or labor (Caplice & Sheffi, 1994).
- ❖ **Load factor/utilization:** is the ratio of the capacity used to the total capacity available (Caplice & Sheffi, 1994).
- ❖ **Truck available for operation:** The proportion of the available trucks (expressed usually as a percentage or in numbers) that a piece of the truck is available for operation (Dereje, 2015).

- ❖ **Vehicle Utilization:** is the number of vehicles operated as a percentage of the number available (Abate, 2013).
- ❖ **Truck turnaround time:** Period for completing a cycle from loading to unloading of trucks (Dereje, 2015).

1.9 Organizations of the study

The study has been organized into five chapters. Chapter one of the study gives readers a brief overview of the research topic and questions, purpose, and relevance. The key terminology and the stakeholders are defined followed by the outlining of the delimitations and the scope of the research. In the second chapter of the research paper, the theory required to understand the topic and answer the research questions were explored. In the third chapter of the study, the researcher comprehensively described the research methods and strategy used to collect data required to present quality findings and recommendations. The case along with the findings are presented next in chapter four, before producing the recommendations and drawing conclusions in chapter five.

CHAPTER TWO

2 REVIEW OF RELATED LITERATURE

This chapter reviews relevant literature on the key areas that the study covers. The literature review part of this study has theoretical literature review and empirical literature review parts. The theoretical part presents the summary of theories forwarded by different scholars about the subject under study at different times. Whereas the empirical part contains a summary of similar or related research findings obtained from other earlier researches.

2.1 Theoretical Literature Review

2.1.1 Transportation

Transportation refers to the movement of products from one location to another as it makes its way from the beginning of the supply chain to the customer. Transportation is an important supply chain driver because products are rarely produced and consumed in the same location. Transportation is the movement of products, materials, and services from one area to another, both inbound and outbound (Navin, 2016).

The objective of transportation is to link all pick-up and delivery - to points within the response time requirements of the customer service policy and the limitations of the transportation infrastructure at the lowest possible cost (Edward, 2002).

2.1.2 Freight transportation

Efficient freight transport and logistics systems can strengthen the business competitiveness of a country (Wisetjindawat, W., Kermanshah, A., Derrible, S., 2017). An effective freight transportation system in logistics activities could provide better logistics efficiency, reduce operation costs, and promote service quality (Shewangizaw, 2009).

Transport volumes are ever-growing and the problems of accommodating the freight flow efficiently and sustainably are a challenge. Traffic congestion is rapidly growing, the quality of freight transport couldn't satisfy the ever-increasing demand of customers;

environmental deterioration, inefficient use of resources, space restrictions, and traffic accidents are increasingly acknowledged as serious problems. In light of these problems, there is a great challenge to achieve a breakthrough in the performance of freight transportation (Konings *et al.*, 2008).

2.1.2.1 Road Freight Transportation in Ethiopia

Freight transport involves the utilization of routes, vehicles, and operations and is governed by an agreement between the shipper or his agent and the carrier or the service provider. Commercial road freight transport accounts for about 95% of Ethiopian cargo movements. (Afro consult and trading plc, 2010).

The freight transport is carried out by a mixture of private commercial and government institutions, to cater to the growing demand for freight in the movement of export, import, and domestic cargo. This presupposes the availability of vehicles with a lower age spectrum and high carrying capacity. The combined stocks of freight transport vehicles in Ethiopia, however, have an average age of well over 15 years and the commercial freight transport vehicles share that same age spectrum. Hence, the sub-sector suffers from the old age of the vehicle fleet and small carrying capacity (Asnake, 2006).

According to studies conducted under the sponsorship of the Ministry of Revenue and Customs Authority of the (2003), 85 % of the cargo is destined for Addis Ababa and about 300 trucks enter the Ethiopian border daily through the border town of Galafi Addis Ababa-Djibouti-Addis Ababa round trip takes a minimum of seven days.

The availability of technical assistance in the event of a breakdown of the trucks during the passage is not adequate either the drivers are not equipped with the necessary training or tools and spare parts to take care of even simple forms of breakdowns, nor are mobile garages available/accessible to the drivers. If breakdowns do occur, the drivers will have to wait until technical assistance is made available. When such breakdowns occur in the remote part of the Corridor, it may take days to avail of the technical assistance (Elias, 2011).

Availability and utilization of vehicles are the key characteristics of efficient and effective management of the transport system. Vehicles are very costly and ideally should be available for 95% of the time and used for paid work over 80% of this available time. But due to many factors such as delays through bad roads, border delays, weighbridge checks, customs delays at roadside and destination, poor scheduling for loading and unloading, road accidents, single driver operation, and congestion all reduce utilization (Elias, 2011).

The total road freight traffic increased continuously but without satisfying all the demand. The supply by all these transports companies and others is only 50% of the demand (Asnake, 2006).

To cater to the demand emanating from export, import, and domestic cargo movement availability of vehicles with a lower age spectrum, higher carrying capacity, and formidable fleet size are presupposed. Road freight transport has a detrimental role in affecting positively or otherwise sectors that require efficient input-output movements and accessing consumption centers, which other modes are not in a position to cater for in terms of cost and coverage (Arega, 2015).

2.1.3 Transport Management Practices

Transport Management refers to those methods or techniques found to be the foremost effective and practical means in achieving transportation objectives like low costs, timely delivery of transportation-related information to the remainder of the enterprise and customers, increase transportation velocity while making optimum use of the firm's resources (Stock & Lambert, 2001).

2.1.3.1 Carrier Management Practices

A key decision in logistics management is the selection of the transportation mode and carrier to maneuver the firm's inbound and outbound freight. Managers typically consider multiple attributes when making this decision, often specializing in cost and transit time because of the primary criteria (Meixell & Norbis, 2008). The importance of individual factors often differs from industry to industry, company to company, and even within an organization from one facility to the subsequent. Mode and carrier selection is

usually viewed differently for inbound and outbound shipments, even at an identical location.

Mode choice and carrier selection are a part of the decision-making process in transportation that features identifying relevant transportation performance variables, selecting the mode of transport and carrier, negotiating rates and repair levels, and evaluating carrier performance (Monczka, Trent, & Handfield, (2005). The performance of the transport carrier may influence the effectiveness of the whole logistics function of an organization. It, therefore, follows that the method of choosing an appropriate transport carrier is vital to the firm's success.

2.1.3.2 Load planning and optimization practices

Load planning and optimization is the creation of efficient transportation plans that allow shippers to scale back costs and improve service. Companies here hunt for opportunities to balance costs, expected transit times, and therefore the methods of shipment available. An honest example is where a corporation consolidates shipments that are but container load (LCL) into full container loads (FCL). Others may include the employment of pallets rather than loading loose cartons as they provide stability and safety during transit. For airfreight, the employment of unit load devices assists in loading planning and safety considerations during the complete flight. Several authors consider packaging to be one in every of the foremost important activities in supply chain and distribution networks (Jahre & Hatteland, 2004) and (Kerstin, et al., 2006). It's the packaging that permits a product to be unitized, protected, and transported securely (Prendergast, 1995). Consequently, the packaging's shape, volume, and weight, which can differ from that of the merchandise inside, incorporates a significant impact on logistics activities (Ballou, 1987). Primary packaging characteristics are often taken without any consideration by designers, marketers, and handlers when slight modifications could impact positively on transport efficiency. For instance, the familiar round tin can isn't ideally suited to maximize transport capacity, but metal square cans have proven difficult and expensive to construct (Jahre & Hatteland, 2004). Where transport costs represent a major a part of the whole distribution costs, then one area which determines the efficiency of all others is that the vehicle routing and scheduling

activity which could collectively be called load planning (Slater, 1979). The Logistics Managers' concern would be to maneuver freights in optimal quantities to require advantage of any economies of scale. Load planning and optimization appeal are that it helps companies achieve agility and efficiency in highly demanding and dynamic planning environments.

2.1.3.3 Preparing and Executing Freight

Optimal plans must be supported by effective operations in trucking companies, within the port or destination. Getting the correct cargo/freight on the correct carrier's truck at the correct time takes flawless planning. To achieve success, a strategic transportation plan must be in place to ensure lower costs and improved customer service levels. A decent example is found in companies that use electronic data interface (EDI) and other communications to tender freight, set and ensure obtain appointments, and submit freight documentation to their carriers. Trucking companies have online platforms where customers can get information and process tracking instructions. Vehicle schedules are available and customers choose suitable vehicles weighing upon their loading requirements. This is one of the win-win areas as carriers will recognize the efficiency in making pickups and deliveries at a well-scheduled dock (Shukla, *et al.*, 2011).

2.1.3.4 Cargo Monitoring and follow up

Freight transportation visibility throughout the organization, not just within the transport department, is critical to a responsive customer-centric firm. Leading companies have incorporated real-time updates from their carriers into their systems, giving visibility throughout their organizations. Key benefits include improved efficiency and reduced spending by the transport department as they spend less time tracking and chasing proof of delivery information from carriers. Proactive notifications are provided by leading carriers routinely whenever cargo delivery or pickup is in jeopardy for any reason as an example stoppage by customs for inspection. Transport companies have come to develop specialized systems on the side for tracking and tracing, or fleet management, which they need to be detached to be used by other organizations (Kovács & Spens, 2011).

2.1.3.5 Freight payment and audit

Paying and collecting freight bills on time and accurately helps transporters become "transporters of choice," a designation that produces it easier to secure capacity and move freight reliably. At the identical time, few transporters want to pay over they owe, or over similar transporters in their market are paying to maneuver their freight. They need to grasp that their rate, and assessorial and other costs are in line with the market (Jeff, 2019). The existence of huge transporter's scale and technological advances are now driving efficiencies in freight payment processes. The invoice processing functions include invoice receipt, validation, dispute resolution, approval, payment, and audit. The audit results provide a prioritized list of cost savings opportunities. They highlight opportunities to strengthen the transportation organization. The audit also provides a road map for improving processes and customer satisfaction (Dan, 2013).

2.1.3.6 Performance Monitoring

Measuring performance requires linking internal data with data from transporters to make acceptable measures. The internal process measures include the proportion of trucking dates attained, the proportion of cargo that acquired their destination on time, and transportation costs as a percentage of sales. Measures of transportation performance include on-time performance, sticking to advised transit times, claims as a percentage of freights, or as a percentage of transportation costs (Ellinger, Daugherty, & Keller, 2000). Many firms are observed to determine performance, supported by cost, and efficiency (Kurien & Qureshi, 2011). Besides the financial measures, we now have the non-financial measures which include time, quality, and suppleness. Time element has strategic importance in business and hence time must be used as a strategic metric in performance measurement (Andy *et al.*, 2005). These authors argued that measuring, controlling, and compressing time shall improve quality, reduce costs, improve responsiveness to customer orders, enhance delivery, increase productivity, increase market share, and increase profits. Flexibility (to measure the pliability to accommodate the dynamic nature of the business) might be a performance apart since it is a capability to vary something (for example, the assembly volume or mix) with all the three performances of cost, time and quality (De Toni and Tonchia, 1998).

2.1.4 Transportation Performance Measures

Measuring transportation performance allows the firm to spot problem areas and so make changes, resulting in improved transportation services. Measures of performance can be compared against predetermined standards, competitive benchmarks, or previous period performances to identify problems. These are transportation costs, percent on-time deliveries, and average transit time (Samuel, 2016).

A transport company truck may have a fixed and variable expense whether the truck is drive or not like fuel, tire, insurance, lubricants, and others. So, the companies could monitor, control, and improve their trucks' operation performance to minimize truck operation costs (Asrat, A., 1996).

Table 2-1 Basic Truck Operation Principles

No	13 Basic operation Principles	Expectation
1	Serviceability	+
2	Utilizations	+
3	Garage status	-
4	Distance Covered	+
5	Uplifting freight	+
6	Load factor	+
7	Revenue per vehicle	+
8	Fuel consumptions	-
9	Tire Expense	-
10	Spare part expense	-
11	Oil consumptions	-
12	Maintenance cost	-
13	Other costs	-

Source: Asrat Alemayehu (1996)

Truck transporters predominantly use cost and Combination of cost and operational performance measures. One performance measure is insufficient since it's not inclusive, ignores interactions among important transportation characteristics, and ignores critical aspects of organizational strategic goals. Strategic goals involve key elements that include the measurement of resources, output, and adaptability. The economical use of resources, the specified output, and adaptability are vital components for the success of

any operations system so within the truck transport system. Therefore the truck transport system emphasizes on three separate measures: resource measures, output measures, and adaptability measures. Each of those performance measure types has important characteristics and affects one another (Vittaladasa & Aditya, 2015).

