ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

THE EFFECT OF INLAND TRANSPORT IN LOGISTICS PERFORMNCE: IN CASE OF YAHIYA SAID OMER AND SONS EXPORT COMPANY

A Thesis Submitted to College of Business and Economics School of Commerce Department of Logistics and Supply Chain Management; in Partial Fulfillment of the Requirements for the Degree of Masters of art in Logistics and Supply Chain Management

BY

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Addis Ababa Ethiopia

DECLARATION

I, certify, that this research paper titled by the Effect of inland transport in logistics performance: in case of Yahiya Said Omer and sons export company is my original work and has not been presented elsewhere for a degree in any other university and that all sources of documents used for this study have been properly referred.

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STATMENT OF CERTIFICATION

This is to certify that the thesis prepared by Martha Mekonnen Woldemedhin entitled "**The Effect of Inland Transport in Logistics Performance: Yahiya Said Omer and Sons Export Company"**, and submitted in partial fulfillment of the requirement for the degree of master's in Logistics and Supply Chain Management (LSCM), fulfills with the principles of the university and meets the accepted ethics with respect to originality and quality.

Approved by Board of Examiners:

Busha Temsegen (PHD)_____

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Signature Date

External Examiner _____

Signature Date

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ABSTRACT

The persistence of this researcher was to study the effect of inland transport on logistics performance.

Inland transport has an impact on the logistics performance of the country. The researcher tries to identify the impact of inland transportation in logistics performance (logistics differentiation, efficiency, and effectiveness); and to analyze the association between inland transportation and logistics performance. The explanatory research design was employed with the mixed technique. A total of 80 questionnaires were distributed and all 80 were returned for analysis. Interview questions were prepared for the company transport head & to the company owner. The impact of inland transportation was studied using explanatory and descriptive techniques. The output weakness observed in areas of the overall quality of transportation, transportation cost, and human and non-human factors affecting the performance of inland transportation has been explained briefly. From the result of the analysis, it is concluded that there is a strong causal relationship between inland transportation and logistics performance. From the finding, it was recommended that increase transportation performance (by providing safe and secure movement of personals and materials, fast travel time, and finical/economical management) is better for the export company to improve the logistics performance. Because most of logistics function is inland transportation dependent.

Keywords: Logistics, Transportation, Inland transport

LIST OF ABBREVIATION

GDP: Gross Domestics Product

LPI: Logistics Performance Index

JIT: Just in Time

POD: Proof of Delivery

ICE: Internal Combustion Engine

HSR: High Speed Rail

SPSS: Statics Package for the Social Sciences

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

The inland transport arrangement is a key element in the logistics chain, it joins the separated activities. Freight transportation is the process to transmission different types of goods from one point to another using a variety mode of transports. Shewangizaw, 2009). Freight transportation plays a vital role in the economy because it connects suppliers, distributors, vendors, and consumers (Miao et al., 2011). It also strengthens the business competitiveness of a country. In supply chain and logistics activities, transportation inadequacy is one of the activities that can be shown in terms of expensive cost, delay, and impulsiveness in delivering the product and service to the organization customer, on the other hand it affects impacts the economic growth of a country. (Shewangizaw, 2009).

The underdevelopment of logistics management system, lacking the quality 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 delay while transporting from origin to some other destinations. (Adkins et al., 1967).

In addition to direct costs to truckers, time delays in logistics can create indirect costs. There are delay costs associated with shippers in the form of inventories tied up in traffic, forcing them to hold greater inventories to avoid outages. In addition, for some commodities, such as fresh fruits and vegetables, delays depreciate the value (National Cooperative Highway Research Program, 2014). More recent studies examined the cost of delay to both shippers and to those receiving shipments. They made note of the fact that the magnitude of impacts of freight delay on businesses depends on several factors, including the value of goods, available time windows for delivery, perishability, seasonality, and the type of business. They reported an average value of

delay to shippers‟‟ operations of $56 per hour (National Cooperative Highway Research Program, 2014). They also noted other potential benefits of freight improvement projects such as; Improved travel times, improved travel time reliability, reduced truck operating costs, safety improvement, freight network connectivity improvement, network resiliency improvement, improved air quality, and economic output. Delays in freight delivery negatively impact each of these factors. Some of these can readily be converted to monetary values based on operator time, fuel and maintenance costs, and reduced crashes. For other factors, the money conversion is not as straightforward. Benefits attributable to network connectivity, resiliency, air quality, and economic output can be difficult to quantify (National Cooperative Highway Research Program, 2014).

Therefore, to address the freight delay and prioritize freight projects, public-sector researchers and planners need to know the major causes and impact of delay on stakeholders. This is also important for fully understanding the benefit of transportation improvement projects and for justifying infrastructure investments.

Also, the researcher assessed the impact of inland transport in Yahia Sayed Omar and sons Export Company that was established in 1969 by Mr. Yahia Sayed Omer and is considered as one of the largest, and oldest family-owned private company dating as far as 1969. The company has 80 employees. The company is specializing in the processing and exporting of Ethiopian Spices (Turmeric, Black cumin seeds, Coriander, Black Cardamom), Pulses (Beans, Peas, Pinto, LSKB, RSKB, Vetch, & Lupin), Oilseeds (Niger seeds, Linseeds, & Castor Beans) and natural gums and herbs. The annual sales turnover of the company is 1500-2000 tones and 2-3 million dollars. Their export destination is around North Africa, USA, Europe and Asia & Far East.

1.2. Statement of the problem

Transporting goods and information within a short time period is crucial and transportation is a key element in making this happen (Hummels, 2001).

Currently, companies in the world are focusing their logistical activities on logistics service providers to focus more on their logistics service on competent enough to deliver efficient and reliable services. However, most country companies cannot achieve their strategy of efficient logistics services and they cannot win in the global market (Fekadu, 2013). In addition, Bhagwat

and Sharma's (2009), analysis shows that logistics financial performance is the main challenge faced by many country companies.

The Ethiopian logistic service is still undeveloped compare to other countries practices. According to the Logistics Performance Index (LPI), the ranking of Ethiopia shows a relative deterioration between 2012 and 2014. Ethiopia ranked 124 and 134 in 2014 and 2016. And the recent version 2016, reached 80 out of 163 (The World Bank, 2013). One of the contributing factors for this is freight transportation delay.

There are inland transport constraints associated with freight delays in Ethiopia. These are: - underdevelopment of the road and rail transports, inadequate fleets of vehicles or means of transport for goods transport, lack of coordination of goods transport, shortage of trucks and wagons. Dagmawi (2016). Mainly, exports are passes from Djibouti to Ethiopia is through Galafi, which has felt the effects of the greatly increased numbers of trucks often. Overloaded trucks are one contributing factor for freight delay Chinniah and Kalimuthu, (2014).

Dagmawi (2016), stated that transportation lodges 1/3 of the amount in the logistics costs and inland transportation affect the logistics performance highly. Undeveloped inland transportation system, logistics cannot take its advantages properly. A good inland transport system has an impact in providing a better logistics efficiency, to deduct operational costs, and to encourage service quality. Dagmawi (2016). Logistics inefficiencies harm the competitiveness of private firms through their effects on both cost and time in highly competitive international markets demanding just-in-time delivery.

An exporting firm is said to be competitive in the international market; if it can consistently deliver over time, meet JIT requirements and offer competitive prices, and achieve overall customer satisfaction (Arvis, Mustra, Panzer, Ojala, &Naula, 2008). Therefore, the study assessed the effect of inland transportation on Yahia Sayed Omar and sons Export Company logistics performance and evaluate the current practice of logistic operating to improve a company’s logistics. Because, without measuring the logistic performance of the companies, it is difficult to form a clear direction for companies’ logistics performance

1.3. Research Questions

The research seeks answers to the following basic questions:

I. What factors are affecting the inland transport operation efficiency in Yahia Sayed Omar and sons export companies?
II. What are the factors that are affecting the inland transport effectiveness in Yahia Sayed Omar and sons export companies?
III. Is the inland transport differentiation playing satisfactory roles in Yahia Sayed Omar and sons export companies?
IV. Which type of transport medium is common in Yahia Sayed Omar and sons export companies?

1.4. Research Objective

1.4.1. General objective of the study

The overall objective of the study was assessing the effect of inland transport in the logistics performance of Yahiya and Sons export company, Addis Ababa, Ethiopia.

1.4.2. Specific Objective of Study

I. To find out the factors that is affecting inland transport efficiency in Yahiya and son's export.
II. To measure the inland transport effectiveness in Yahiya and Sons export company.
III. To assess the inland transport differentiation performance in Yahiya and Sons export company.
IV. To determine the most common transport medium in Yahiya and Sons export company.