2.1.4.1 Financial Measures of Performance

Transportation financial metrics should include total transportation costs and related ratios, as well as economic values for fleet assets. A detailed estimate of total transportation cost incorporates the following expense and capital elements: Freight, inbound and outbound, Fleet ownership costs, Driver/operator wages, and benefits, Terminal ownership costs, Planner/manager wages and benefits, Office space ownership costs, Fleet leasing, Maintenance facility ownership costs, Terminal leasing, Transportation management systems software ownership costs, Office lease and utilities, Transportation computing infrastructure ownership costs, and telecommunications, Transportation infrastructure fees ownership costs (ports, bridges, and so on), Maintenance, Fuel, Third-party transportation fees, customs brokerage, and freight forwarding fees, Security, and Packaging materials (Chopra & Meindl, 2013).

2.1.4.2 Productivity Measures of Performance

Transportation productivity metrics represent two categories: transportation asset productivity and transportation operator productivity. The two main categories of transportation assets are containers and vehicles. Containers include over-the-road containers, ocean containers, air containers, and so on. The utilization of a container must incorporate the load and cube utilization since container capacity is restricted in both dimensions. The metrics for transportation operator productivity don't differ that greatly from vehicle productivity because each vehicle is manned by an operator. The foremost common bases for assessing transportation operator productivity are the number of stops, miles traveled, dollars delivered, cases delivered, pounds delivered, or pallets delivered per person-hour (Edward, 2002).

2.1.4.3 Quality Measures of Performance

Transportation quality and reliability are just as important, if not more important than cycle time. transportation quality indicators include claims-free shipment percentage, damage-free shipment percentage, the distance between accidents, on-time arrival percentage (OTAP), on-time departure percentage (OTDP), perfect delivery percentage (PDP) and perfect route percentage (PRP) (Ross, 1998).

2.1.4.4 Cycle time measures of Performance

Quicker transit, loading, and unloading times translate into greater asset utilization, which translates into greater leveraging of the corporation's capital. Some of the most popular cycle time indicators for transportation include: In-transit time (ITT), In-transit time variability, vehicle load/unload time, detention time, delayed in traffic time (Edward, 2002).

2.1.5 Factors Affecting Transportation Performance

The performance of many firms is pegged on several factors. These factors may come from both the external and internal environments in which the firm operates. Any transport company that wants to effectively manage its transportation performance should identify the influence of those internal and external factors. Identifying these internal and external factors helps in several elements of performance management, particularly in communication and target settings (U.S. Department of Transportation, 2019).

2.1.5.1 Internal Environment Factors

The internal factors refer to anything within the company and under the control of the company. Internal factors that affect transportation performance includes cost/financial factors, Availability of human resource, Availability of maintenance equipment, availability of loading and unloading machine's, experience/Training of staff, Current technology, and Leadership/Quality of management (BMS Team, 2013).

2.1.5.2 External Environment Factors

External elements are those factors outside and under no control of the company. Considering the external environment allows firms to take suitable adjustments to their

marketing plan to make it more adaptable to the external environment. There are numerous criteria considered as external factors. Among them, the most outstanding and important factors that need to be listed are the current economic situation, laws, surrounding infrastructure, and customer demands (Mageplaza, 2019). External factors affecting transportation performance include Social, Legal, Economic, Political, and Technological factors (Fueloyal, 2019).

2.2 Empirical Literature Review

2.2.1 Transport Management Practices

The need for materials movement along a supply chain puts transport management at the core of logistics. Several studies have consequently been conducted to establish the influence of proper management of transport on overall performance among organizations. Mukolwe and Wanyoike (2015) assessed how management practices used in logistics affect operational efficiency in Mumias Sugar Company. Using descriptive and inferential statistics, the study revealed among other findings that transport management and the practices used for physical distribution are synonymous with the flow of raw materials and goods that is cost-effective which impacts positively on operational efficiency.

Mwangangi (2016) examined the influence logistic management has on the performance of manufacturing firms. The study used both primary and secondary data drawn from employees of the firms and published and unpublished records. Using multiple regressions analysis, the study revealed that transport management by use of transport management systems was a significant predictor of firm performance.

Gitahi and Ogollah (2014) investigated how practices used to manage fleet influence service delivery to refugees under the UNHCR Kenya program. The study builds on the premise that transportation is central to logistics. The study used a descriptive research design and targeted 390 employees. From the sample of 117 who participated in the study, it was concluded that the rate of fuel consumption on tracking, fuel monitoring, fuel sourcing, fuel allocation on a day to day basis, and the rate at which fuel usage is monitored influence delivery of services to refugees in the UNHCR program in Kenya.

2.2.2 Freight Transportation Performance

Michael Tracy,(2004) his work entitled transportation effectiveness and manufacturing firm performance stated that rapid and effective response in moving materials and knowledge within a brief period is crucial, and transportation may be a key element in making this happens. A facility that gives a reliable service level reduces supply chain uncertainty and also the amount of inventory required throughout the chain

which successively reduces holding cost which finally reduces the general cost of ownership of a product and also the certainty of the provision chain will build customer loyalty. On the opposite hand, poor transportation performance causes excessive freight costs and increased inventory holding costs.

2.2.3 Road Freight Transportation Performance Measures

The literature on freight performance measurement has become more active in recent years than in years past. From the pre-2000 references, Boisjoly (1979) reported on 20 motor carrier performance measures, two of which were given special attention: revenue per ton-mile and the ratio of operating expenses to revenue (the operating ratio). Ferreira and Sugut (1992) identified three major performance measures for road container transfer facilities: customer service, operational efficiency, and terminal productivity. The authors noted that an underlying constraint in a performance measurement system would be the total capital and operating costs. Australia's Bureau of Industry Economics (1992) suggested two types of indicators for the road freight industry: customer service and operational efficiency. Measures within each category were obtained from a survey of (mostly) Australian freight transport providers. The report identified four key customer service measures: on-time pickup (% of pickups), on-time delivery (% of deliveries), loss and damage rate, and proportion of claims paid. Six operational efficiency measures emerged as the most common among the providers surveyed: total kilometers per vehicle per year, total ton-kilometers per vehicle per year, kilometers traveled empty as a proportion of total kilometers traveled, average actual load as a proportion of full load capacity, number of kilometers per driver per year and fuel usage by vehicle type.

Stewart (1995) discussed four "keys" to unlocking supply chain excellence: delivery performance, flexibility and responsiveness, logistics cost, and asset management. His suggested performance metrics are delivery performance, flexibility, and responsiveness, logistics cost, and asset management.

Stainer (1997) emphasized productivity measures as being, perhaps, the most meaningful indicators of logistics performance. He noted that productivity could be divided into three types, each with a different measurement scope: Partial productivity (i.e. ratio of total output to a single input, such as labor, materials or capital), Total factor or value-added

productivity (i.e. total sales less bought-in goods, materials, and services) and Total productivity (i.e. ratio of total output to total input).

Duma (1999) argued that the ton-kilometer, although widely used, was not a powerful enough measure to differentiate between freight transports activities or to characterize the importance of transport modes. The finding of the author suggested the consideration of the weight of transported goods, transport distance, transport tariff revenue, transported units, number of vehicles, capacity measurements, operation time/haulage time, fuel & energy consumption, utilization/crowd indexes, and artificial indexes.

2.2.4 Factors Affecting Transportation Performance

The performance of many firms is pegged on several factors. These factors may come from both the external and internal environments the firm operates in. On the part of the transport sector, several studies have been conducted on the factors affecting the performance of transport firms. A study by Badenhorst-Weiss (2015) obtained an insight into, the business environmental risks, from a logistics perspective of the South African logistics market. The study found out that increasing transportation costs, operational management of infrastructure, and human resource-related problems posed the biggest challenges in the logistics industry.

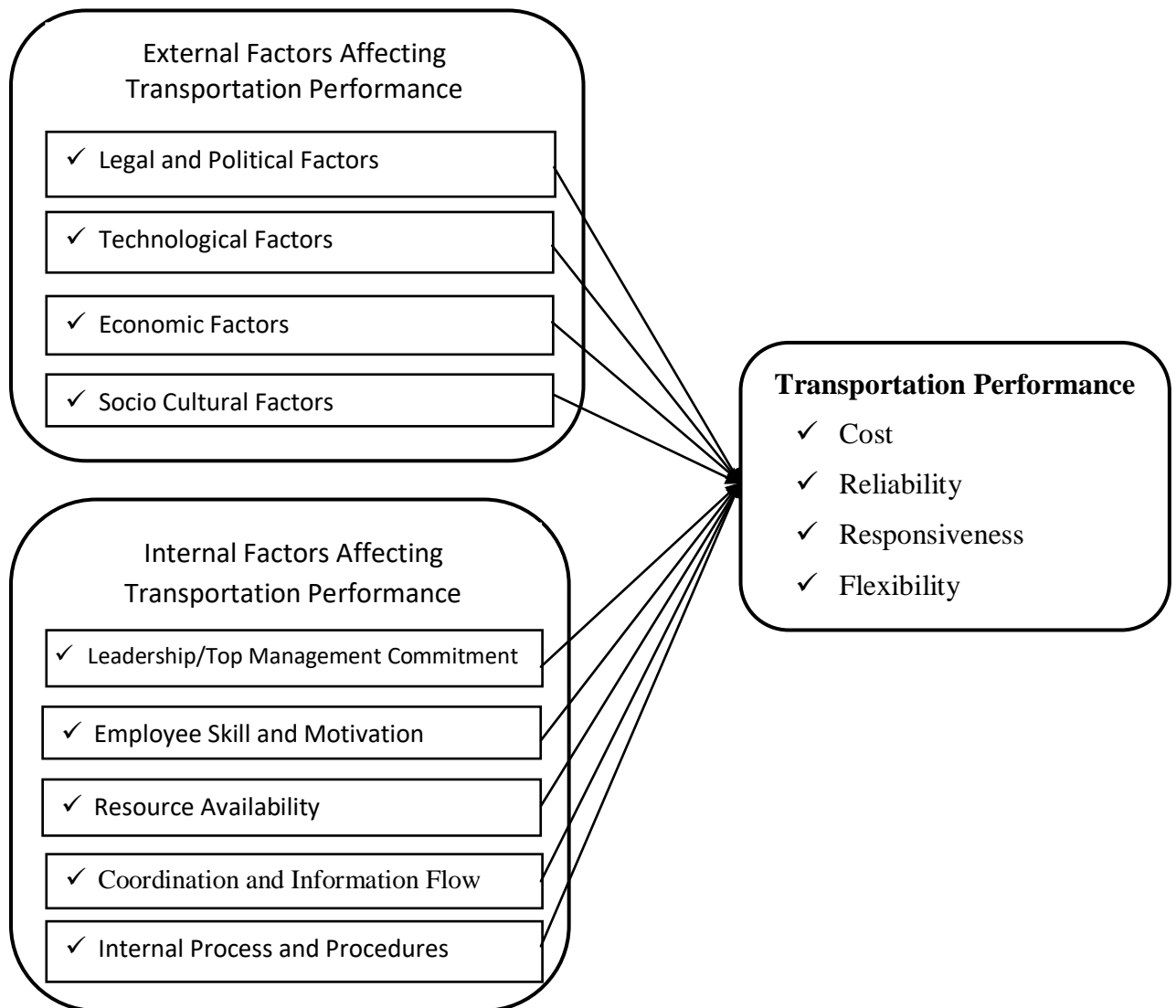
A study by Jacinta (2017) performed a survey of courier companies in Kenya in an attempt to get an insight and understanding of factors affecting the performance of the courier service industry. The study found out that, firms had invested heavily in training their employees and thus the reason behind good reliable service. Another factor sighted was the use of information technology. Although there is evidence of poor infrastructure, firms turned this into an opportunity by investing in motorbikes, thereby favoring their growth.

2.3 Conceptual Framework

The conceptual framework is a diagrammatical representation that shows the relationship between the dependent variable and independent variables (Young, 2009). In the study, Internal and External factors are conceptualized as affecting the performance of road

freight transportation in ESLSE. Accordingly, the study tried to establish how the independent variables can lead to the realization of the dependent variables, road freight transportation performance. The study measures transport management practices in terms of carrier management, load planning, and optimization, preparing and executing freight, cargo monitoring and follow-up, freight payment and audit, and Performance monitoring. Internal and external factors are also assessed. On the other hand, the study measures road freight transportation performance using indicators of cost reduction, reliability, responsiveness, and flexibility.

Figure 2-1 Conceptual Framework of the study



Source: Aramyan et al. (2007) and modified by the Researcher, 2019

Transport Management Practice is assessed descriptively from perspectives of Carrier Management, Load planning, and optimization, Preparing and executing freight, Cargo Monitoring and follow-up, Freight payment and audit, and Performance monitoring.