1.5. Significance of the Study

As Ethiopia is a land-locked country, there is a higher need for inland transportation than for water transportation. Inland transportation plays an important role in the country's economic growth. This means, the study was attempted to find the factors or problems that influence the performance of inland transport. Hence, the study can be useful in creating an understanding of the effect of inland transportation on the company's economic growth.

Also, the study finding provided important information for different export companies, academicians, and company managers who participate directly or indirectly in logistics activities about the present status of logistic process and freight transportation practice in Yahia Sayed Omar and sons export companies.

The study contributed as a guideline for companies' future, good quality of service and inconsistency on quantity delivered, cost-effective, consistency on quantity delivered, time-saving and integrated transport service. This has an impact to make decisions related to the issue of the inland transport system. Furthermore, the study was served as reference material for students and researchers who want to undertake researches on the related topics.

1.6. Scope of the Study

The scope of this study is delimited to the effect of inland transport in logistics performance and restricted only to Yahia Sayed Omar and sons export company. This study has conducted the study on a single local export company. Data was collected through questionnaires arranged in the Likert form and interview. The questionnaires were distributed randomly to 80 employees of the company and interviews were conducted from the transport head and CEO of the company. Also, the subject scope of this study is delimited to the point view of logistics performance references towards effectiveness, flexibility & just in time delivery & client satisfaction.

1.7. Limitation of the Study

Due to the COVID-19 outbreak, the researcher has distributed a hard copy questioner to the target respondents and interviews through zoom meeting. The researcher collected data using soft copies via social media platforms, email, and for special conditions via zoom meeting. Following this, it may be the case that some respondents may not have provided their response by the schedule. As it was discussed above the study was conducted on one local company, it may result in some duplication of the response. As the survey was carried out based on the employees' perspective, the finding of the study may not be enough to generalize for all local export companies.

1.8. Definition of Terms and Concepts

Logistic-is about forecasting, realizing, and directing to transport and store of goods including services, and related information from the point of origin to the point of delivery for the purpose of conforming to customer requirements for the efficient and effective transportation and storage. (Vitasek2006, p. 88)

Logistics performance-is the weighted average of the country scores on the six key dimensions: The efficiency of the clearance process (i.e.; speed, simplicity, and predictability of formalities) by border control agencies, including customs. (Logistics Performance Index wikipedia.org)

Transport- is moving people or things from one place to another place. Transport can be divided into infrastructure, vehicles, and operations. Infrastructure includes roads, railways, airports, canals, and pipelines. The infrastructure is the network where things are carried (Wikipedia.org).

Road transport- is the physical process of transporting cargo by road using motor vehicles. In this case, a road is a lane/route between the point of departure and the point of destination. Compared to other types of the transport systems such as sea and air, the cost of maintaining roads is cheaper (www.saloodo.com › Lexikon › Road Freight).

Rail transport- is also known as train transport. It is a means of transport, on vehicles which run on tracks (rails or railroads). It is one of the most important, commonly used, and very cost-effective modes of commuting and goods carriage over long, as well as, short distances (economictimes.indiatimes.com).

1.9. Organization of the Study

This research paper has five parts and is organized as below. The first, part is an introduction and has consisted of the definition of transport and background information's of the company, the second part, reviews related to literature, the third part presented the methodology of the research, the fourth part has analyzed the research problem, and the last chapter five consists of the conclusion and recommendation would be made on the summery.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Introduction

The Chapter discussed inland transport in detail from its definition, its role in logistics, what challenges are faced in the sector, and then it has explained in detail the impact of inland transport on logistics performance. The conceptual framework has also been demonstrated. The sources referred into beneath for the study are websites articles, journals, past literatures that are related to transport division.

2.2. Definition of Transport

Transportation is movement of goods or people from place to places. The transportation system interfaces customers, raw material suppliers, plants, warehouses, and channel members. Transport service can be categorized into three divisions as infrastructure, operation and vehicles. The transport sector allows one to build communication and trade relation with different parties. Transport is one of the significant sectors to consider when planning shipment movement as it determines the costs, time line to reach the end-user, the value of the goods, the size and weight of the goods. For effective transportation and distribution service transport is highly important Transport service should put in to consideration delivery route and cost-effective packaging that ensures low investment and safety of goods. (Vitasek2006, p. 88). Logistics and transport are different but they are equally important for transportation and distribution services. Logistics is the management of the inward and outward transportation of goods from the manufacturer to the end-user while transportation is the means to transport the goods. In the supply chain the terms are used mostly used interchangeably. (Kalkidan Watkole 2017).

Transportation is one of the largest consumers of energy, particularly hydrocarbons, and has a considerable share of the economies of governments, industry, and households. All major transportation links, including railway stations, airports, ports, and freight terminals, can be powerful driving forces behind the development of a region, and conversely, they can result in major problems if they are wrongly sited and not properly integrated into the general transportation system of the area. As the world continues to develop towards a global economy,

the importance of transportation grows and consequently the need to find new solutions. The process of moving goods from one point to the end point involves significant financial costs, as well as costs associated with lengthy and uncertain delivery times. (Nannette Christ, 2009).

The contribution of transportation to a country's development is high. It's share of contribution to the GDP of a country is incontrovertible, though the nature and extent of the contribution vary from country to country. Transportation plays a big role in what is known in both national and international trade as invisible trade. It has been confirmed that its share in this respect in many developed countries is as high as 26%. The transport sector accounts for nearly one-third of the world's total energy use, while inland transport alone is responsible for half of the global petroleum consumption. (Stefanie 2020). Efficient transport and logistics services promote market integration and can enhance a country's competitiveness. Nordås and Grosso (2006) find that the time it takes to export has a direct impact on the probability of doing so and on trade volumes.

2.3. Definition of Inland (Road & Rail) Transport

There are five modes of transport that are mainly used for transportation among them three are used for inland transportation. Road transport is vital for an efficient logistics chain. Road transport services are often just one input into a complete offer to deliver goods from door to door around the world, linked closely with other services. Inland transport costs and time delays are a much larger share of total logistics costs road transport is supposed to create a network over a wide array of infrastructural facilities. In addition, the road transport sector is important for developing countries for the reason that provision of other advanced means of transportation is expensive.

2.3.1. Road

Road transport means transportation of goods and personnel from one place to the other on roads. A road is a route between two destinations, which has been either paved or worked on to enable transportation by way of motorized and non-motorized carriages. There are many advantages of road transport in comparison to other means of transport. The investment required in road transport is very less compared to other modes of transport such as railways and air transport Kalkidan Watkole (2017).

The cost of construction, operating cost, and maintaining roads are cheaper than that of the railways. Road transport can be classified as transporting either goods or materials or transporting people. The major advantage of road transport is that it can enable door-to-door delivery of goods and materials and can provide a very cost-effective means of cartage, loading, and unloading. Sometimes road transport is the only way for carrying goods and people to and from rural areas which are not catered to by rail, water or air transport. Delivery of goods between cities, towns and small villages is made possible only through road transport. However, in spite of various merits, road transport has some major limitations. For instance, there are more chances of accidents and breakdowns in the case of road transport. So, motor transport is not as safe as other means of transport. (www.saloodo.com › Lexikon › Road Freight)

Road transport is also quite less organized in comparison with other modes. It is irregular and undependable. Rates for road transportation are also unstable and unequal, while the speed in road transport is slow and limited, which is a major drawback. Transporting bulky goods over long distances is also unsuitable and costly. In modern days, road transport has a serious negative impact on the environment. Building roads requires melting of bar or formulation of concrete, which may harm the associated environment.

Since roads have been a major enabler of motorized transport, these vehicles also emit a lot of pollution in the form of Nitrogen dioxide, volatile organic compounds, carbon monoxide, and various harmful air pollutants, including benzene, which have an adverse respiratory health effect and a serious threat to global warming. While improvisation of roads is a serious topic of research, road transport of the future includes aspects like solar panel roads and cars where solar cells have replaced asphalt or tar, and there are vehicles with electric motors reducing emission. Road transport of the future aims to work on these negativities and turn them around. (www.saloodo.com › Lexikon › Road Freight.)

Kalkidan Watkole (2017) stated that road transport is the main and principal means of moving cargo and petrol in Ethiopia. The country depends mainly on on-road transportation for all its export and import cargos. Presently over 93% of the countries traffic movement is using road transport for moving cargo to and from the country. This role reliance on road haulage is being challenged lately by railway haulage. The use of aviation through essential plays a minor role in the overall cargo movement.

This industry is catching up lately due to significant exportation demand the horticulture products, like flowers and the like.