2.4 Hypothesis

- H1) Legal and political factor significantly affects the road freight transportation performance of ESLSE
- H2) Technological factor significantly affects the road freight transportation performance of ESLSE
- H3) Economic factor significantly affects the road freight transportation performance of ESLSE
- H4) Sociocultural factor significantly affects the road freight transportation performance of ESLSE
- H5) Leadership/Top Management Commitment significantly affects the road freight transportation performance of ESLSE
- H6) Employee Skill and Motivation significantly affects the road freight transportation performance of ESLSE
- H7) Resource availability significantly affects the road freight transportation performance of ESLSE
- H8) Coordination and Information Flow significantly affects the road freight transportation performance of ESLSE
- H9) Internal Processes and procedures significantly affects the road freight transportation performance of ESLSE

2.5 Research Gap

Though there are several measurement systems available to measure the product-related system, there are few service measurement systems such as truck transportation. The dominating disorganized sector of truck transport is currently in need of appropriate performance measures that measure the cost, reliability, responsiveness, and flexibility. This paper measures various performance indicators of road freight transportation under all these categories. Cost measures are used to measure the efficient utilization of

resources, while the reliability and responsiveness measures focus on both the quantity and quality of outputs that lead to customer satisfaction as well as the profitability of the fleet. Finally, flexibility measures are used to measure the ability to respond to changing requirements of the customer that leverage available opportunities to enhance the business as well as profitability.

In all empirical findings above, major factors affecting the performance of road freight transportation are not mentioned. Therefore the findings of this paper explained the major factors affecting the performance of road freight transportation in ESLSE along with solutions recommended for road freight transportation performance improvement.

CHAPTER THREE

3 METHODS OF THE STUDY

This part of the research explains the research design and methodology deployed to undertake this specific research work. It includes some very important subtopics in it.

3.1 Description of the Study Area

Addis Ababa- Djibouti corridor represents the main national corridor connecting the port of Djibouti to the capital. It is a bimodal corridor: road and railway. Two principal road routes are connecting Djibouti and Addis Ababa. One of them passes through the Ethiopian towns of Awash and Mille, crosses the border at Galafi, joins the route Nationale 1 in Djibouti, passes through Yoboki, continues just north of Ali-Sabieh, and then enters Djibouti City. This section of the Djibouti-Ethiopia road corridor carries about 1,000 trucks per day, mostly six-axle truck/trailer combinations, with those carrying wet bulk mainly fuel tankers comprising about 35 percent of the heavy goods traffic and the remaining 65 percent consisting of dry bulk and container trucks.

The other route between Addis Ababa and Djibouti City branches off at Awash and passes through the Ethiopian towns of Dire Dawa and Dewele before crossing the border; it continues into Al Sabieh, Djibouti, before joining the RN1 about 80 km out of Djibouti City. The road is 909 km long passing through Awash and 824 km long passing through Diredawa.

3.2 Design of the Study

Depending on the objectives of the study, the study has used both descriptive and explanatory research designs. According to Kothari, (2004), those two research designs may facilitate research to be as efficient as possible yielding maximum information. Descriptive research design and explanatory research design provides the collection of relevant evidence with minimal expenditure of effort, time, and money. According to Kothari (2004), descriptive research studies are those studies that are concerned with describing the characteristics of a particular individual, or of a group, whereas diagnostic

research studies determine the frequency with which something occurs or its association with something else.

3.3 Research approach

For the study, the paper has used mixed research involving both qualitative and quantitative approaches. The quantitative research approach was used to assess transport management practices, identify major factors affecting the performance and assess the overall performance of road freight transportation performance in ESLSE by generating numerical data or data that can be transformed into useable statistics while qualitative research is used to gain an understanding of the employees' experience, opinions, and perceptions concerning road freight transportation service the enterprise is providing, by use of questionnaires. The integration of both qualitative and quantitative approach provides a more complete and comprehensive understanding of road freight transportation performance.

3.4 Population and Sample Design

3.4.1 Population

Since the study was conducted at the Kality land transport branch office, ESLSE, which is situated in the capital city of Ethiopia, Addis Ababa, and the target population of the study comprises all permanent employees from the core and supportive departments in kality land transport branch office.

Table 3-1 Target Population

Target department	Total number
Director office	10
Land transport operation	329
Maintenance	172
Finance	35
Human resource	14
Planning & ICT	10
Legal and insurance	6
Total	576

Source: ESLSE, as of October 30, 2019.

3.4.2 Sample size

According to Mugenda and Mugenda (2013), when the study population is less than 10,000, a sample size of between 10% and 30% is a good representation of the target population and hence 20% was considered to be adequate for this study. Therefore, 115 (576x0.2) were determined to be sample size.

3.4.3 Sampling Technique

For ease of sampling, the sampling frame is determined first. The sampling frame of the study was all permanent employees of the kality land transport branch from which the sample size was taken. Using a simple random sampling method, 20% of the total population in each department was determined to be respondents who filled out the questionnaire. This was due to the fact, that this method was found giving an equal chance of being selected into the sample group for every member of a population.

3.5 Data Collection

3.5.1 Data sources

The study has used both primary and secondary data sources to meet the objectives of the study. The primary data was collected from ESLSE's kality land transport branch employees using questionnaires. Both tools were used to collect raw data regarding respondents' evaluation of road freight transportation performance.

3.5.2 Data Collection Tools

Mainly the data collection tool the study used is a questionnaire. The questionnaire was found to be more appropriate to get maximum information since respondents found it easy to fill and forward their feelings and responses to questions.

The questionnaire contained four parts. The first part is designed to collect respondents' background information and the second part is structured to collect respondents' evaluation of transport management practices. The third part is designed to collect factors affecting road freight transportation performance. The fourth part is designed to collect

road freight transportation performance data and a five-point Likert scale (1=strongly disagree to 5=strongly agree) measurement was used.

Table 3-2 Scoring range of Likert scale of the survey

	Value	Range
Strongly Disagree	1	1.00-1.80
Disagree	2	1.81-2.60
Neutral	3	2.61-3.40
Agree	4	3.41-4.20
Strongly Agree	5	4.21-5.00

The formula for Gap width = Series width/number of the group
It is determined as gap width =4/5= 0.8

Source: Researcher, 2020

3.5.3 Data Collection Procedure

First, a structured questionnaire was developed and distributed to the target population of 115 respondents to get primary data. Out of 115 questionnaires distributed to respondents, 106 were filled and returned and 102 of them were used for analysis purposes.

3.6 Method of data analysis and presentation

In this section, the preparation, presentation, and description of the data were done respectively. The data preparation involves collecting, editing, coding, and entering the data into a computer and the data analysis was done by using both quantitative and qualitative analysis. The study used SPSS version 25 software to analyze and interpret the data. For data analysis, descriptive statistics (like percentage, frequency, mean and standard deviation) and inferential statistics (like correlation and regression analysis) were used.

3.7 Validity and Reliability test

3.7.1 Validity Test

To ensure the internal validity of the questionnaire, the researcher has given the draft questionnaire to the supervisors and experts for review and recommendations which are made part of the final questionnaire. Construct validity was assured by rearranging the questions according to the comments of the respondents to keep the flow of questions.

3.7.2 Reliability Test

Reliability is defined as the extent to which results of a study are consistent over time and there is an accurate representation of the total population under study. According to Toke *et al.*, (2012), reliability analysis aims to find the extent to which a measurement procedure produced the same result if the process is repeated over and over again under the same conditions.

There are different methods of reliability test, for this study Cronbach's alpha was considered to be suitable. Cronbach's alpha is the most common measure of reliability and stability. It is recommended that the Cronbach's Alpha should be over 0.70 to produce a reliable scale and any scale with Cronbach Alpha less than this standard should be eliminated (Sekaran, 2003). Accordingly, the Cronbach's for Transport Management Practice, Internal and External Factors Affecting Transportation Performance and Transportation Performance were assessed and the reliability values for all constructs show that the instrument was reliable since the coefficients were above 0.7

Table 3-3 Reliability Test

Items	Cronbach's Alpha	Number of Items
Transport Management Practices	0.797	34
Internal Factors Affecting Transportation Performance	0.822	21
External Factors Affecting Transportation Performance	0.787	16
Transportation Performance	0.715	27
Overall Reliability Statistics	0.871	98

Source: Survey questionnaire, 2020

3.8 Ethical Considerations

Research involving people must be developed ethically; particularly this includes the responsibility of the researcher to protect the privacy of the individuals that participate in the study. This privacy protection must extend to all people, regardless of age, religion, and race. Hence, this study fully considered the ethical matters of all the individuals and enterprises involved in the study.

CHAPTER FOUR

4 RESULTS, DISCUSSION, AND INTERPRETATION

4.1 Introduction

This part of the paper presents the data analysis section of the paper. The questionnaire was the main data collection tool used. The data collected via a questionnaire were summarized, organized, and analyzed using statistical software called Statistical Package for Social Science (SPSS) version 25. For data analysis, inferential statistical methods were used to analyze and present the data findings.

4.2 Measurement of Reliability and Validity

The extent to which respondents rate those scale items in a similar manner or in short the 'internal consistency' of the study was estimated after conducting a pilot survey by including all the items. The internal consistency of the scale items was computed using the commonly applicable method called Cronbach alpha. Thus, the overall reliability of the scale was found to be 0.871 which indicates the acceptability of the items.

4.3 Response Rate

Out of the 115 questionnaires distributed to respondents, 106 questionnaires representing 92 percent of the whole questionnaire were returned while 9 questionnaires representing 8 percent of the whole questionnaires were not returned. However, responses from 4 respondents were discarded for they weren't complete as they ought to be. As a result of incompleteness, the total questionnaire used for analysis is 102 and this makes the response rate stood at 89 percent which shows the response rate is acceptable.

4.4 Demographic profile of the respondent

The demographic profile of respondents used in the study is sex, educational background, and work experience.

Table 4-1 Demographic profile of the respondents

Demographic profile of the respondents	Dimension	Frequency	Percent
Gender	Female	78	76.5
	Male	24	23.5
Educational background	Diploma and Below	33	32.4
	Degree	62	60.8
	Masters and Above	7	6.9
Work experience	1-5 Years	31	30.4
	6-10 Years	34	33.3
	11-15 Years	20	19.6
	Over 15 Years	17	16.7

Source: Own Survey, 2020

Table No. 4.1 above, shows the demographic profile of respondents. From the total respondents, 78(76.5%) of them are Male while the remaining 24(23.5%) are Female employees. This shows the company has more male and lesser Female employees.

The educational background of the employee respondents were mainly graduates at 1st-degree level 62(60.8%), followed by diploma and below 33(32.4%). The educational background of the remaining 7(6.9%) is the second degree and above.

It is also evident from table 4.1 above, that respondents of the questionnaire have served the enterprise for different years. From the total respondents, 31(30.4%) of respondents are with the Enterprise for 5 years and below, 34(33.3%) respondents fall in between 6-10 years of service, 20(19.6%) are with the Enterprise for 11-15 years and the remaining 17(16.7%) are in service of the Enterprise for above 15 years. It is possible to state that majority of the respondents are with the company for a long period which means they know the company very well from which it is possible to get the required information for the study.

4.5 Transport Management Practices

The study sought to assess the transport management practices adopted by Ethiopian shipping and logistics service enterprise. Some questions were designed and distributed to the respondents who gave their responses on a Likert scale of 1 to 5, where 1 represented “strongly disagree” and 5 represented “strongly agree”. The results are discussed as follows;

4.5.1 Carrier management practices

Table 4-2 Descriptive statistics Summary of Carrier Management Practices

Items	Mean	Std. Deviation
ESLSE considers the nature of the cargo to be transported in deciding appropriate carriers	4.58	0.588
ESLSE carefully considers measures for evaluating transport performance when choosing the carrier	4.39	0.616
ESLSE considers transit time in assigning trucks	4.27	0.566
ESLSE considers the carrier to move inbound & outbound cargo to minimize costs of movement	4.21	0.860
ESLSE carefully decides to optimize the transport mode when choosing a carrier	4.05	0.801
ESLSE considers security measures deployed to safeguard cargo in transit by individual carriers	3.47	0.992
ESLSE considers environmental and energy concerns of transport providers when selecting carriers	2.24	0.720
Overall	3.88	0.386

Source: Own Survey, 2020

From Table 4.4, majority of the respondents strongly agreed, to the practices that the enterprise considers the nature of the cargo to be transported in deciding appropriate carriers; carefully considers measures for evaluating transport performance when choosing the carrier; considers transit time in assigning trucks and considers the carrier to move inbound & outbound cargo to minimize costs of movement showing mean score of 4.58, 4.39, 4.27 and 4.21 with a standard deviation of 0.588, 0.616, 0.566, and 0.860 respectively. On the other hand, most of the respondents agreed to the practice that, the

enterprise carefully makes the decision to optimize the transport mode when choosing a carrier and considers security measures deployed to safeguard cargo in transit by individual carriers as shown by the mean scores of 4.05 and 3.47, and standard deviation of 0.801 and 0.992 respectively. Most of the respondents also disagree with the practice that the enterprise considers environmental and energy concerns when selecting carriers showing a mean score of 2.24 and a standard deviation of 0.720.