Ethiopia has four main corridors for its import, export cargo and also as the main artery of road networks, the Ethio –Djibouti corridor taking the lions share linking Djibouti with capital Addis Ababa and the rest of the country, then the Northern corridor Addis Ababa Mekele –Metema and Sudan port, the third is the Addis Ababa Moyale –Mombasa corridor and the forth which is under development is the south Eastern Addis Ababa –Harar Jijiga –Berbera corridor, the last two are yet to be developed fully in the near future.

According to Kalkidan Watkole (2017), the latest statistical figure indicates that there is a total of over 65,000 dry cargo movements to and from the demand terminals. The existing regional and federal roads to date a total of around 45,000 km is being increased with more arteries being opened and existing ones renovated to suit the economy. The capacity of cargo tracks, measurements, and tonnages as well as the traffic movements and standards follow that of internationally accepted standards suitable for cross-border operations if required with minor differences. Due to technological gaps, the vehicles on roads are lagging behind some as old as 30 years and above. The capacities operating on these roads are 7 to 30 tones only the economy.

The capacity of cargo tracks, measurements, and tonnages as well as the traffic movements and standards follow that of internationally accepted standards suitable for cross-border operations if required with minor differences. Due to technological gaps, the vehicles on roads are lagging behind some as old as 30 years and above. The capacities operating on these roads are 7 to 30 tones only. The market which is unorganized, uncontrolled, and free-floating is not beneficial to the fleet owner not to the cargo mover. Observed freight rates are the lowest rates compared with some of the African countries making replacement of vehicles at low level and efficiency of vehicles at the lowest.

As part of the transport facilitation effort, an initiative aimed at improving road transport governance has been launched in West Africa. A major component of the initiative is the preparation and dissemination of a quarterly report on road corruption along with three (Tema - Ouagadougou, Ouagadougou - Bamako, and Lomé - Ouagadougou) primary trade corridors. The

report is expected to help fight road corruption by providing timely information to decision-makers and other stakeholders Kalkidan Watkole (2017).

In an effort to further reduce NTBs the Kenyan government has decided to open border posts to neighboring landlocked countries, 24 hours every day, which is an enormous improvement from the existing practice of an eight-hour working day. There are also plans to bring down the number of road blocks between Kenya and Uganda on its Northern Corridor (which comprises a rail and road network that links Kenya to the Great Lakes countries of Burundi, Democratic Republic of Congo, Rwanda, Southern Sudan, and Uganda) from the current 47 to 17.

2.3.2. Rail

Rail transport increased security of cargo (especially in developing countries), Capability to transport large and heavy volumes of cargo over long distances (>200 KM) at low unit cost, Efficient operations in a multi-modal environment, Faster (with respect to sea) on some routes, cheaper (with respect to the road) in most cases, Operations usually not affected by weather conditions, Reliability of operations (in most cases) and Effectiveness in regular consignments - block trains / full train loads and have the below disadvantages as well, these are Interoperability problems (gauges, platforms, signaling systems, voltage, data exchange, operational rules) Kalkidan Watkole (2017).

Relatively low (in comparison to the road) network density and door-to-door capability, Variations in technical/operational characteristics along rail route sections and missing links, severe delays (in some cases) at border crossings, Single agent for door-to-door transport, and intervention of several rail operators/networks in international and transit transports, Tariffs differentiations and complex structures -no single bill of lading, low commercial speed in most lines necessity of two intermediate handling phases in the majority of cases (departure + destination rail yards), unless private sidings are used expensive in short distances and limitations to standardized units fitting with load gauge profile restrictions Kalkidan Watkole (2017).

2.4. The Development and History of Transportation Management

A well-developed inland transport sector in developing countries is assumed to fuel up the growth the process through a variety of activities of the development endeavors of a nation. Transport was still managed manually; irrespective of whether it involved direct delivery of the product to a production line, or delivery of the product to build inventory levels (Nannette Christ, 2009).

Although tracking systems have been in place for decades, the visibility of consignments through the general haulage network has been all but non-existent. Over the past decade, the use of telematics to locate vehicles and set up geofences has become standard as the cost of installing such systems has fallen. However, these systems will become increasingly obsolete as the ubiquity of smartphones and other mobile devices has resulted in the development of easily accessible and cost-effective applications that are able to track consignments from departure to delivery. (Nannette Christ, 2009).

These systems are revolutionizing the way in which vehicles are tracked and controlled, bringing with them some obvious and significant benefits: they are usually cheap to buy and operate; most people already have access to a smartphone or tablet, and they offer an unprecedented level of flexibility and mobility. Furthermore, the running and transmission of data using mobile over the networks cost a fraction of the price that companies currently pay to track vehicles. The transmission of mobile data also facilitates the centralization of data transmitted in real-time. This means that people can see their proof of delivery (POD) almost immediately after delivery, which also saves the costly administration process of scanning PODs when the vehicle returns to base. (Mentzer & Konrad, 1991).

The internal combustion engine (ICE) in the late 19th century brought the large-scale mechanization of transportation modes, especially road transport. It was followed by the diffusion of cars, buses, and trucks supported by the construction of vast highway networks. For rail, diesel locomotives replaced steam engines, improving power and range. However, the development of high-speed rail (HSR) relied on the electric motor due to its capacity to generate a velocity that an internal combustion engine would be unable to (Mentzer & Konrad, 1991).

For air transport, the internal combustion engine (piston engine) allowed heavier planes and the emergence of the first commercial services in the 1920s. Innovations in air propulsion led to jet planes that could quickly transport a large number of passengers over long distances. Then, wide-body jets (such as the B747) enabled to improve further the scale at which air transportation could carry passengers and freight.

The technological evolution of maritime transportation impacted more substantially vehicles than their speed, particularly their economies of scale. Metallic hulls and fuel propulsion enabled the growth of ship size as well as their specialization (oil, freight, containers). The introduction of the containership in the 1970s allowed a versatile cargo carrier that continuously benefited from economies of scale and supported the rapid development of the global economy (Braz, Scavarda, & Martins, 2011).

In the 21st century, the automation of transport systems is unfolding, including its terminals. This improves their reliability and performance while reducing their operating costs. Self-driving vehicles and drones are starting to be introduced.

2.5. Logistics Performance Measurement

To achieve one's organization's goals logistics plays crucial role. The logistics performance is evaluated on how well the goal is achieved and to what extent the overall productivity and performance is achieved. (Mentzer & Konrad, 1991) consequently, the organization's objectives and strategy are fulfilled with logistics performance (Braz, Scavarda, & Martins, 2011) as well as satisfying the customers (Kayakutlu & Buyukozkan, 2011).

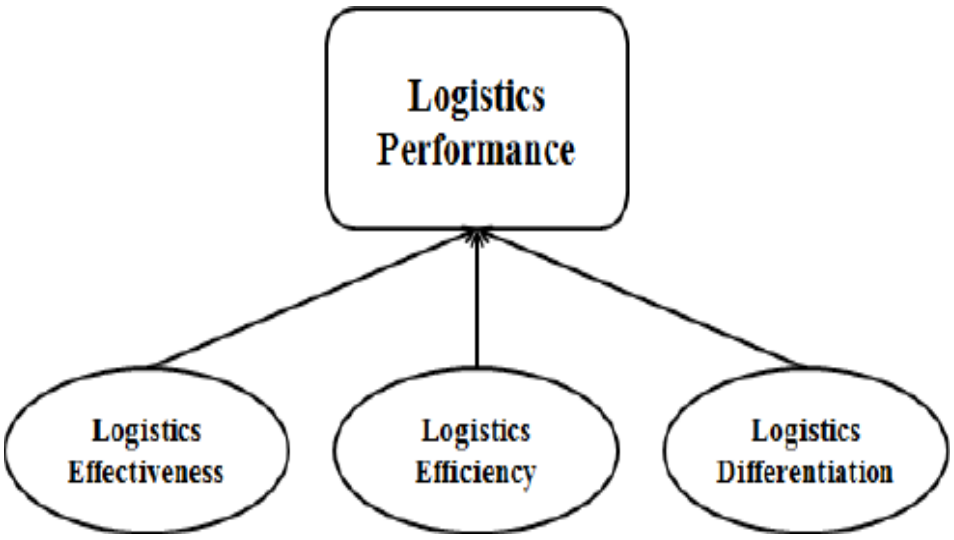
Logistic performance is an analysis of both effectiveness and efficiency in accomplishing a given task' (Mentzer & Konrad, 1991). Another scholar refers to logistic performance as a way used to measure the efficiency and or effectiveness of an action (Neely, Gregory, & Platts, 2005).

Logistic performance has been seen multi-dimensional and it's showing the level of efficiency, effectiveness ad differentiation associated with the accomplishment of activities (Fugate, Mentzer, & Stank, 2010).

Gleason and Barnum (1982) identify the difference between effectiveness and efficiency. They defined effectiveness as "the extent to which an objective has been achieved", while efficiency

was defined as “the degree to which resources have been used economically. In addition, efficiency is “doing things right”, while effectiveness is “doing the right thing.

Figure 2.1: Model for Logistics Performance



Source: Fugate 2010

Efficiency is the organization capacity to fulfill the required service or product to customer with highest quality. It is required to manage a resource efficiently to minimize the expenses and offer a service meeting a customer demand. The customer will get economic value in terms of low price (Langley and Holcomb, 1992).

Effectiveness is the organization capacity meeting a customer critical demand in areas of logistics. For example, L.L. Bean has identified seven customer services called key result areas, namely product guarantee, in-stock availability, fulfillment time (turnaround), convenience, retail service, innovation, and market standing. Therefore, the customer takeaway is a market value which in L.L. Bean‘s case is assortment and convenience. (Bowersox et al., 2000)

Differentiation or relevancy manifests itself in the ability of logistics to create value for the customer through the exceptionality and distinctiveness of logistical services (Langley and Holcomb, 1992; Bowersox et al., 2000).

In general, the performance of logistics should be assessed by taking the customers and society into consideration. The micro view focuses on the level of satisfaction of the individual users, manufacturers, traders, and other commercial enterprises. Also, no the input of a country's economic and social development, and the satisfaction of public needs. From the macroeconomic and social perspectives, however, logistics is broad it does not only focus on achieving economic efficiency it also considers external factors as safety hazards, pollution, conserve energy, and optimally utilizing the country's resources.

In measuring transportation performance one can identify areas of improvement and take the necessary action for quality service. The performance can be evaluated as per the predetermined standards, competitive benchmarks, or previous period performances to identify problems.

2.6. Logistics Service Value

Logistics service value is mostly focused on the connection of logistics service to customer service, capabilities, and competitive advantage of a firm. The logistics service component of customer service and if the companies adopt logistics service, they will maintain a competitive advantage in the marketplace (Langley and Holcomb, 1992). Logistics services are modified to create value-added services and they take the shape of logistics capabilities that can be a source of competitive advantage (Morash et al., 1996; Lynch et al., 2000). Thus, in their quest for new ways to establish a competitive edge, managers are recognizing that unique types of customer value can be created through logistics service (Langley and Holcomb, 1992).

Creating customer value and sustaining competitive advantage through the delivery of a quality service can be a challenging process because they involve changing the way logistics managers and organizations work. It is necessary to understand how logistics creates value. Fundamentally, logistics creates customer value through three generic ways: efficiency, effectiveness, and differentiation or relevancy (Langley and Holcomb, 1992).

2.7. Achieving Logistics Efficiency and Effectiveness

The quality of logistics system depends on consistent and timely information flows, involving both supplier and customer of services. Efficiency of transport; Coordination and unified interchange of different transport modes; Effective integration of all supply chain management

functions (including demand management, supply management, manufacturing, storage, transport, distribution, and value-added services); and Enhanced collaboration among supply chain partners (e.g., suppliers, manufacturers, distributors, and end-users). The above activities can achieve logistics efficiency and effectiveness.

2.8. The Role of Transportation in Logistics

The development of logistics affects the progression of the economy. Brewer et al. (2001) stated that, when the economy is growing, both production and consumption will grow, hence leading to an increase in the demand for transport. When the logistics system improves efficiency and benefits of business while decreasing logistics costs increases profits of products. To reduce the cost of logistics, good management of transportation is the key due to that it occupies a big part in the logistics activities. The development of market economy, one in which goods are transferred from points of production to points of consumption, depends upon the ability to move goods, that is, on the availability of transportation service (Fair & Williams, 1981).

Transportation is required by the logistics operation process. Transportations play an important part in the connection various processing stages. For example, the raw materials from the place of production are transported to the industries for manufacturing. It is operated in various patterns, e.g., conveyor belt during the producing procedures. Even in the final stage of the business process, transportation is still necessary for delivering products from factories to wholesalers/ retails. The cost of transportation has an impact in total costs logistics performance. Transportation cost proves the importance of transportation in logistics activities. The importance is emphasizing by the financial strain placed on many firms by such disasters as a national rail road strike or independent truckers' refusal to move goods because of rate disputes.

According to Sloggett and Woods (1989), transportation plays role in making location decisions for new businesses or industries. The below tew are consideration when we allocate business. These are

1) Low transportation cost and 2) satisfactory transportation service. So, for any logistics activity transportation play a vital role.

2.9. Relationship between Transportation and Logistics

A high-quality transport system in logistics activities could afford logistics efficiency, decrease operation costs, and encourage service quality. The enhancement of transportation systems needs effort from the government and privet owners. If logistics system is well-operated, it could increase competitiveness of the government and enterprises.

According to Asian Development Bank (2012), transportation is a major factor in the time and economic usefulness of products and services. Inland transport, which combines the advantages of each mode, can be a particularly efficient and effective approach. Logistics encompasses the storage of raw materials, work-in-process parts, and finished products, as well as a variety of value-added services.

Authors explained that the importance of transportation as follows. Based on Thomas (2014), Logistics is defined as; that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customers' requirements. Transportation provides the flow of inventory from points of origin in the supply chain to destination or points of use and consumption.

According to Thomas, et al (2014), Reverse logistics refers to "the role of logistics in product returns, source reduction, recycling, materials substitution, reuse of materials, waste disposal, and refurbishing, repair, and remanufacturing." So, transportation not only delivers material and products to customers but also moves reusable and recyclable content to companies that can use it.

2.10. The role of Transportation in Service Quality

The impact of that transportation plays a vital role in the logistics system. Its complexity can take effect only through high-quality management. Goods could be sent to the right place at right time in order to satisfy customers demands. It brings efficacy, and also it builds a bridge between producers and consumers. Therefore, transportation is the basis of efficiency and economy in business logistics and expands other functions of the logistics systems and good transport system

performing in logistics activities brings benefits not only to service quality but also to company competitiveness. (Sreenivas and Sirinivas, 2001)

2.11. Empirical Review

The transportation effectiveness and manufacturing firm performance is fast and effective response in moving materials and information within a short period is vital, and transportation is a key element in making this happens. (Michael Tracy, 2004). A transportation system that provides a reliable service level reduces supply chain uncertainty and the amount of inventory required throughout the chain which in turn reduces holding cost which finally reduces the overall cost of ownership of a product and the certainty of the supply chain will build customer loyalty. On the other hand, poor transportation performance causes excessive freight cost. Servings and srivani, (2001) stated that logistics system has important place in the social activities and transportation and logistics systems have interdependent that logistics management needs transportation to perform its activities. The review of transport systems provides a clearer idea of transport applications in logistics activities. It is also stated that transportation is fast becoming a key in determining the difference between profit and loss. It is the essential link between the extraction of natural resources; the fabrication of industrial, commercial, and consumer products; and the final distribution of goods to wholesalers, retailers, and end-users. In all of the empirical finding's problems that hinder transportation from playing its role is not mentioned therefore the findings of this paper might give an explanation on the problems of

2.12. Logistics Performance: In China, Japan and Korea

The major factors that are affecting logistics performance at the country level: These are (industrial policy priorities, strategic infrastructure development, public-private logistics market growth, and communication network configurations) and they are very essential for assessing a macro-level logistics performance. David W. Hwang (2017).

All three countries have made noteworthy progress in developing logistics capabilities to achieve rapid industrialization and economic growth (Speece and Kawahara, 1995; Johnson, 1982; Amsden, 1989; Li, 2014).

In view of the vast volumes of raw materials and products that Chinese ports handle, its inland transportation systems and structure require further development. The railroad system needs careful attention beyond the coastal areas. Especially, the vast enhance the international competitiveness and sustain high economic growth, it is also necessary for China to have effective information management and government support for the development of infrastructure and green initiatives.

Japan currently has the most efficient logistics sector and good infrastructural system among the three countries, but the sluggish economic growth in recent decades has had a dampening effect on the logistics system. Japan needs a strategic change that supports the renewal of the logistics system through government initiatives including further deregulation of the logistics sector.

In Korea, the logistics sector is growing rapidly. Its road system is efficient. The Korean Government has promoted policies to support the global market activities of its growth engine industries.

But the market remains relatively small and needs to expand further to utilize the economies of scale in the globalized environment. It is also desirable for Korea to pursue a policy to further expand the 3PL providers in order to reduce the inefficiency of the in-house logistics operations and to further the global logistics activities by its firms. Given its considerable share of economic activities in the world, the North eastern Asian region is a very critical market for logistics in general and contract logistics in Particular Performance in East Asia.

2.13. 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 Mukolwe and Wanyoike (2015).

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.

2.14. Freight Transportation Performance

Michael Tracy, (2004) work entitled transportation success and manufacturing industries 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 doubt and also the amount of inventory required throughout the chain which continuously reduces holding cost which finally decreases the general cost of ownership of a product and also the certainty of the provision chain will build customer loyalty.