4.5.2 Load planning & optimization practices

Table 4-3 Descriptive statistics Summary of load planning & optimization practices

Items	Mean	Std. Deviation
ESLSE considers opportunities for continuous truckload and backhaul moves to keep costs down	4.48	0.656
ESLSE considers the volume of cargos available and vehicle capacity to maximize vehicle capacity utilization	4.27	0.692
ESLSE considers vehicle scheduling and route optimization	4.13	0.640
ESLSE considers the proximity and location of warehouses and ports for the fast delivery of cargo	3.43	1.095
ESLSE considers compliance on loading regulations and enforcement (axle load limits)	3.13	1.295
ESLSE considers consolidation opportunities to reduce transport costs	3.02	1.081
Overall	3.74	0.569

Source: Own Survey, 2020

From Table 4.5 above, the majority of the respondents strongly agreed to the practice that the enterprise considers opportunities for continuous truckload and backhaul moves to keep costs down and considers the volume of cargos available and vehicle capacity to maximize capacity utilization as shown by the mean scores of 4.48 and 4.27 respectively. Most of the respondents also agreed to the practice that the enterprise considers vehicle scheduling and route optimization and considers the proximity and location of warehouses and ports for the fast delivery of cargo showing a mean score of 4.13 and 3.43. On the other hand majority of the respondents are neutral to the practices that enterprise considers compliance on loading regulations and enforcement (axle load

limits) and considers consolidation opportunities to reduce transport costs with a mean score of 3.13 and 3.02 with a standard deviation of 1.295 and 1.081 respectively.

4.5.3 Preparing and Executing of Freight

Table 4-4 Descriptive statistics Summary of preparing and Executing of Freight

Items	Mean	Std. Deviation
ESLSE actively solicits for advice on customs procedures and regulations required for goods to be moved.	4.36	0.701
ESLSE sets and confirms pick up appointments to reduce costs and save time.	3.97	0.826
ESLSE uses fleet management technology for cargos to reduce logistics costs	3.66	1.173
ESLSE considers road networks for efficiency & reduction of supervision costs.	3.42	1.029
ESLSE considers loading in pallets rather than individual cartons to minimize damages and losses.	3.40	1.027
ESLSE submits transport instructions to customers online paperless and time-saving	2.08	0.754
Overall	3.48	0.405

Source: Own Survey, 2020

From table 4.6 above, the result of the descriptive statistics of the SPSS analysis revealed that some respondents strongly agreed to the practice that the enterprise actively solicits for advice on customs procedures and regulations required for goods to be moved shows mean score of 4.36 and standard deviation of 0.701. The result also revealed that majority of the respondents agreed to the practice that the enterprise sets and confirms pick up appointments to reduce costs and save time; uses fleet management technology for cargos to reduce logistics costs and considers road networks for efficiency & reduction of supervision costs with a mean score of 3.97, 3.66 & 3.42 and the standard deviation is 0.826, 1.173 & 1.029 respectively. On the other hand, the descriptive analysis of the SPSS also revealed that some respondents are neutral to the practice that ESLSE considers loading in pallets rather than individual cartons to minimize damages and loses with a mean score of 3.40 and 1.027 standard deviation; and others disagree to the

practice that the enterprise submits transport instructions to customers online paperless and time-saving, resulting a mean score of 2.08 and standard deviation of 0.754.

4.5.4 Cargo Monitoring and follow-up Practices

Table 4-5 Descriptive statistics Summary of cargo Monitoring and follow-up Practices

Items	Mean	Std. Deviation
ESLSE considers shipment visibility throughout the organizations' supply chain	4.12	0.762
ESLSE considers tracking systems deployed to monitor cargo	3.85	0.587
ESLSE has incorporated real-time updates from carriers into their systems to easily track shipments.	3.46	1.149
ESLSE considers specialized training of drivers and operators in handling special cargo like dangerous or perishable cargo to reduce damages to goods in transit.	2.54	1.078
Overall	3.49	0.624

Source: Own Survey, 2020

As it is seen on Table 4.7 above, the result of the descriptive statistics of the SPSS analysis revealed that majority of the respondents agreed to the practices or parameters that the enterprise considers shipment visibility throughout the organizations' supply chain; considers tracking systems deployed to monitor cargo and; has incorporated real-time updates from carriers into their systems to easily track shipments, resulting a mean score of 4.12, 3.85, 3.46 and standard deviation of 0.762, 0.587, and 1.149 respectively. For the other parameter which is the enterprise considers specialized training of drivers and operators in handling special cargo like dangerous or perishable cargo to reduce damages to goods in transit majority of the respondents disagreed with a mean score of 2.54 and standard deviation of 1.078.

4.5.5 Freight Payment and Audit Practices

Table 4-6 Descriptive statistics Summary of freight Payment and Audit Practices

Items	Mean	Std. Deviation
ESLSE carefully scrutinizes invoices received and certifies they are billed as per contract	4.76	0.426
ESLSE ensures compliance on tax and other legal obligations when selecting transporters	4.71	0.458
ESLSE conducts regular audits and reconciliations to clear outstanding payments and receivables	4.41	0.894
ESLSE uses real-time gross settlement system to settle freight invoices	3.85	0.916
ESLSE ensures payments are made as per agreed credit terms contracts	3.84	0.931
ESLSE manages contracts and payments centrally for better cost control.	3.08	0.951
Overall	4.11	0.459

Source: Own Survey, 2020

It is evident from Table 4.8 above that the descriptive statistics result of the SPSS analysis revealed that majority of the respondents strongly agreed to the practices, ESLSE carefully scrutinizes invoices received and certifies they are billed as per contract; ensures compliance on tax and other legal obligations when selecting transporters; and conducts regular audits and reconciliations to clear outstanding payments and receivables as shown by the mean score of 4.76, 4.71 and 4.41 while their standard deviation is 0.426, 0.458 and 0.894 respectively. Most of the respondents agreed to the practices that the enterprise uses real-time gross settlement system to settle freight invoices and ensures payments are made as per agreed credit terms contracts showing a mean score of 3.85 and 3.84 and standard deviation of 0.916 and 0.931 respectively. The descriptive statistics result of the SPSS analysis also revealed that the majority of the respondents neither agreed nor disagree or keep neutral to the practices that the enterprise manages contracts and payment centrally for better cost control with a mean score of 3.08 and standard deviation of 0.951.

4.5.6 Performance Monitoring Practices

Table 4-7 Descriptive statistics Summary of performance Monitoring Practices

Items	Mean	Std. Deviation
ESLSE considers vehicle capacity utilization	4.58	0.516
ESLSE records the percentage of cargos that arrive at the destination on time	4.28	0.872
ESLSE considers the percentage of requested cargo dates attained	3.93	1.092
ESLSE conducts compliance audits on transport service for improvement opportunities	3.84	1.088
ESLSE arranges for regular performance reviews with drivers and agrees on areas of improvement	2.91	0.945
Overall	3.91	0.466

Source: Own Survey, 2020

As it is seen on Table 4.9 above, the result of the descriptive statistics of the SPSS analysis revealed that majority of the respondents strongly agreed to both practices that the enterprise, considers vehicle capacity utilization and records the percentage of cargos that arrive at destination on time with a mean score of 4.58 and 4.28 and their standard deviation is 0.516 and 0.872 respectively. The result also revealed that most of the respondents agreed to the practices, the enterprise considers the percentage of requested cargo dates attained and conducts compliance audits on transport service for improvement opportunities yielding a mean score of 3.93 and 3.84 and standard deviation of 1.092 and 1.088 respectively. On the other hand, most of the respondents are neutral to the practice that the enterprise arranges for regular performance reviews with drivers and agree on areas of improvement with mean and standard deviation of 2.91 and 0.945 respectively.

Table 4-8 Summary of Transport Management Practices

Transport Management Practices	Mean	Std. Deviation
Carrier management practices	3.88	0.386
Load planning & optimization practices	3.74	0.569
Preparing and Executing of Freight	3.48	0.405
Cargo Monitoring and follow-up Practices	3.49	0.624
Freight Payment and Audit Practices	4.11	0.459
Performance Monitoring Practices	3.91	0.465
Grand Mean of Transport Management Practices	3.77	0.485

Source: Own Survey, 2020

From Table 4.8 above, the descriptive statistics result of the SPSS analysis for the research findings revealed that the grand mean of all management practices adopted by Ethiopian shipping and Logistics service enterprise was 3.77 while the standard deviation is 0.485. Among transport management practices adopted by Ethiopian shipping and Logistics service enterprise, Freight Payment and Audit Practices, Performance Monitoring Practices, Carrier management practices, and Load planning & optimization practices have the highest value of mean 4.11, 3.91, 3.88 and 3.74 respectively and their standard deviation is 0.459, 0.465, 0.386 and 0.569 respectively. The mean value for Cargo Monitoring and follow-up and Preparing and Executing of Freight were found to be 3.49 and 3.48 while standard deviation is 0.624 and 0.405 respectively.

4.6 Factors Affecting Road Freight Transportation Performance in ESLSE

The study assessed factors affecting road freight transportation performance of Ethiopian shipping and logistics service enterprise from both internal and external aspects. Five Internal factor indicators and four external factor indicators were used. The results are discussed as follows;

4.6.1 Internal Factors Affecting Transportation Performance

Based on the data collected and analyzed using SPSS, the descriptive statistics result of the analysis revealed that the grand mean for leadership/top management commitment, employee skill and motivation, availability of the resource, coordination and information flow, and internal process and procedures resulted, 4.07, 3.81, 3.95, 4.22 and 3.89

respectively while their standard deviation is 0.53, 0.48, 0.50, 0.40 and 0.45 respectively. This indicates that coordination and information flow, internal processes and procedures, and availability of resources were found to be the major internal factors affecting the performance than leadership commitment and employee skill and motivation.

Table 4-9 Descriptive Statistics Summary of Internal Factors

Internal Factors	Items	Mean	Std. Dev
Leadership/Top Management Commitment	Lack of top management commitment in supporting land transport operation affects the road freight transportation performance	4.38	0.84
	Lack of learning and development schemes in ESLSE to support the staff affects the road freight transportation performance.	3.34	1.12
	Lack of top management commitment to support transport management with the necessary transport management technologies affects road freight transportation performance	4.05	0.72
	ESLSE’s experiences from previous operations of the land transport are not researched and documented well hence, affects the road freight transportation performance	4.29	0.75
	Lack of top management commitment to provide a resource to modernize transport management with the necessary transport management technologies affects road freight transportation performance	4.29	1.09
	Group	4.07	0.53
Employee Skill and Motivation	Lack of sufficient skilled manpower in vehicle maintenance in ESLSE affects the road freight transportation performance	4.45	0.92
	A high level of staff turnover in the ESLSE affects road freight transportation performance.	3.01	0.88
	Lack of experience sharing through group brainstorming sessions & regular workshops for Land transport staff motivation affects road freight transportation performance.	3.69	1.08
	Group	3.72	0.48
Availability of	Lack of well-equipped vehicle maintenance garage and facility in ESLSE affects its transportation	3.93	0.73

Resource	performance		
	Failing to use information technology as a tool for helping in its decision making affects the road freight transportation performance of ESLSE	4.72	0.76
	Lack of professional manpower in the field of vehicle maintenance and dispatching affects road freight transportation performance	3.23	0.79
	Lack of sufficient loading and unloading equipment in ESLSE affects its transportation performance	3.94	0.73
	Group	3.95	0.50
Coordination and Information Flow	The quality and speed of information flow in ESLSE are not up to the standard, hence, it affects its transportation performance.	4.15	0.60
	Weak ability to disseminate accurate and timely information is not satisfactory in road freight transportation	4.58	0.60
	Failure to use of automated systems or mechanisms to increase road freight transportation performance in ESLSE affects the road freight transportation performance.	4.74	0.63
	Unavailability of access to necessary logistics information from the database of other organizations affects the road freight transportation performance of ESLSE	3.59	0.71
	Lack of investment in assistive technologies that support the flow of information in its road freight transport operations affects the road freight transportation performance of ESLSE	4.03	0.41
	Group	4.22	0.40
Internal Process and Procedures	The truck assigning and dispatching processes within the ESLSE are slow	4.23	0.82
	The process of vehicle maintenance within the ESLSE are long	4.55	0.61
	The procedures of road freight transportation within the ESLSE are long and not clear	2.43	1.15
	The internal processes of road freight transport of the ESLSE, in general, are so slow	4.37	0.64
	Group	3.89	0.45

Source: Own Survey, 2020

According to table 4.10 above, respondents were asked to give their level of agreement to Leadership/Top Management Commitment using five questions. Accordingly, they were asked if Lack of top management commitment in supporting land transport operation, Lack of learning and development schemes in ESLSE to support the staff, Lack of top management commitment to support transport management with the necessary transport management technologies, ESLSE's experiences from previous operations of the land transport is not researched and documented well and, Lack of top management commitment to provide a resource to modernize transport management with the necessary transport management technologies affects the road freight transportation performance.