Poor transportation performance causes excessive freight costs and increased inventory holding costs.

2.15. Road Freight Transportation Performance Measures

The literature on freight performance measurement has become livelier 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 group were got 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.

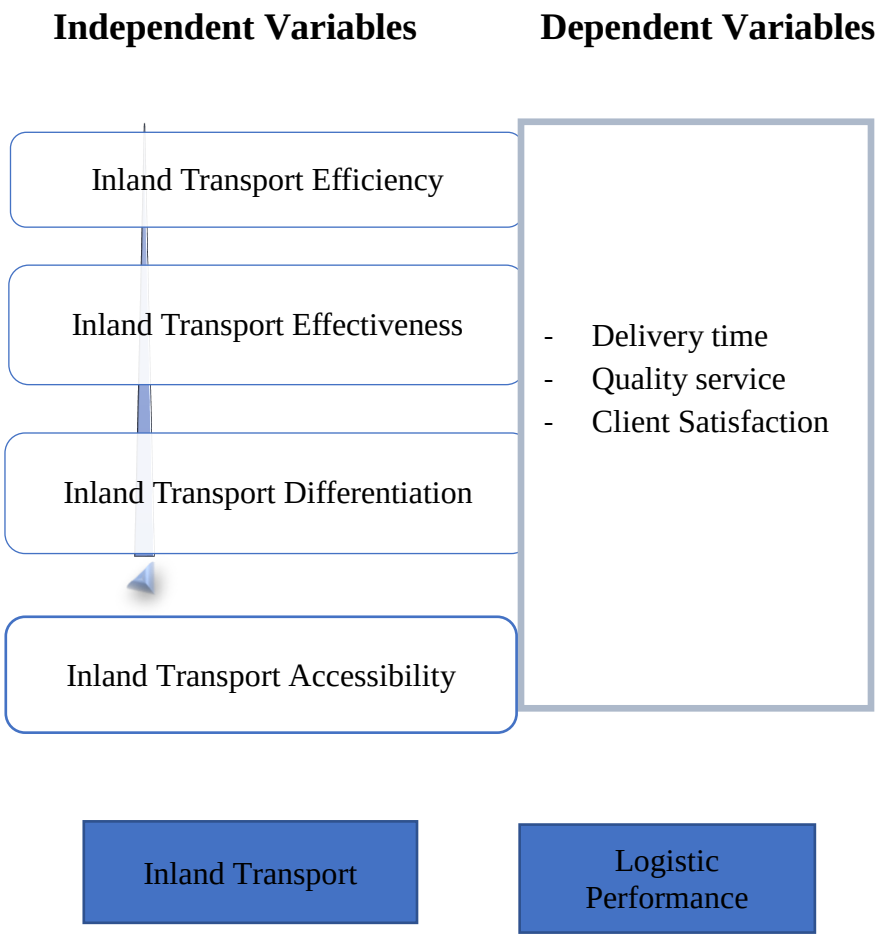
Stewart (1995) discussed four "keys" to unlocking supply chain excellence: delivery performance, flexibility and responsiveness, logistics cost, and asset management. His suggested performance metrics are delivery performance, flexibility, and responsiveness, logistics cost, and asset management. Stainer (1997) emphasized efficiency 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., the 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.

2.16. Conceptual Framework of the Study

The importance of transportation based on the views of logistics performance, logistics practices, and business competitiveness. On the contrary, good transport activities in the logistics system could provide improved logistics effectiveness, reduce operation cost, and promote service quality in order to ensure the logistics performance (Creswell & Plano Clark, 2007). Benefits of transport are: timely delivery of commodities, safety movement of commodities, secure movement commodities, improve service quality (by mobility & accessibility, economic and financial viability), and assessing technology. This benefit leads to Yahiya and sons export company cultivating overall logistical effectiveness, efficiency, and performance which leads to ensuring end-users satisfaction. But these benefits are not achieving without challenges. The major challenges of transport are human and non-human. We hypothesize that, if there is good transportation practice in the company, there will be better logistics performance. A well-operated logistics system in the company could increase the efficient accomplishment of the company logistics performance Tashakkori and Teddlie (2003). Logistics performance is mainly depending on inland transport efficiency, inland transport performance, and inland transport effectiveness. (United Nation, 2011)

Figure 2.2: Conceptual Frame Work of the Study



Source- Based on Literature Review

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

Research methodology is very crucial that helps the researchers how to address the research problems and provides the overall structure for the procedures that researchers should follow. It is also very important to get meaningful data to achieve the objectives of the study. Thus, in this study, the methodologies applied were research design, the population of the study, sampling techniques, instruments of data collection, data analysis, pilot study, validity and reliability, and ethical consideration.

3.2. Research Approach

This study used a mixed research approach. As per Creswell & Plano Clark, 2007, a mixed research method is a method of inquiry that combines both qualitative and quantitative research approaches. The approach involves the use of both approaches in tandem that increase the strength of the study to become greater than either qualitative or quantitative research. A mixed research approach involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in a study. It is more than simply collecting and analyzing both kinds of data.

A mixed research approach was emerged in the mid-to-late 1900s (Tashakkori and Teddlie (2003). As per Johnson and Onwuegbuzie (2004) study, the mixed-methods approach to research provided researchers with an alternative which the quantitative and qualitative research approaches provide as they are incompatible and their associated methods “cannot and should not be mixed”.

Using mixed research methods, the researcher incorporated quantitative and qualitative approaches for collecting and analyzing data from a single research study (Creswell, 2003).

Based on this, this study was continuing by collecting and analyzing both numerical data, which is customary for quantitative research, and also descriptive data, which is the norm for qualitative research in order to mention the research question(s) prepared for a specific research study.

Following this, the mixture of both data might contribute a value by a study that involves closed-ended questions to collect the numerical or quantitative data.

3.3. Design of the Study

Explanatory research is used to identify any fundamental connection between the effect and variables that are related to the research problem. Causal studies show a semantic role in identifying reasons behind a wide range of processes and measuring the impacts of changes on existing customs, processes, etc. Explanatory studies usually provide the advantages of replication if the necessity arises Tashakkori and Teddlie (2003). This type of study is related to greater levels of internal validity due to the efficient selection of topics. Generally, to evaluate the causal relationship between the role of transportation and logistics performance, the researcher used an explanatory research design in the study.

3.4. Population and Sample of the Study

According to Alan S. Kafman and NadeenI.Kaufman, (2005), the population is a group of individuals, objects, items or it is an entire group of persons or elements that have at least one common thing in common. The targeted population is in total 80. Therefore, due to the small number of the targeted population, the researcher never used the technique of sample size determination. But, taken as it is the total number of the population which is 80.

Regarding this, the sample size is already the total population (N = n); the confidence interval of the error to take the sample is 100%. That means the researcher is 100% confidential on the sample to give the study result significance. Following this, the sample size considered all concerned bodies and all participants in the company. Based on the above information the population of 80 was taken. Therefore, the study used a census technique for the questioner and purposive sampling techniques for interviews.

3.5. Data Source and Types

In order to conduct the study, the quantitative and qualitative types of data have been used to get sufficient information. The data was conducted by a questioner from the company employees and interviews from the company CEO, the transport department head, and from other relevant documents.

3.6. Data Collection Procedures

In order to obtain relevant and adequate data, the researcher used both primary and secondary data collection methods. The primary source of data is collected by using pre-structured open and closed-ended questionnaires, personal opinions, and interviews. The research questioners and interviews were developed in advance. The selection of individuals for the interview is done by the procedure which is taking place the Yahia Sayed Omar and Sons export company, transport head, and CEO. Secondary data can be collected from the company report document or from other different available documents.

3.7. Data Analysis

In order to obtain the required research objectives, the required data which was collected was analyzed based on the nature of the study objectives. After the collection of data, the data encoding and cleaning was done and the researcher used a statistics package for the SPSS for data analysis. And the results, the data are analyzed and presented by using tables in order to display the collected data in a concise and meaningful way. In order to have the required result, the researcher used a descriptive statistic in terms of percentage and table to determine a well-organized inland transport system is positively contributes to logistics performance or not.

3.8. Validity and Reliability

In the study the researcher used and review the following points in order to meet the desire objectives of the study.

3.8.1. Content Validity

Content validity test was applied to confirm that the measure includes enough coverage of the investigated questions, in the meantime, the face validity was used as a confirmative of items of the research questionnaire and to ensure that the items are more consistent. To continue the study, the researcher was conducting the pilot survey to minimize errors due to inappropriate design elements, such as question wording or sequence. So, it is important to provide confusing interview instructions; learning and ensures the validity of the questionnaire, whether there is excess or shortage of information, the researcher used Cronbach's Alpha pre-testing technique using those samples.

3.8.2. Scale Validity and Reliability

At the time of data collection, the researcher was a briefing for respondents to give serious attention by providing the required information and completing the questionnaire presented; and reassure them that their response was kept secure. Questionnaires were modified from similar topics and then test as described below. A reliability test was done to check whether the questionnaire consistently reflects the findings or not. Cronbach's alpha was applied as a measure of internal scale consistency to test the reliability using SPSS software and the result is described below: Therefore, based on Cronbach's Alpha, each sub-scale of the questionnaire was calculated with the result of 0.728 and greater. After the pilot test, confusing and ambiguous words of questions from original questionnaires were corrected and irrelevant questions were avoided.

3.9. Ethical Consideration

The study considered some ethical issues. As such, each respondent has the right to respond or not. The respondent has the right to participate or not, respondents were informed of the motive of the research and for the confidentiality of the respondent, they are not asking to state their name. The information collected from the respondent is going to be kept confidential in order to keep its ethical value. Official secured data are not used for the analysis, which encouraged the representatives to freely respond to the questionnaire under study.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND INTERPERTATION

4.1. Introduction

The chapter has consisted of the data analysis, the research findings, and based on the results, the researcher discusses the results and gives some interpretation. To interpret findings of the effect of transportation on the logistics performance of the Yahia Sayed Omar and Sons export company; the researcher used tables and qualitative analysis techniques. The chapter has consisted of three parts. The first part is concerned with the backgrounds of respondents; the second part is about the analysis and explanation of main data by explanatory data analysis, and the third part is about analysis and interpretation of main data by correlation and regression models.

4.2. Background of the respondent

The background of respondents included; sex, age, job position, and service year in the Yahia Sayed Omar and Sons export company. Based on the sample size of the study, a total of 80 questionnaires were arranged and collected. The demographic data are summarized in Table 4.1

Table 4.1 showed that 43.8% of the sample respondents were male and 56.3% were female. This infers that the study consists of more female than male respondents and this is not intentionally done.

As table 4.1 showed, the majority of respondents 47.5% were from the age group of 29-39 and 27.5% of respondents were on the age group of 18-28, 17% of respondents were from the age group of 40-50, and 7.5 % of respondents were from the age group 50 and above. This result indicated that the age group 29-39 and 18-28 were the greatest numbers of respondents in this study.

Regarding the job position (department) of the respondent, 25% were from the transport department, 26.3% were from the financial department, 17.5% were from the marketing department and 31.3% were from the operation department. Regarding the respondent's service year in the Yahiya and sons export company defined as below, 23.8 % of the respondents had

less than 5 years' work experience and about 23.8 % of them had experience from 6-10 years, 37% of the respondents had 11-15 years' work experience, about 18.8 % of the respondents have worked in the organization from 16 and above years. The result indicated that 37.5% of respondents have over 11-15 years of working experience in the department. This implies that the majority of respondents have good work experience to provide the relevant information for the study.

Table 4.1: Characteristics of the Respondent

Variable	Category	N	%
Sex	Male	35	43.8%
	Female	45	56.3%
Age	18-28	22	27.5%
	29-39	38	47.5%
	40-50	14	17.5%
	>51	6	7.5%
Job position	Transport department	20	25.0%
	Finance department	21	26.3%
	Marketing department	14	17.5%
	Operation department	25	31.3%
Work experience (Years)	1-5	19	23.8%
	6-10	16	20.0%
	11-15	30	37.5%
	Above 16	15	18.8%

Source: Researcher's survey result, 2021

4.3. Inland Transport Efficiency

The company's inland transport usage efficiency was shown in Table 4.2. Mostly the respondents were agreed by the company use frequently a truck mode of transportation by 32. 50% strongly agree, 46.30 % agree by the company truck mode of transportation used and the rest 21.30% of the respondents were moderate. All (100%) the respondents were strongly agreeing with the export company's usage of its own warehouse. All (100%) of the respondents were strongly agreeing with the export company's usage of the Djibouti port warehouse until they get the appropriate vessel from the shipping line. All (100%) of the respondents were strongly agreeing with the port rent price is high. Therefore, we conclude that the company has a problem related to the inland transport efficiency as they used truck mode of transportation than rail, and if they

miss a vessel due to the inland transport constraint they store cargos in Djibouti port, and until they get the next available secludes from the shipping line.

Table 4.2: Inland transport efficiency

Variable	Category	N	%
The company use a truck mode of transportation, frequently	Strongly agree	26	32.50%
	Agree	37	46.30%
	Moderate	17	21.30%
The Company store the cargoes in its own warehouse in Ethiopia	Strongly agree	80	100.00%
The Company store the cargo in Djibouti's port if they miss the assigned vessel	Strongly Agree	80	100.00%
The port rental price is high.	Strongly Agree	80	100.00%

Source: Researcher's survey result, 2021

4.4. Suitability of Inland Transport in Terms of Infrastructure

The suitability of inland transport in terms of infrastructure was shown in Table 4.3. The price to rent a truck and wagon was agreed to be high by the majority 52.3% of the respondents, strongly agree to be high by 33.8%, 12.5% was moderate to agree the price is high and only 1.3% of the respondent disagree the price is high. The majority 97.5% of the respondent disagree that the standard of the vehicles to the road corridor from Ethiopia to Djibouti is appropriate (50% disagree and 47.5 strongly disagree) while only 2.6% agree the standard of the vehicles are appropriate. The road from Ethiopia to Djibouti is suitable for companies to export cargos was disagreed by 45%, strongly disagreed by 11.3%, moderate by 33.8%, and agreed by 10% of the respondent. Loading capacity of the wagon is high was agreed by 43.8% of the respondent while 56.3% of the respondent was moderate to agree. Container demurrage payment responsibility mostly goes to exporter was agreed by 63.8%, strongly agreed by 18.8% and disagreed by 17.6%. Therefore, we conclude that there is an infrastructure problem in the country Ethiopia and this affects the export company Yahiya and Sons export company logistics performance in terms of just in time delivery, customer satisfaction, and giving of quality service of its customer.

Table 4. 3: Infrastructure of road and rail

Variable	Category	N	%
The cost of inland transport is high	Strongly agree	27	33.8%
	Agree	42	52.5%
	Moderate	10	12.5%
	Disagree	1	1.3%
The standard of the vehicles is appropriate to the road corridor from Ethiopia to Djibouti	Strongly agree	1	1.3%
	Agree	1	1.3%
	Disagree	40	50.0%
	Strongly disagree	38	47.5%
The road from Ethiopia to Djibouti is suitable for companies to export cargos	Agree	8	10.0%
	Moderate	27	33.8%
	Disagree	36	45.0%
	Strongly disagree	9	11.3%
Loading capacity of wagon is high	Agree	35	43.8%
	Moderate	45	56.3%
Container demurrage payment responsibility mostly goes to exporter	Strongly agree	15	18.8%
	Agree	51	63.8%
	Disagree	13	16.3%
	Strongly disagree	1	1.3%

Source: Researcher's survey result, 2021

4.5. Delivery Performance of the Export Company

Table 4.4 shows the delivery performance of Yahiya & Sons Export Company. Accuracy of vessel departure times at Djibouti port is high was agreed by 43.8%, strongly agreed by 22.5%, moderate to agree by 22.5%, and disagreed by 11.3% of the respondent. Promising running time was strongly agreed by 16.3%, agreed by 16.3%, moderate to agree by 33.8%, disagreed by 16.3%, and strongly disagreed by 17.5% of the respondent. Therefore, to some extent, the company, Yahiya, and sons Export Company have difficulty attending the vessel departure time in Djibouti and to meet the client promising time to deliver the shipment to their end due to the inland transport problem and it affects the delivery performance of the company.

Table 4.4: Delivery performance of the export company

Variable	Category	N	%
Accuracy of vessel departure times at Djibouti port is high	Strongly agree	18	22.5%
	Agree	35	43.8%
	Moderate	18	22.5%
	Disagree	9	11.3%
Promising running time	Strongly agree	13	16.3%
	Agree	13	16.3%
	Moderate	27	33.8%
	Disagree	13	16.3%
	Strongly disagree	14	17.5%

Source: Researcher's survey result, 2021

4.6. Reliability of the Company on Service Providing

Table 4.5 shows the reliability of Yahiya & Sons Export Company. Mostly the company provides service, as promised in terms of time, was agreed by 21.3%, moderate to agree by 45%, disagreed by 22.5%, and strongly disagreed by 11.3% of the respondents. The dependability of the trucker and rail organization to handle customer service problems is high was strongly agreed by 12.5%, agreed by 10%, moderate to agree by 43.8%, disagreed by 22.5%, and strongly disagreed by 11.3% of the respondent. The company provides service at the promised time to the

client was agreed by 43.8%, moderate to agree by 22.5%, disagreed by 22.5%, and strongly disagreed by 11.3% of the respondent. Therefore, the company has a reliability problem because of the inland transport and cannot provide service on promised time, also the service providers (trucker and rail organization) have difficulty handling customer service, and to some extent, the company has difficulty providing service on the promised time to the client.