The descriptive analysis result of the response shows that majority of respondents strongly agree to Lack of top management commitment in supporting land transport operation, ESLSE's experiences from previous operations of the land transport is not researched and documented, and Lack of top management commitment to provide a resource to modernize transport management with the necessary transport management technologies affects the road freight transportation performance with the mean value of 4.38, 4.29 and 4.29 respectively while the standard deviation of 0.84, 0.75 and 1.09.

Respondents agree to Lack of learning and development schemes in ESLSE to support the staff affects the road freight transportation performance with a mean and standard deviation of 4.05 and 0.72 respectively while respondents are neutral to Lack of top management commitment to support transport management with the necessary transport management technologies affects the road freight transportation performance with the mean value of 3.34 and standard deviation 0.1.12. This indicates that a lack of top management commitment affects the transportation performance of the ESLSE as the majority of respondents agree and strongly agree.

The other internal factor-related indicators that the respondents were asked is about Employee Skill and Motivation. Under this aspect, respondents were also asked if, Lack of sufficient skilled manpower in vehicle maintenance, High level of staff turnover, and Lack of experience sharing through group brainstorming sessions & regular workshops for Land transport staff motivation affects the transportation performance of ESLSE.

Accordingly, some respondents strongly agree with mean and standard deviation value of 4.45 and 0.92 respectively while they agree to, Lack of experience sharing through group brainstorming sessions & regular workshops for Land transport staff motivation affects the road freight transportation performance ESLSE with a mean score of 3.01 and standard deviation of 0.88.

The other aspect of internal factors that the respondents were asked is about the availability of resources. Accordingly, the respondents were asked if Lack of well-equipped vehicle maintenance garage and facility, failing to use information technology as a tool for helping in its decision making, Lack of professional manpower in the field of vehicle maintenance and dispatching, and Lack of sufficient loading and unloading equipment in ESLSE affects its transportation performance. Respondents strongly agree to failure to use information technology as a tool for helping in its decision making affects the transportation performance of ESLSE with mean and standard deviation values of 4.72 and 0.76 respectively. While the majority of respondents agree to Lack of well-equipped vehicle maintenance garage and facility in ESLSE affects its transportation performance, Lack of sufficient loading and unloading equipment in ESLSE affects its transportation performance resulting mean value of 3.93 and 3.94 and standard deviation of 0.73 and 3.94 respectively. Other respondents are neutral to Lack of professional manpower in the field of vehicle maintenance and dispatching affects the road freight transportation performance with a mean score of 3.23 and a standard deviation of 0.79. This indicates that both lack of well-equipped vehicle maintenance garage and facility and lack of or failure to use information technology as a tool for helping in its decision making affects the transportation performance of the ESLSE as the majority of them strongly agreed.

Internal factors affecting performance were also asked from the Coordination and Information Flow aspect. Accordingly, majority of respondents agree to, Quality and speed of information flow in ESLSE are not up to the standard, Unavailability of access to necessary logistics information from the database of other and Lack of investment in assistive technologies that support the flow of information in its road freight transport operations affects the road freight transportation performance of ESLSE and their mean value is 4.15, 3.59 and 4.03 respectively while their standard deviation is 0.60, 0.71 and

0.41. The remaining respondents strongly agree to Weak ability to disseminate accurate and timely information is not satisfactory in road freight transportation, Failure to use of automated systems or mechanisms to increase the road freight transportation performance in ESLSE affects its road freight transportation performance and the mean value is 4.58 and 4.74 respectively while standard deviation is 0.60 and 0.63 respectively.

Another aspect from internal factors that respondents were asked to give their response was on internal processes and procedures. Under this indicator, respondents' were asked if The truck assigning and dispatching processes within the ESLSE are slow, The process of vehicle maintenance within the ESLSE are long, The procedures of road freight transportation within the ESLSE are long and not clear, and The internal processes of road freight transport of the ESLSE, in general, are so slow. Accordingly, the majority of respondents strongly agree to all except for the procedures of road freight transportation within the ESLSE are long and not clear which has a mean score of 2.43 and 1.15 standard deviation.

4.6.2 External Factors affecting Transportation Performance

Based on the data collected and analyzed using SPSS, the descriptive statistics result of the analysis revealed that external factors related to legal and Political, Technological, Economic and sociocultural factors were found to have, 4.08, 4.49, 4.45 and 3.63 grand mean respectively, while their standard deviation was found to have 0.47, 0.43, 0.53 and 0.38 respectively. From this, it is possible to say that technological and Economic factors were found to be the major external factors affecting the transportation performance with a grand mean of 4.49 and 4.45, followed by legal and political factors with a grand mean of 4.08. While their standard deviation is 0.47, 0.43, 0.53, and 0.38 respectively.

Table 4-10 Descriptive statistics Summary of external Factors

External Factors	Items	Mean	Std. Dv'n
Legal and Political Factors	The security situation doesn't allow ESLSE to operate freely Along Addis Ababa corridor, this affects the road freight transportation performance of ESLSE	3.22	1.20
	Government law and regulation is so strict and challenges the road freight transportation performance of ESLSE.	4.11	0.66

	The legal framework in the transport sector affected road freight transportation performance of the ESLSE	4.30	0.69
	Ethiopian and Djibouti, as well as regional state governments, are not cooperative while transporting freight along Addis Ababa Djibouti Corridor this affects the road freight transportation performance ESLSE	4.66	0.64
	Customs and border clearance affects road freight transportation of the ESLSE	4.14	0.55
	Group	4.08	0.47
Technological Factors	Lack of adequate technological facility to expedite the information flow between the customers and staff of ESLSE affects the road freight transportation performance of ESLSE	4.19	0.52
	Lack of appropriate technology in ESLSE made to be hard to coordinate and manage multiple players along with all the items that need to be delivered	4.53	0.56
	There is a lack of telecommunication infrastructure to help road freight transport operations of ESLSE.	4.37	0.76
	Group	4.49	0.43
Economic Factors	Lack of genuine spare parts in the market affects the road freight transport operation of the ESLSE	4.61	0.79
	The escalating of operating costs affects the road freight transport operation of the ESLSE.	4.29	1.21
	Purchasing the cost of trucks, loading, and unloading machinery affect road freight transportation performance of the ESLSE.	4.37	1.09
	The shortage of foreign exchange affects the road freight transportation performance of the ESLSE	4.67	0.60
	Shortage of drivers and mechanics in the labor market affects the road freight transportation performance of the ESLSE	4.31	0.58
	Group	4.45	0.53
Socio-cultural Factors	There are societal factors that affect road freight transport operations of the ESLSE.	4.37	0.6
	There are cultural factors that affect road freight transport operations of the ESLSE.	3.36	0.76
	Other norms affect road freight transport operations of the ESLSE.	3.16	0.66
	Group	3.63	0.38

Source: Own Survey, 2020

Based on Table 4.11 above, Respondents were asked to give their level of agreement to legal and political-related factors affecting the performance using five questions.

Accordingly, they were asked if the security situation along the corridor doesn't allow ESLSE to operate freely, this affects its transportation performance, The government law and regulation is so strict and challenges the road freight transportation performance of ESLSE, The legal framework in the transport sector affected road freight transportation performance of the ESLSE, Ethiopian and Djibouti swell as regional state governments are not cooperative while transporting freight along Addis Ababa Djibouti Corridor this affects the road freight transportation performance ESLSE, and Customs and border clearance affects road freight transportation of the ESLSE. According to the descriptive statistics analysis of the response, majority of the respondents strongly agreed to Ethiopian and Djibouti swell as regional state governments are not cooperative while transporting freight along Addis Ababa Djibouti Corridor this affects the road freight transportation performance of ESLSE and the legal framework in the transport sector affected road freight transportation performance of the ESLSE with a mean score of 4.66 and 4.30 respectively and their standard deviation is 0.64 and 0.69 respectively.

The majority of respondents also agreed to the government law and regulation is so strict and challenges the road freight transportation performance and Customs and border clearance process affects road freight transportation of the ESLSE with a mean score of 4.11 and 4.14 while their standard deviation is 0.66 and 0.55 respectively. The respondents are neutral to the security situation and don't allow ESLSE to operate freely Along the Addis Ababa-Djibouti corridor, this affects its transportation performance resulting mean score of 3.22 and a standard deviation of 1.20.

Respondents were also asked to give their response to three technological factor-related questions, Lack of adequate technological facility to expedite the information flow between the customers and staff of ESLSE affects the road freight transportation performance of ESLSE, lack of appropriate technology in ESLSE made to be hard to coordinate and manage multiple players along with all the items that need to be delivered and there is a lack of telecommunication infrastructure to help road freight transport operations of ESLSE. The descriptive analysis of the response shows that the majority of

the respondents strongly agreed to Lack of appropriate technology and lack of telecommunication infrastructure to help road freight transport operations of ESLSE with a mean score of 4.53 and 4.37, while a standard deviation 0.56 and 0.76. On the other hand, respondents agreed to Lack of adequate technological facility to expedite the information flow between the customers and staff of ESLSE affects the road freight transportation performance ESLSE with a mean score of 4.19 and a standard deviation of 0.52.

The other external factor that respondents were asked to give their level of agreement is the Economic factor. Under this aspect, respondents were asked to give their response to five questions which are Lack of genuine spare parts in the market, the escalating of operating costs, purchasing cost of trucks, loading and unloading machinery, the shortage of foreign exchange and Shortage of drivers and mechanics in the labor market affects the road freight transportation performance of the ESLSE. From the descriptive statics result majority of respondents strongly agreed to all economic factors with a mean score of 4.61, 4.29, 4.37, 4.67, and 4.31 respectively while the standard deviation is 0.79, 1.21, 1.09, 0.60 and 0.58.

Respondents were also asked to give their response to socio-culturally related factors using three questions. Accordingly, respondents were asked if there are societal factors that affect road freight transport operations of the ESLSE, There are cultural factors that affect road freight transport operations of the ESLSE and there are other norms that affect road freight transport operations of the ESLSE. The result of respondents shows, they strongly agreed to there are societal factors that affect road freight transport operations of the ESLSE resulting mean score of 4.37 and a standard deviation of 0.60 respectively. While they are neutral to cultural factors and other norms are affecting the transportation performance of ESLSE with a mean score of 3.36 and 3.16, and a standard deviation of 0.76 and 0.66 respectively.

4.7 Road Freight Transportation Performance of ESLSE

To assess the performance road freight transport operation of ESLSE, cost, reliability, responsiveness, and flexibility measures were used. Based on performance data collected in terms these measurements, and analyzed using SPSS, the descriptive statistics result of

the analysis revealed that the grand mean for cost, reliability, responsiveness, and flexibility was found to be 3.10, 3.07, 2.67 and 2.60 respectively and the standard deviation is 0.54, 0.53, 0.44 and 0.58. This indicates that the performance of road freight transport operation for ESLSE was evaluated to be performing less especially in terms of factors related to responsiveness and flexibility, however, performance measured in terms of cost management and reliability are fair.