Table 4. 5: Reliability of Yahiya & Sons Export Company

Variable	Category	N	%
Mostly the company provide service as promised in terms of time	Agree	17	21.3%
	Moderate	36	45.0%
	Disagree	18	22.5%
	Strongly disagree	9	11.3%
Dependability of the trucker and rail organization to handle customer service problems is high	Strongly agree	10	12.5%
	Agree	8	10.0%
	Moderate	35	43.8%
	Disagree	18	22.5%
	Strongly disagree	9	11.3%
The company provides service at the promised time to client	Agree	35	43.8%
	Moderate	18	22.5%
	Disagree	18	22.5%
	Strongly disagree	9	11.3%

Source: Researcher's survey result, 2021

4.7. Customer Feedbacks of Yahiya & Sons Export Company

Table 4.6 shows the customer feedbacks of Yahiya & Sons Export Company. The company receives complain due to the delay of cargo was strongly agreed by 21.3%, agreed by 33.8%, and moderate to agree by 45% of the respondent. Loosing of loyal customers due to the delay of cargo was strongly agreed by 21.3%, agreed by 22.5%, moderate to agree by 45%, and disagreed by 11.3% of the respondent. Therefore, the company receive complains and they lose loyal customer frequently due to the inland transport cons constraints.

Table 4.6: Customer Feedbacks of Yahiya & Sons Export Company

Variable	Category	N	%
Company receives complain due to the delay of cargo	Strongly agree	17	21.3%
	Agree	27	33.8%
	Moderate	36	45.0%
Loosing of loyal customer due to the delay of cargo	Strongly agree	17	21.3%
	Agree	18	22.5%
	Moderate	36	45.0%
	Disagree	9	11.3%

Source: Researcher's survey result, 2021

4.8. Opinions of the Respondent about Inland Transport Operation

The opinions of the respondent about transportation operations are presented in table 4.7. It takes a week to transport cargo from Ethiopia to Djibouti by road and rail was strongly agreed by 26.3%, agreed by 43.8%, moderate to agree by 18.8%, and disagreed by 11.3% of the respondent. On average it takes 6 days to get the wagon number and truck for exportation was strongly agreed by 18.8%, agreed by 40%, moderate to agree by 22.5%, disagreed by 16.3%, and strongly disagreed by 2.5% of the respondent. The below table indicates that the company has taken a week to transport the cargos from Ethiopia to Djibouti and the rail service provider has

needed an average of 6 days to give a wagon to the export company, which means the export company Yahiya and Sons have taken a long time to dispatch shipment from Ethiopian to Djibouti and it affects the company customer service and delivery performance.

Table 4.7: Opinions of the respondents

Variable	Category	N	%
It takes a week to transport cargos from Ethiopia to Djibouti by road and rail	Strongly agree	21	26.3%
	Agree	35	43.8%
	Moderate	15	18.8%
	Disagree	9	11.3%
On average it takes 6 days to get the wagon number and truck for exportation	Strongly agree	15	18.8%
	Agree	32	40.0%
	Moderate	18	22.5%
	Disagree	13	16.3%
	Strongly disagree	2	2.5%

Source: Researcher's survey result, 2021

4.9. The Logistic Performance of Yahiya & Sons Export Company

The overall logistic performance of Yahiya & Sons Export Company was measured by the average of infrastructure, delivery performance, reliability, and customer feedback. Table 4.8 shows the overall logistic performance measured by the level of agreement by the respondent has an average of 3.18, which is computed by coding the Likert scale 1 to strongly disagree and 5 to strongly agree, with a minimum of 2.67 and a maximum of 4.17. The range 4 (5 - 1) was divided to 5 to categorize the average performance between 1 – 1.8 as "Very small", between 1.8 – 2.6 as "Small", between 2.6 – 3.4 as "Moderate", between 3.4 – 4.2 as "Great" and between 4.2 – 5 as "Very Great". The average, minimum, and maximum for the performance show that there are no respondents who rate the overall logistic performance of Yahiya & Sons Export Company as

very small, small, and very great. The overall logistic performance was rated as moderate by 80% of the respondents while the remaining 20% rated as great.

Table 4.8: Overall Logistic performance

Variable	Category	N	%
Overall Logistic performance	Moderate	64	80.0%
	Great	16	20.0%
Logistic performance	Mean	3.18	
	Minimum	2.67	
	Maximum	4.17	

Source: Researcher's survey result, 2021

4.10. Test of Association between Overall Logistic Performance and Other Variables

Table 4.9 shows the test of association between Overall Logistics performance and other variables. Pearson Chi-Square tests are significant at a 5% level of significance if the p-value is less than 0.05 and significant at a 10% level of significance if the p-value is less than 0.1. The sex of the respondent has a significant association at a 10% level of significance with the rating of overall Logistic performance.

Table 4.9: Pearson Chi-Square Test of Association

Variable	Category	Overall Logistic performance				Pearson Chi-Square Tests		
		Moderate		Great		Chi-square	df	Sig.
		N	%	N	%			
Sex	Male	25	39.1%	10	62.5%	2.86	1	.091
	Female	39	60.9%	6	37.5%			
Age	18-28	17	26.6%	5	31.3%	.84	2	.658
	29-39	32	50.0%	6	37.5%			
	Over 40	15	23.4%	5	31.3%			
Job position	Transport and operation department	36	56.3%	9	56.3%	.00	1	1.000
	Marketing and finance department	28	43.8%	7	43.8%			
Work experience	1-10	30	46.9%	5	31.3%	1.27	1	.260
	Above 11	34	53.1%	11	68.8%			
It takes a week to transport cargos from Ethiopia to Djibouti by road and rail	Disagree	7	10.9%	2	12.5%	.03	2	.984
	Moderate	12	18.8%	3	18.8%			
	Agree	45	70.3%	11	68.8%			
On average it takes 6 days to get the wagon number and truck for exportation	Disagree	12	18.8%	3	18.8%	.07	2	.962
	Moderate	14	21.9%	4	25.0%			
	Agree	38	59.4%	9	56.3%			

Source: Researcher's survey result, 2021

4.11. Summery of Interview Finding

As per the interview conducted with the transport head and the company CEO, that inland transportation plays a very important role in the company logistics performance. The inland transportation practice from Ethiopia to Djibouti is still undeveloped and has a lot of constrain like infrastructure and lacking of quality vehicles. Also, the respondents address that the following points: - underdevelopment of the road and rail transports, inadequate fleets of vehicles or means of transport for goods transport, lack of coordination of goods transport, shortage of trucks and wagons can consider as inland transport challenges. Most of the company's logistics performance is dependent on inland transportation. Logistics operation needs quick and flexible inland transportation. Even if the positive contribution of inland transportation is supported by the respondents, there are problems related to, the country having standardized vehicles that meet the country road standard to the cargo type of the export company. Also, there is no a well-defined rail schedule in the country and it affects the company's logistics performance. The major problems of the Ethio-Djibouti railway are: - it's monopolized by the government, they haven't a well-defined schedule, there is a lack of coordination between the rail service providers, the loading capacity of the wagon is not high. The company has exercised export delay often and has lost most of its loyal customers due to inland transportation problems. Mostly, the company has received compline and lost customers due to the delay of their shipment. Even, if there is problem in the inland transportation activity, the contribution of it is rated as the core activity in the logistics performance of Yahiya Said Omer and sons export company which is supported by the finding of the paper. In addition, the interview respondents said that transportation lacks integration with the Djibouti customs and broader officer, the customs employ lake responsiveness, the vehicles and other assets are not properly handled.

CHAPTER FIVE

DISCUSSIONS, CONCLUSION, AND RECOMMENDATIONS

5.1. Introduction

The general objective of this study was to assess the effect of inland transport on logistics performance in Yahia Sayed Omar and sons Export Company. To achieve the research aim, the chapter conventions with the summary of findings, the conclusion reached, the recommendation, and suggestions for further study are analyzed based on the finding.

5.2. Summary of Findings

To attain the main objectives of this research paper that stated in chapter one, different procedures and data sources were used then, the collected data were evaluated and it shows that there are several inland transport problems with a different degree. The main objective of this study was to examine the effect of inland transport on logistics performance in Yahia Sayed Omar and sons Export Company.

To accomplish this objective the below basic questions have been developed.