Table 4-11 Descriptive Statistics Summary of Transportation Performances

Performance Measures	Items	Mean	Std. Dev.'s.
Cost	The road freight transport service of the ESLSE is cost-effective and efficient	3.34	1.08
	The Vehicle maintenance cost of the ESLSE is reasonable	3.35	1.17
	ESLSE is effective in managing fuel and tire costs	3.01	1.32
	ESLSE is effective in managing repair and maintenance costs	2.95	1.36
	ESLSE is effective in managing driver-based costs	2.6	1.5
	The ESLSE road freight transport has cost minimization strategy	3.33	0.92
	Group	3.10	0.54
Reliability	ESLSE has adequate cargo loading and unloading machines	2.37	1.08
	ESLSE has enough trucks to render effective and efficient transportation services.	2.5	1.15
	ESLSE's vehicle repair and maintenance department are staffed with the necessary technical skills for vehicle maintenance.	2.9	1.1
	ESLSE has an adequate manpower and garage facility for vehicle maintenance	2.87	0.98
	ESLSE provides road freight transport service with the best of professionalism	3.8	0.56
	ESLSE is offering road freight transportation service as promised (Based on the schedule)	2.93	0.81
	There is an exchange of real-time information using ICT tools while transporting cargo along	2.59	1.21

	the corridor		
	ESLSE uses fleet management technology to control and monitor cargo along the corridor	3.46	1.24
	ESLSE is effective in-vehicle capacity utilization	4.23	0.96
	Group	3.07	0.53
Responsiveness	ESLSE Provides timely response to a customer complaint	2.75	0.76
	ESLSE notifies cargo damage on time	4.43	0.7
	ESLSE provides on-time insurance coverage during cargo damage	3.09	0.97
	ESLSE has short loading and unloading time	1.95	1.05
	ESLSE's trucks Turnaround time is low	1.84	0.85
	ESLSE provides timely repair and maintenance for road call (vehicle breakdown on-road)	2.09	0.87
	Freight document Errors are corrected timely	3.14	0.99
	The repair and maintenance garage complete the service and maintenance of vehicles on time	2.08	1.17
	Group	2.67	0.44
Flexibility	ESLSE can transport goods for varying customer requirements and to different regions (New Service Flexibility)	2.67	1.06
	ESLSE can transport goods for variation in tone-kilo meters (Volume Flexibility)	3.24	0.86
	ESLSE is flexible in meeting the delivery dates when they are revised as per customer requirements (Delivery Flexibility)	2.52	0.95
	ESLSE can transport different goods in a single trip (Mix Flexibility)	1.97	1.1
	Group	2.60	0.58

Source: Own Survey, 2020

It is evident from table 4.12 above, that to assess the performance of road freight transport operation in ESLSE, items of cost, reliability, responsiveness, and flexibility, respondents were asked different questions under these measurements. Under cost measures, respondents were asked if, the road freight transport service of the ESLSE is cost-effective and efficient, The Vehicle maintenance cost of the ESLSE is reasonable, ESLSE is effective in managing fuel and tire costs, ESLSE is effective in managing repair and maintenance costs, ESLSE is effective in managing driver-based costs, The

ESLSE road freight transport has cost minimization strategy. Accordingly, majority of respondents are neutral to, the road freight transport service of the ESLSE is cost-effective and efficient, The Vehicle maintenance cost of the ESLSE is reasonable and the ESLSEs road freight transport operation has cost minimization strategy with mean scores of 3.34 and 3.35 respectively while the standard deviation is 1.08 and 1.17 while most of the respondents are disagree to, ESLSE is effective in managing fuel and tire costs, ESLSE is effective in managing repair and maintenance costs, ESLSE is effective in managing driver-based costs and The ESLSEs road freight transport operation has cost minimization strategy resulting mean score of 2.95, 1.36 and 2.6 respectively, where the standard deviation is 1.5, 3.33 and 0.92.

Respondents were also asked if performance measures related to reliability is performing in ESLSE. Under these measures, respondents were asked different reliability-related questions. Accordingly, respondents strongly agreed to ESLSE is effective in-vehicle capacity utilization with mean and standard deviations of 4.23 and 0.96 respectively and agreed to both, ESLSE provides road freight transport service with the best of professionalism and ESLSE uses fleet management technology to control and monitor cargo along the corridor with mean scores of 3.8 and 3.46 respectively, while the standard deviation is 0.56 and 1.24. Most of the respondents are neutral to ESLSE's vehicle repair and maintenance department are staffed with the necessary technical skills, ESLSE has an adequate manpower and garage facility for vehicle maintenance and ESLSE is offering road freight transportation service as promised (Based on the schedule) showing mean score of 2.9, 2.87 and 2.93 respectively and the standard deviation is 1.1, 0.98 and 0.81 respectively. Most of the respondents are also disagree to, ESLSE has adequate cargo loading and unloading machines, ESLSE has enough number of trucks to render effective and efficient transportation service and, There is the exchange of real-time information using ICT tools while transporting cargo along the corridor with a mean score of 2.37, 2.5 and 2.59 respectively and the standard deviation is 1.08, 1.15 and 1.21.

Related to performance measures related to responsiveness, respondents strongly agree only to, ESLSE notifies cargo damage on time with a mean score of 4.43 and standard deviation 0.7 respectively. Respondents are neutral to, ESLSE Provides timely response

to a customer complaint, ESLSE provides on-time insurance coverage during cargo damage, and Freight document Errors are corrected timely with a mean score of 2.75, 3.09 and 3.14 while standard deviation is 0.76, 0.97 and 0.99 respectively. Majority of respondents are disagreed to, ESLSE has short loading and unloading time, ESLSE's trucks Turnaround time is low, ESLSE provides timely repair and maintenance for road call (vehicle breakdown on-road) and The repair and maintenance garage complete the service and maintenance of vehicles on time with a mean value of 1.95, 1.84, 2.09 and 2.08 respectively and the standard deviation is 1.05, 0.85, 0.87 and 1.17 respectively.

Respondents are also asked to respond to other measures of performance which is flexibility. Accordingly, most of the respondents are neutral to, ESLSE can transport goods for varying customer requirements and to different regions (New Service Flexibility) and ESLSE can transport goods for variation in tone-kilo meters (Volume Flexibility) with the mean value of 2.67 and 3.24, and standard deviation of 1.06 and 0.86 respectively. On the other hand, most of the respondents also disagree to, ESLSE is flexible in meeting the delivery dates when they are revised as per customer requirements (Delivery Flexibility) and ESLSE can transport different goods in a single trip (Mix Flexibility), with the mean value of 2.52 and 1.97 while standard deviation is 0.95 and 1.1 respectively.

4.8 Regression Analysis

Before proceeding to regression analysis, basic assumption tests such as the test of normality, the test of linearity, the test of multicollinearity, and the test of autocorrelation were established for the model. Each test is discussed below.

4.8.1 Test of Normality

The study used Skewness and Kurtosis to evaluate the normal distributions of the observed items. Skewness is a measure of the asymmetry of the probability distribution of a real-valued random variable. On the other hand, kurtosis refers to the peaked or flatness of the distribution compared to the normal distribution (Landau and Everitt, 2003). Values of skewness can be positive, negative, or zero. Skewness's value of zero indicates a perfectly symmetrical distribution, positive skewness value indicates that the tail on the right side is longer. On the contrary, a negative value refers to left-tailed. On the other hand, a kurtosis value is zero for normal distributions, negative for flat

distributions (low kurtosis), and a positive value for peaked distributions (high Kurtosis). As a rule of thumb, the values of skewness and kurtosis should be between -2 and +2 to obtain a reasonably normal distribution (Bachman, 2004). The study examined the indicators' univariate kurtosis and skewness and the values of skewness and kurtosis were well within their respective rule-of thumb ranges (between -2 and 2) which provided support for univariate normality. The test result shows the Skewness and Kurtosis values are within the normal range and the normality assumption was fulfilled.

4.8.2 Test of Linearity

Linearity defines the dependent variable as a linear function of the predictor (independent) variables. Standard multiple regression can only accurately estimate the relationship between dependent and independent variables if the relationships are linear. As there are many instances in the social sciences where non-linear relationships occur, it is essential to examine analysis for non-linearity. If the relationship between independent variables and the dependent variable is not linear, the results of the regression analysis will under-estimate the true relationship. This underestimation carries two risks: increased chance of a Type II error for that independent variables, and in the case of multiple regression, an increased risk of Type I errors (overestimation) for other independent variables that share variance with that independent variables. If linearity is violated all the estimates of the regression including regression coefficients, standard errors, and tests of statistical significance may be biased (Keith, 2006). The study conducted curve estimation for all the relationships in the model and all the relationships were sufficiently linear to be tested using a covariance-based structural equation modeling.

4.8.3 Test of Multicollinearity

Multicollinearity refers to the assumption that the independent variables are uncorrelated. The researcher can interpret regression coefficients as the effects of the independent variables on the dependent variables when collinearity is low. This means that we can make inferences about the causes and effects of variables reliably. Multicollinearity occurs when several independent variables correlate at high levels with one another, or when one independent variable is a near-linear combination of other independent

variables. The more variables overlap (correlate) the less able researchers can separate the effects of variables (Keith, 2006).

The most widely used technique of identifying the existence of multicollinearity is calculating the variance inflation factor (VIF) between all independent variables. The VIF value tells us how much the variance of the coefficient estimate is being inflated by multicollinearity Williams (2015). Interpretations and conclusions based on the size of the regression coefficients, their standard errors, or associated T-test may be misleading because of the confounding effects of collinearity Mason and Perrault (1991).

The assumption is tested using the variance inflation factor (VIF) values and tolerance. Variance inflation factor (VIF) - The VIF's of the linear regression indicate the degree that the variance in the regression estimates is increased due to multicollinearity. VIF values higher than 10 indicates that multicollinearity is a problem. In addition to VIF value, tolerance value for each variable should be less than 1.

As a result of the above assumption and associated theories, the researcher has used the variance inflation factor (VIF) and level of tolerance to detect multicollinearity among explanatory variables and to perform regression analysis. Accordingly, the values for each parameter are presented in table 4.12 below.

Table 4-12 Test of Multicollinearity

Variable	Tolerance	VIF
Leadership Commitment	0.60	1.67
Employee Skill and Motivation	0.61	1.63
Resource Availability	0.73	1.36
Coordination and Information Flow	0.34	2.95
Internal Process and Procedures	0.39	2.58
Legal and Political Factors	0.42	2.38
Technological Factors	0.51	1.94
Economic Factors	0.60	1.65
Socio-Cultural Factors	0.31	3.23

Source: Own Survey, 2020

4.8.4 Test of Autocorrelation

Autocorrelation or serial correlation is important in econometric analysis for at least two reasons. First, when autocorrelation is present, a fundamental assumption of the OLS method is violated, and the estimates of the coefficient of variance will be biased downward and T-statistic upward Richard and Rosario (1998). The Durbin-Watson test is the best-known test for autocorrelation. The Durbin-Watson value 2 indicates no autocorrelation, a value greater than 2 indicates a negative autocorrelation, whereas the value below 2 indicates a positive autocorrelation. Accordingly, the study has used the Durbin-Watson test, to test the existence of autocorrelation.

Table 4-13 Test of Autocorrelation

Model Summary			
R	R Square	Adjusted R Square	Durbin-Watson
.738 ^a	0.545	0.466	1.916

Source: Own Survey, 2020

As indicated in Table 4.13 above, the Durbin-Watson autocorrelation test result shows a value of 1.916 which is approximately two. As a result, the assumption of autocorrelation is validated, there is no randomization and the data set is under statistical control (no outliers).

4.9 Hypothesis Testing

This part of the study provides the relationship between independent variables measured in terms internal and external factors affecting performance (Leadership commitment, Employee skill, and motivation, Resource Availability, Coordination and Information Flow, Internal Process and Procedures, Legal and Political Factors, Technological Factors and Economic Factors) and dependent variable (overall performance) of road freight transportation in Ethiopian Shipping and Logistics Services Enterprise measured in terms Cost, Reliability, Responsiveness and Flexibility of ESLSE. To accept or reject the hypothesis testing, the 0.05 probability level was considered. Accordingly, testing of the hypothesis was performed by conducting the Correlation matrix, as well as regression analysis. A correlation matrix between Internal and external factors affecting road

transportation performance is introduced in the following Table 4.15 below, in which the value of Spearman's correlation was calculated.

Table 4-14 Correlation Matrix

		Overall Performance	Leadership Commitment	Employee Skill and Motivation	Resource Availability	Coordination and Information Flow	Internal Process and Procedures	Legal and Political Factors	Technological Factors	Economic Factors	Socio-cultural Factors
Overall Performance											
Leadership Commitment	P.Cor Sig	.243* 0.014	1								
Employee Skill & Motivation	P.Cor Sig	-0.047 0.637	.366** 0.000	1							
Resource Availability	P.Cor Sig	0.104 0.299	.431** 0.000	.305** 0.002	1						
Coordination & Information Flow	P.Cor Sig	.211* 0.033	.555** 0.000	.420** 0.000	.401** 0.000	1					
Internal Process and Procedures	P.Cor Sig	.306** 0.002	.463** 0.000	.421** 0.000	.314** 0.001	.747** 0.000	1				
Legal & Political Factors	P.Cor Sig	.405** 0.000	0.020 0.844	-0.085 0.393	-0.057 0.569	.258** 0.009	.300** 0.002	1			
Technological Factors	P.Cor Sig	.335** 0.001	-0.043 0.669	.200* 0.044	-0.022 0.824	0.181 0.069	.293** 0.003	.394** 0.000	1		
Economic Factors	P.Cor Sig	0.101 0.313	0.021 0.837	0.098 0.326	0.062 0.538	0.020 0.839	0.150 0.133	.488** 0.000	.328** 0.001	1	
Socio-Cultural Factors	P.Cor Sig	0.194* 0.048	0.005 0.964	.215* 0.030	-0.020 0.845	0.172 0.085	.248* 0.012	.642** 0.000	.666** 0.000	.568** 0.000	1

*. Correlation is significant at the 0.05 level (2-tailed).