1. What factors are affecting the inland transport operation efficiency in Yahiya and Sons export companies?
2. What are the factors that are affecting the inland transport effectiveness in Yahiya and Sons export companies?
3. Is the inland transport differentiation playing satisfactory roles in Yahiya and Sons export companies?
4. Which type of transport medium is common in Yahiya and Sons export companies?

Explanatory research was design by the assumption that it is supportive to identify the fundamental connection between the factors that affect the research problem. The selected population is manageable; thus, the researcher has taken the whole population for the study. Therefore, questionnaires were distributed to a total of 80, and 80 of them were returned.

The quantitative data collected by the questionnaires were analyzed and interpreted by descriptive and explanatory statistics using SPSS version 20. The percentage was also employed to analyze the characteristics information of the respondents and the qualitative data collected through interviews and secondary data sources were also analyzed in line with the quantitative data. Based on the analyzed data, the finding of the study is concluded as below:

The research is concluded that the export company has an inland transportation problem and this inland transportation problem also has a direct impact on the logistics performance.

5.3. Conclusion

Constructed on the findings stated in chapter four, the below conclusions are followed:

- The Yahia Sayed Omar and sons Export Company mostly used a truck mode of transportation than rail.
- The Djibouti port warehouse rental is very expensive
- 52. 5 % of the respondents agreed with the inland transport expensiveness.
- The majority 97.5% of the respondent disagree that the standard of the vehicles to the road corridor from Ethiopia to Djibouti is appropriate.
- The road from Ethiopia to Djibouti was believed to be not suitable for companies to export cargos by 56% of the respondent.
- From a total of the respondents, 43.8 % agree that the rail wagon loafing capacity is high.
- There is an accuracy problem in vessel departure time in Djibouti due to the inland transport constraints.
- Mostly, the company has not provided services at a promising time to its customers.
- Among the respondent, 55% believes the company receive complain due to the delay of cargo.
- The number of days to transport cargo from Ethiopia to Djibouti by road and rail was believed to be a week by 70% and the number of days it takes on average to get the wagon number and truck for exportation was believed to be 6 days by 59% of the respondent.
- The export company has transport-related problems; those problems are due infrastructure, government rule and regulation, customs requirements and human factors.

- The infrastructure factors are the quality of trucks, road infrastructure, availability of Wagon, expensiveness of the inland transport in short distances, unsuitable for short distance, frequent accidents, inadequate roads to the cargo type, the loading capacity of truck / wagons & poor maintenance of roads
- The government rule and regulation factors are the country rule and regulation about the restricted time, government obligatory shipments, the rail service is controlled by government, lack of rail road co-ordination, the inflation of fuel cost, The rail service is monopolized by government only, centralized administration in the rail transport, and Poor maintenance of roads
- The customs requirements factors are long transit time, booking formalities, lot of paper work here in Ethiopia and Djibouti, lack of Co-ordination between the Ethiopian & Djibouti customs
- The human factors are the driver's behavior, the officer's knowledge about the transit process that's found at GAL/Dew, the customs officer's knowledge about the transit process and their understanding of the urgency of export shipments.

Even if the above listed problems were affected the logistics performance of the company highly. In addition to them, the below factors also have an effect on the company's export performance.

These are:

- Query at border customs office, theft, intervention of several rail operators / networks in international and transit transports, low speed, in both truck and rail transport, lack of flexibility, corruption, lack of door-to-door Service, inland transport routes and timings cannot be adjusted to client requirements, there is a lot of paper work here in Ethiopia and Djibouti, political instability, lack of modern Management in the sector.
- There is a relationship between effect of inland transport and logistics performance and their relationship is strong and positive relationship.

5.4. Recommendation

Constructed based on the above findings and conclusion, the below recommendations were made to build up the effect of inland transport in logistics performance and solve the challenges in the practice or system of the transportation department of the company.

1. Based on the finding of the study exposed there is a strong relationship between inland transportation and logistics performance. Therefore, develop a reliable system for Djibouti corridor performance monitoring and analysis, Ethiopian customs clearance process should be improved to minimize missing of the intended vessel and to meet a promise time.
2. The government of Ethiopia should improve the quality of the road from Ethiopia to Djibouti to make it suitable for companies to export cargos.
3. Ethiopian government, as the infrastructure provider, better to invest its resources wisely on road, railway, and other infrastructures. As logistics performance is driven by improvement in infrastructure.
4. Transport associations need to be supported and encouraged to build their capacity in terms of human resources, number and better age of their vehicle fleets, service coordination.
5. Attention should be given to improve the level of service of warehouses in Ethiopia and Djibouti
6. Procedures at customs authority and service should be simplified & computerized for the benefit of the country.
7. The government gives training for customs officer and implements modern logistic systems from other similar countries.

5.5. Suggestion for Further Study

Following the literature review and the case of Yahiya and sons Export Company, some areas can be recommended for further study. The effect of inland transport can be analyzed in their import shipment as well. The delay time of different transported commodities along the corridor can be analyzed. Detail performance assessment can be made in the rail organization specifically at 'Indode' and custom control stations' effectiveness and efficiency can be analyzed. In addition, to helping to control and make adjustments for coordinated works, complete analysis on logistics service providers such as; transport companies; transit service providers, truckers and etc. can be analyzed.

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Appendixes 1

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

Post Graduate Program

Dear Participant,

I am conducting research on "The impact of inland transport in logistics performance in case of Yahiya & sons export company" and research is conducted in partial fulfillment of the masters of art in logistics and supply chain management.

Please, note that the data collected will be treated with a very high degree of confidentiality and is meant for the academic purpose only, it would be greatly appreciated if you would assist by completing the questionnaire listed below.

For any questions about the survey: you can contact me with email martha5kok@gamil.com

Thank you in advance for sharing your valuable experience and time in completing the questioner.

Loop on selected and fill the blanks for open question

I. General statistics /Circle/

1. Sex
   - A. Male
   - B. Female
   - C. Prefer not to say
2. Age (in year)
   - A. 18-28
   - B. 29-39
   - C. 40-50
   - D. >51
3. Job Position

A. Transport Department
B. Finance Department
C. Marketing Department
D. Operation Department
E. Other_____

4. Work Experience (in year)

A. 1-5 C. 11-15

B. 6-10 D. Above 16

II. Evaluate the performance of inland transport

	Description	**Strongly Agree**	**Agree**	**Moderate**	**Disagree**	**Strongly Disagree**	
1	**Inland transport performance**						
1.1	Do you use a truck mode of transportation frequently?						
1.2	Do you use to store your cargos in your own warehouse in Ethiopia, if you find the appropriate trucks or wagons?						
1.3	Do you use to store your cargos in Djibouti's port, if you miss the assigned vessel due to the delay of truck or train?						
1.4	The price of port rent is high						
2	**Infrastructure**						
2.1	The cost of inland transport is high						
2.2	The standard of the vehicles is appropriate to the road corridor from Ethiopia to Djibouti						
2.3	The road (Ethiopia-Djibouti) is suitable to the companies export cargo type						
	The loading capacity of the wagon is high						
2.5	Container demurrage payment responsibility mostly goes to the exporter						

3	**Delivery performance**						
3.1	The accuracy of the vessel departure times at Djibouti port is high						
3.2	Promising running time is high						
4	**Reliability**						
4.1	Mostly the company providing services as promised in terms of time						
4.2	Dependability the trucker and rail organization to handling customer service problem is high						
4.3	The company provides services at the promised time to the client						
5	**Customer feedbacks**						
5.1	The company received complain due to the delay in cargo						
5.2	Loosing of the loyal customer due to the delay of cargo						
6	**Overall performance**						
6.1	On average, do you export 250 export containers yearly?						
6.2	Does it take a week to transport cargoes from Ethiopia to Djibouti by road and rail?						
6.3	On average, it takes 6 days to get wagon number and truck for the exploration						
6.4	The major problems of inland transport are Quality of truck, Road infrastructure, availability of wagon, Driver behavior, rail service is monopolized by the government, the standard of the truck, the loading capacity of truck and wagon & inflation of fuel cost						

Thank you very much

Appendixes 2

Interview Guide Questions

1. How do you explain the inland transportation practice of Ethiopia to Djibouti?
2. What are the major inland transportation challenges in your export company?
3. Do you think that inland transportation has a role on logistics performance?
4. Are there standardized vehicles in the country?
5. Is there a well-defined schedule for the rail transport?
6. What are the major problems in the Ethio-Djibouti railway?
7. Do you exercise export delay, often?
8. Can you put the delay of the shipment in percent?
9. Do you receive client complain frequently?
10. Have you lost clients, due to the inland transport problems?
11. How do you describe the relation between inland transportation and logistics performance in the Yahiya & Sons export company?

Thank you very much