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

P.Cor=Pearson Correlation and Sig= Sig. (2-tailed)

Source: Own Survey, 2020

From table 4.13 above, The results denote that the correlation coefficient between factors affecting transportation Performance – Leadership Commitment, Employee Skill and motivation, Resource Availability, Socio-Cultural, Economic, Internal Process and Procedures, Technological, Legal and Political and Coordination Information Flow is 0.243, -0.047, 0.104, 0.211, 0.306, 0.405, 0.335, 0.101 and 0.194 respectively with p-

value of 0.014, 0.637, 0.299, 0.033, 0.002, 0.000, 0.000, 0.313 and 0.048 respectively. These values indicate that there is a positive and statistically significant relationship between Leadership Commitment, Coordination & Information Flow, Internal Process and Procedures, Legal & Political Factors, Socio-Cultural Factors, Technological Factors, and Road Freight Transportation performance while there is insignificant relationship between Employee skill and Motivation, Resource Availability, Economic Factors, and Transportation performance.

As indicated in Table 4.14 below, the results on table 4.13 are further proven by conducting a multiple linear regression model to test the effect of the independent variable on the dependent variable using transportation performance dimensions, as the dependent variable and both internal and external factors affecting transportation performance, as the independent variables.

Table 4-15 Regression Analysis of Factors Affecting Performance

	Unstandardized	Standardized	Beta	t	Sig.
	Coefficients	Coefficients			
	B	Std. Error			
Constant)	0.924	0.460		2.010	0.047
Leadership Commitment	0.208	0.074	0.304	2.827	0.006
Employee Skill & Motivation	-0.074	0.058	-0.135	-1.273	0.206
Resource Availability	0.050	0.060	0.081	0.837	0.405
Coordination & Information Flow	-0.197	0.129	-0.219	-1.531	0.129
Internal Process & Procedures	0.152	0.108	0.188	1.402	0.164
Legal and Political Factors	0.368	0.098	0.482	3.757	0.000
Technological Factors	0.390	0.110	0.411	3.543	0.001
Economic Factors	-0.082	0.073	-0.120	-1.123	0.264
Socio-Cultural Factors	-0.250	0.125	-0.300	-2.008	0.046

Source: Own Survey, 2020

From Table 4.14 above, it is clear that four independent variables in the standard model were found to be significantly predictive of the dependent variable. Looking at the effects

made by the predicting variables in the model, it was found that Legal and political factors have the highest effect with the value of ($\beta=0.482$, $P=0.000$) followed by, Technological Factors ($\beta = 0.411$, $p = 0000$) and Leadership Commitment ($\beta = 0.304$, $P = 0.006$). Socio-cultural factors have $\beta = -0.300$ and p-value of 0.046. Contrary to this, the effects of Employee skill and motivation, resource availability coordination and information flow, internal process and procedures, and Economic factors were found to be not significant as their p-value was > 0.05 .

Based on the result of the regression analysis, the fitted model could be written as shown below:

$$\text{Performance} = 0.924 + 0.208*\text{Leadership Commitment} - 0.074*\text{Employee Skill and Motivation} + 0.050*\text{Resource Availability} - 0.197*\text{Coordination and Information Flow} + 0.152*\text{Internal Process and Procedures} + 0.368*\text{Legal and Political Factors} + 0.390*\text{Technological Factors} - 0.082*\text{Economic Factors} - 0.250*\text{Socio-Cultural Factors}$$

Result of Hypothesis Testing

This research aims to ascertain the relationship between factors affecting transportation performance and road freight transportation performance in Ethiopian Shipping and Logistics Service enterprise and identify the major factors affecting the performance. To reveal the relationship, correlation, and regression analysis were conducted between the dimensions of internal and external factors and Transportation performance measured in terms of Cost, Reliability, Responsiveness, and flexibility. The results indicate that there are internal and external factors that have a significant effect on Road freight transportation performance where the standardized coefficients computed in regression analysis determine the major effects of the independent variables concerning road freight transportation performance. Legal and political factors are ranked to be the most affecting factor, followed by, Technological Factors, Leadership Commitment, and Socio-cultural factors. Contrary to this, the correlation and regression analysis results revealed that Employee skill and motivation, resource availability, and Economic factors were found to have an insignificant effect on road freight transportation performance.

Table 4-16 Summary of Hypothesis Testing Results

Hypothesis	Decision (Rejected/ Accepted)	Remark
H1) Legal and political factor significantly affects the road freight transportation performance	Accepted	
H2) Technological factor significantly affects transportation management performance	Accepted	
H3) Economic factor significantly affects the road freight transportation performance	Rejected	
H4) Sociocultural factor significantly affects transportation management performance	Accepted	
H5) Leadership/Top Management Commitment significantly affects the road freight transportation performance	Accepted	
H6) Employee Skill and Motivation significantly affects the road freight transportation performance	Rejected	
H7) Resource availability significantly affects road freight transportation performance	Rejected	
H8) Coordination and Information Flow significantly affects the road freight transportation performance	Accepted	
H9) Internal Processes and procedures significantly affects the road freight transportation performance	Accepted	

Source: Own Survey, 2020

CHAPTER FIVE

5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study findings, conclusion, and recommendations drawn from the study findings. The chapter is based on the study objectives, which were to assess transport management practices, identify major factors affecting the performance, and evaluate the performance of road freight transportation performance of the ESLSE.

5.2 Summary of Findings

The major findings of the study revealed that various transport management activities are practiced in Ethiopian Shipping and Logistics Service Enterprise. Conducting transportation management practice analysis of carrier management, load planning & optimization, preparing & executing freight, cargo monitoring and follow-up, freight payment and audit and performance monitoring revealed that the majority transportation management practices of Ethiopian shipping and logistics service enterprise were found to be well-practiced except for the enterprise considers environmental and energy concerns when selecting carriers, considers consolidation opportunities to reduce transport costs, submits transport instructions to carriers online paperless and time-saving, considers specialized training of drivers and operators in handling special cargo like dangerous or perishable cargo to reduce damages to goods in transit, and arranges for regular performance reviews with drivers and agree on areas of improvement.

According to the result of the descriptive statistics of the study, among the internal factors affecting the performance, failure to use of automated systems or mechanisms to increase road freight transportation performance and failure to use information technology as a tool for helping in decision making as well as lack of sufficient skilled manpower in vehicle maintenance are found to be the major ones while The shortage of foreign exchange, lack of genuine spare parts, and lack of government support are found to be the major ones from external factors.

The result found from hypothesis testing and regression analysis of the study variables revealed that the overall performance of road freight transportation was found to be affected by predicting variables included in the study at different levels of significance. Accordingly, the independent variables - Leadership Commitment, Coordination & Information Flow, Internal Process and Procedures, Legal & Political Factors, and Technological Factors were found positively related at significant value $p < 0.05$ with the overall performance of the road freight transportation. Resource Availability, Economic Factors, Socio-Cultural Factors were positively related while Employee Skill & Motivation were related to the overall performance of road freight transportation insignificantly.

According to the result of regression analysis, explanatory variables Legal and political factors were found to be the most affecting factor, followed by, Technological Factors, Leadership Commitment, and Socio-cultural factors.

Overall performance of Ethiopian Shipping and Logistics service enterprise's road freight transport operation was evaluated to be lower especially in terms of factors related to responsiveness and flexibility, however, performance measured in terms of cost management and reliability is average.

Factors affecting road freight transportation performance should be seriously considered and need to be dealt with for those factors in control while discussion with partners and the responsible government bodies are required for those beyond the control of the enterprise.

5.3 Conclusions

The findings of the study revealed that the transportation management practices of Ethiopian shipping and logistics service enterprise assessed in terms of carrier management, load planning & optimization, preparing & executing freight, cargo monitoring and follow-up, freight payment and audit and performance monitoring revealed that the majority transportation management practices of Ethiopian shipping and logistics service enterprise majority of them were found to be well-practiced while the enterprise considers environmental and energy concerns of transport providers when selecting carriers, considers consolidation opportunities to reduce transport costs, submits transport instructions to carriers online paperless and time saving, considers specialized training of drivers and operators in handling special cargo like dangerous or perishable cargo to reduce damages to goods in transit, and arranges for regular performance reviews with drivers and agree on areas of improvement were found to less practiced.

From the result of the descriptive statistics of the study, major factors affecting the performance, the findings of the study revealed that different challenges, both internal and external, were faced by Ethiopian shipping and logistics service enterprise while transporting freight along with Addis Ababa – Djibouti corridor. The respondents believe that the external factors are relatively affecting the organization more than the internal factors. Among the internal factors affecting the performance, failure to use of automated systems or mechanisms to increase road freight transportation performance and failure to use information technology as a tool for helping in decision making as well as lack of sufficient skilled manpower in vehicle maintenance are found to be the major ones while Shortage of foreign exchange, lack of genuine spare parts and lack government support are found to be the major ones from external factors.

The result of the correlation between dependent and independent variables shows, there is a positive correlation. Leadership Commitment, Coordination & Information Flow, Internal Process and Procedures, Legal & Political Factors, and Technological Factors were found positively and significantly correlated with the overall performance of Road freight Transportation in Ethiopian shipping and logistics service enterprise.

From this result, the highest positive correlation exists in Legal and political factors, Technological Factors, and Leadership Commitment. Socio-cultural factors. Contrary to this, the effects of Employee skill and motivation, resource availability coordination and information flow, internal process and procedures, and Economic factors were found to be not significant as their p-value was > 0.05 .

The output of multiple linear regressions indicates that the variation in the overall performance of road freight transportation is explained by the independent variables such Leadership Commitment, Employee Skill and motivation, Resource Availability, Socio-Cultural, Economic, Internal Process and Procedures, Technological, Legal and Political and Coordination Information Flow.

In general, Legal and political factors, Technological Factors, Leadership Commitment, and Socio-cultural factors are significant factors affecting the overall performance of road freight transportation while the effects of Employee skill and motivation, resource availability coordination and information flow, internal process and procedures, and Economic factors are insignificant in affecting the overall performance road freight transportation in ESLSE.

5.4 Recommendations

Based on the findings of the study the researcher has forwarded the following points as recommendations. The researcher has a strong belief that applying those recommendations would reduce the challenges and improve the performance of road freight transport services to some extent. Unless the enterprise takes such kind of measures the road freight transportation service will not achieve the intended objectives of reducing transit time, foreign exchange outflow, and cost of transport at large through supporting the multimodal service.

- To improve its transportation management practices ESLSE should consider environmental and energy concerns of transport providers when selecting carriers, considers consolidation opportunities to reduce transport costs, submits transport instructions to carriers online paperless and time-saving, considers specialized

training of drivers and operators in handling special cargo like dangerous or perishable cargo to reduce damages to goods in transit, and arranges for regular performance reviews with drivers and agree on areas of improvement.

- To improve its road freight transportation performance, ESLSE has to adopt and effectively use automated systems and have to use information technology as a tool for helping in decision making.
- ESLSE needs to equip ports and terminals with modernized loading/unloading machinery so that the cargo loading and unloading time at ports minimized which leads to improving transportation performance.
- The road freight transportation system of the enterprise is not automated. Hence the enterprise needs to automate the system to significantly reduce paper works and improve its performance.
- The enterprise should focus on managing costs related to repair and maintenance, fuel, tire, and driver-based costs
- Thought the enterprise has deployed fleet management and GPS for cargo tracking the system is not functioning at all, hence, it should deploy good fleet management to improve its performance.
- To improve the repair and maintenance of vehicles the enterprise should maintain adequate spare parts, plan all predictive and preventative repair and maintenance schedules to minimize repair and maintenance costs, and unexpected breakdowns, using genuine parts when replacing components, and should implement tire management and fuel management systems to manage its costs.
- Drivers and vehicle maintenance experts of the enterprise should be aware of transport policies, manuals, and operating procedures and standard operating manuals and procedures should also be made accessible to all staff members.
- Information communication technology is the most important element in determining the performance of road freight transportation. To improve the information communication system of transportation, the enterprise has to install full-fledged information communication networks to link with internal and external stakeholders and customers as well.

- The enterprise should deliver on job and off job pieces of training to its existing employees especially to drivers and maintenance experts with different schedules to improve its performance.
- To overcome both internal and external factors affecting road freight transportation performance ESLSE should seriously consider and need to deal with those factors in control while discussion with partners and the responsible government bodies are required for those beyond the control of the enterprise.

5.5 Limitation and suggestion for further study

This study provides a lot of facts and findings of the Transport management practices of Ethiopian Shipping and Logistics Service Enterprise. Apart from the findings that this research had described and explained, it has also provided valuable implications for another study. The research was conducted in a single organization where the scope is very limited. Accordingly, it is advised for future researchers to include similar organizations while perusing researches in similar areas of interest to get a better view of the transport management practices, challenges, and performances of Logistics companies. Moreover, future researchers can consider seeing interdependencies among the variables mentioned.

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Appendix I: Annual performance of Freight Movement by ESLSE (2012 – 2016)

Service type	Unit	Annual operational performance				
		2012	2013	2014	2015	2016
Total Freight unloaded at the port of Djibouti	Ton	3,062,330	3,018,969	2,767,053	3,340,135	4,966,265
Total freight forwarded to Ethiopia	Ton	2,895,577	2,050,801	2,271,403	2,665,725	3,719,205
Total freight not forwarded or stored	Ton	166,753	968,168	495,650	674,410	1,247,060

Addis Ababa University
School of Commerce
Department of Logistic and Supply Chain Management
Questionnaire to be filled by ESLSE Kality Land transport branch office
staffs

Dear Respondents,

I am **Siyada Dessalegn**, a Master's Degree student at the Addis Ababa University, School of Commerce in the Department of Logistics and Supply Chain Management. To complete my master's degree, I'm conducting research titled "**Road Freight Transportation Performance in Ethiopian Shipping and Logistics Service Enterprise: The case of Addis Ababa-Djibouti Corridor**". This questionnaire aims to collect the required data for the research I am conducting on your organization. Thus, to accomplish this study, your cooperation is very important in giving the required information. Therefore, your genuine response is vital for the success of the study. You do not need to write your names. The information you provide will be used only for research purposes and will be kept confidential.

Please attempt to answer all questions and make a tick mark (✓) on only one box that best explains your opinion for each statement. For any clarification on this questionnaire, please use the address below to contact me.

Siyada Dessalegn

Email: siyade911@gmail.com

Cell phone: +251911569682

Thank you in advance for your Cooperation

Questionnaire

Please give answers in the spaces provided and tick in the box that matches your response to the questions where applicable.

Part I: Respondents' profile

1. **Sex:** Male Female
2. **Educational Background:** Diploma and below Degree Masters and above
3. **Years of experience in the company:** 1-5 6-10 11-15 >15

PART II: Transportation Management Practices adopted by the Logistics Company

4. To what extent ESLSE has implemented the following transport management practices to improve road freight transportation performance? (Use the scale of 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly agree).

A	Transportation Management Practices	Scale				
1	Carrier Management Practices	1	2	3	4	5
1.1	ESLSE carefully makes decision to optimize the transport mode when choosing a carrier					
1.2	ESLSE considers the carrier to move inbound & outbound cargo to minimize costs of movement					
1.3	ESLSE carefully considers measures for evaluating transport performance when choosing the carrier					
1.4	ESLSE considers transit time in assigning trucks					
1.5	ESLSE considers environmental and energy concerns of transport providers when selecting carriers					
1.6	ESLSE considers security measures deployed to safe guard cargo in transit by individual carriers					
1.7	ESLSE considers the nature of the cargo to be transported in deciding appropriate carriers					
2	Load planning & optimization practices	1	2	3	4	5
2.1	ESLSE considers consolidation opportunities to reduce transport costs					
2.2	ESLSE considers compliance on loading regulations and enforcement (axle load limits)					
2.3	ESLSE considers vehicle scheduling and route optimization					
2.4	ESLSE considers the volume of cargos available and vehicle capacity to maximize vehicle capacity utilization					
2.5	ESLSE considers opportunities for continuous truckload and backhaul moves to keep costs down					
2.6	ESLSE considers the proximity and location of warehouses and ports for the fast delivery of cargo					
3	Preparing and execution of freights	1	2	3	4	5

3.1	ESLSE uses fleet management technology for cargos to reduce logistics costs					
3.2	ESLSE sets and confirms pick up appointments to reduce costs and to save on time.					
3.3	ESLSE submits transport instructions to carriers online paperless and time-saving					
3.4	ESLSE actively solicits for advice on customs procedure and regulations required for goods to be moved.					
3.5	ESLSE considers loading in pallets rather than individual cartons to minimize damages and losses.					
3.6	ESLSE considers road networks for efficiency & reduction of supervision costs.					
4	Cargo monitoring and follow up Practices	1	2	3	4	5
4.1	ESLSE considers shipment visibility throughout the organizations' supply chain					
4.2	ESLSE has incorporated real time updates from carriers into their own systems to easily track shipments.					
4.3	ESLSE considers tracking systems deployed to monitor cargo					
4.4	ESLSE considers specialized training of drivers and operators in handling special cargo like dangerous or perishable cargo to reduce damages to goods in transit.					
5	Freight payment and audit practices	1	2	3	4	5
5.1	ESLSE carefully scrutinizes invoices received and certifies they are billed as per contract					
5.2	ESLSE ensures payments are made as per agreed credit terms contracts					
5.3	ESLSE manages contracts and payment centrally for better cost control.					
5.4	ESLSE uses real-time gross settlement system to settle freight invoices					
5.5	ESLSE conducts regular audits and reconciliations to clear outstanding payments and receivables					
5.6	ESLSE ensures compliance on tax and other statutory obligations when selecting transporters					
6	Performance Monitoring Practices	1	2	3	4	5
6.1	ESLSE considers percentage of requested cargo dates attained					
6.2	ESLSE records percentage of cargos that arrive at destination on time					
6.3	ESLSE considers vehicle capacity utilization					
6.4	ESLSE arranges for regular performance reviews with drivers and agree on areas of improvement					
6.5	ESLSE conducts compliance audits on transport service for improvement opportunities					

Part III: Internal and external factors affecting performance

Internal and external factors stated below are believed to affect the road freight transportation performance of the ESLSE. Please indicate your level of agreement to the items by putting a tick mark (√) in the boxes provided. A scale of 1-5 is used to the questions where: 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly agree

B	Internal factors affecting transportation performance	Scale				
1	Leadership/Top Management Commitment	1	2	3	4	5
1.1	Lack of top management committed in supporting land transport operation affects transportation performance .					
1.2	Lack of learning and development schemes in ESLSE to support the staff affects transportation performance.					
1.3	Lack of top management commitment to support transport management with the necessary transport management technologies affects transportation performance					
1.4	ESLSE’s experiences from previous operations of the land transport is not researched and documented well hence, affects transportation performance					
1.5	Lack of top management commitment to provide a resource to modernize transport management with the necessary transport management technologies affects transportation performance					
2	Employee Skill and Motivation	1	2	3	4	5
2.1	Lack of sufficient skilled man power in vehicle maintenance in ESLSE affects transportation performance					
2.2	High level of staff turnover in the ESLSE affects transportation performance.					
2.3	Lack of experience sharing through group brainstorming sessions & regular workshops for Land transport staff motivation affects transportation performance.					
3	Resource Availability	1	2	3	4	5
3.1	Lack of well-equipped vehicle maintenance garage and facility in ESLSE affects its transportation performance					
3.2	Failing to use information technology as a tool for helping in its decision making affects the road freight transportation performance of ESLSE					
3.3	Lack of professional manpower in the field of vehicle maintenance and dispatching affects the road freight transportation performance					

3.4	Lack of sufficient loading and unloading equipment in ESLSE affects its transportation performance					
4	Coordination and Information Flow	1	2	3	4	5
4.1	Quality and speed of information flow in ESLSE is not up to the standard, hence, affects transportation performance.					
4.2	Weak ability to disseminate accurate and timely information is not satisfactory in road freight transportation					
4.3	Failure to use of automated systems or mechanisms to increase road freight transportation performance in ESLSE affects transportation performance.					
4.4	Unavailability of access to necessary logistics information from the database of other organizations affects transportation performance of ESLSE					
4.5	Lack of investment in assistive technologies that support the flow of information in its road freight transport operations affects transportation performance of ESLSE					
5	Internal Processes and procedures	1	2	3	4	5
5.1	The truck assigning and dispatching processes within the ESLSE are slow					
5.2	The process of vehicle maintenance within the ESLSE are long					
5.3	The procedures of road freight transportation within the ESLSE are long and not clear					
5.4	The internal processes of road freight transport of the ESLSE, in general, are so slow.					
C	External factors affecting road freight transportation performance	Scale				
1	<i>Legal and Political Factors</i>	1	2	3	4	5
1.1	The security situation doesn't allow ESLSE to operate freely Along Addis Ababa corridor, this affects transportation performance ESLSE					
1.2	The government law and regulation is so strict and challenges the road freight transportation performance of ESLSE.					
1.3	The legal framework in the transport sector affected road freight transportation performance of the ESLSE					
1.4	Ethiopian and Djibouti as well as regional state governments are not cooperative while transporting freight along Addis Ababa Djibouti Corridor this affects transportation performance ESLSE					
1.5	Customs and border clearance affects road freight transportation of the ESLSE					
2	Technological Factors	1	2	3	4	5

2.1	Lack of adequate technological facility to expedite the information flow between the customers and staff of ESLSE affects transportation performance ESLSE					
2.2	lack of appropriate technology in ESLSE made to be hard to coordinate and manage multiple players along with all the items that need to be delivered					
2.3	There is a lack of telecommunication infrastructure to help road freight transport operations of ESLSE.					
3	Economic Factors	1	2	3	4	5
3.1	Lack of genuine spare parts in the market affects road freight transport operation of the ESLSE					
3.2	The escalating of operating costs affect road freight transport operation of the ESLSE.					
3.3	The cost of Purchasing trucks, loading, and unloading machinery affects the road freight transportation performance of the ESLSE.					
3.4	The shortage of foreign exchange affects the road freight transportation performance of the ESLSE					
3.5	Shortage of drivers and mechanics in the labor market affects the road freight transportation performance of the ESLSE					
4	Socio cultural Factors	1	2	3	4	5
4.1	There are societal factors that affects road freight transport operations of the ESLSE.					
4.1	There are cultural factors that affect road freight transport operations of the ESLSE.					
4.3	Other norms affect road freight transport operations of the ESLSE.					

Part IV: Road Freight Transportation Performance of ESLSE

Below are questions related to the Road Freight Transportation performance of the ESLSE? Kindly indicate your level of agreement to the items by putting a tick mark (√) in the boxes provided. A scale of 1-5 is used to the questions where: 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly agree

D	Road Freight Transportation Performance of ESLSE	Scale				
1	Cost	1	2	3	4	5
1.1	The road freight transport service of the ESLSE is cost effective and efficient					
1.2	The Vehicle maintenance cost of the ESLSE is reasonable					
1.3	ESLSE is effective in managing fuel and tire costs					
1.4	ESLSE is effective in managing repair and maintenance costs					
1.5	ESLSE is effective in managing driver based costs					
1.6	The ESLSE road freight transport has cost minimization strategy					
2	Reliability	1	2	3	4	5
2.1	ESLSE has adequate cargo loading and unloading machines					
2.2	ESLSE has enough number of trucks to render effective and efficient transportation service.					
2.3	ESLSE's vehicle repair and maintenance department are staffed with the necessary technical skills for vehicle maintenance.					
2.4	ESLSE has an adequate manpower and garage facility for vehicle maintenance					
2.5	ESLSE provides road freight transport service with the best of professionalism					
2.6	ESLSE is offering road freight transportation service as promised (Based on the schedule)					
2.7	There is exchange of real time information using ICT tools while transporting cargo along the corridor					
2.8	ESLSE uses fleet management technology to control and monitor cargo along the corridor					
2.9	ESLSE is effective in-vehicle capacity utilization					
3	Responsiveness					
3.1	ESLSE Provides timely response to customer complaint					
3.2	ESLSE notifies cargo damage on time					
3.3	ESLSE provides on time insurance coverage during cargo damage					
3.4	ESLSE has short loading and unloading time					
3.5	ESLSE's trucks Turnaround time is low					
3.6	ESLSE provides timely repair and maintenance for road call					

	(vehicle breakdown on road)					
3.7	Freight document Errors are corrected timely					
3.8	The repair and maintenance garage complete the service and maintenance of vehicles on time					
4	Flexibility					
4.1	ESLSE is able to transport goods for varying customer requirements and to different regions (New Service Flexibility)					
4.2	ESLSE is able to transport goods for variation in tone-kilo meters (Volume Flexibility)					
4.3	ESLSE is flexible in meeting the delivery dates when they are revised as per customer requirements (Delivery Flexibility)					
4.4	ESLSE can transport different goods in a single trip (Mix Flexibility)					

Thank you for your cooperation.