DETERMINANTS OF LOGISTICS PERFORMANCE OF SELECTED LOGISTICS AND FREIGHT FORWARDING COMPANIES IN ADDIS ABABA, ETHIOPIA

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Declaration

I hereby declare that this study entitled "determinants of logistics performance of selected logistics and freight forwarding companies in Addis Ababa, Ethiopia" is my work towards the Master of Arts in Logistics and Supply Chain Management and that, to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgments have been made in the text.

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Certification

This is to certify that Fitsum Desalegn has carried out his research work on the topic entitled **"Determinants of Logistics Performance of Selected Logistics and Freight Forwarding Companies in Addis Ababa, Ethiopia"** as a partial fulfilment of the requirement of Masters of Arts Degree in Logistics and Supply Chain Management. This study fulfils the requirement to obtain an academic degree from the university.

Advisor: Shiferaw Mitiku (PhD)

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Addis Ababa, Ethiopia

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ACRONYMS AND ABBREVIATIONS

FDI	Foreign Direct Investment
OET	Order Entry Time
TLCT	Total Logistics Cycle Time
OPT	Order Processing Time
POCT	Purchase Order Cycle Time
ITT	In-Transit Time
POP	Perfect Order Percentage
LIS	Logistics Information System

Abstract

The study aimed to assess determinants of logistics performance of selected logistics and freight forwarding companies in Addis Ababa, Ethiopia. To achieve this, the study investigated the influence of inventory management practices, transport management practices, information flow practices, and warehouse management practices. The validity of the questionnaire was tested by asking questions to subject matter experts to determine if the questions were relevant and accurate. The reliability of the questionnaire was tested by using Cronbach's alpha test to measure the consistency of the responses. The data was then analysed using both quantitative and qualitative methods using SPSS software. The study further found that these logistic management practices are cost-effective, as they help to reduce operational costs and improve customer satisfaction, leading to improved profitability for the business. Additionally, the implementation of these practices helps to increase efficiency and productivity as well as reduce delays and improve customer service. To have a positive effect on the overall logistics industry performance, this can result in improved customer satisfaction as orders are delivered on time and in the right quantity. Additionally, the study found that efficient warehousing practices can reduce costs, improve resource utilization, and increase customer satisfaction.

Key words: Determinants of Logistics Performance, freight forwarding companies.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Transportation services, packing and moving, warehousing and distribution are among several activities which encompass the logistics industry and it's playing a prominent role in accelerating the role of other industries and can also be considered as a backbone of the economy.

In the global highly competitive market, in connecting producers, suppliers, and consumers, the role of the logistics industry is significant and pertinent for international trade as well as for all incoming and outgoing shipments. In this regard, the role of logistics service providers like; freight forwarding and shipping agent companies is remarkable (Kunaka, et al., 2013).

Ethiopia is located in eastern Africa and is one of the strategic centers for logistics operations in the region due to the country has land links to entry ports like; Djibouti and Berbera as a result it allows the country to be as an entryway for shipments to or from Africa and international markets of the rest of the world mainly Middle East, Europe, and Asia. Ethiopia has more than 120 million people. In this regard, the agreement of African Continental Free Trade which has been newly implemented, the development of logistics infrastructure, and the policy and regulation associated with maritime can be considered as major factors that Ethiopia to be a centre of logistics hub for the continent giving competitive advantage.

Globalization plays a crucial role in the competitiveness of logistics practices in international trade to be rapidly growing from time to time. Safety and on-time shipments of products with reduced costs during the agreement between nations can be enhanced by efficient logistics service according to De Souza et al. (2007).

For the features of economic activity logistics has always been central and essential according to Christopher (2008)

Christopher (2008) says that "Logistics have always been a central and essential feature of all economic activity". In the service industry many businesses, especially in Ethiopian financial institutions, have not recognized the impact that commitment of reasonable resources to logistics management can lead to the success of strategic goals. Logistics management's importance cannot be overemphasized as it influences not only the way resources are transferred between different

production units in an organization but more significantly as a determinant for cash control in the financial sector (Fekadu, 2013).

1.2 Statement of the Problem

Ethiopia is one of the developing countries which require taking advantage of the opportunities related to globalization. Since international trade and foreign direct investment (FID) is significant for the transformation of knowledge and backward logistics may hinder access to advanced technology and know-how and as a result, the growth rate of productivity is slowing, on the other, demand for high-quality logistics has been created by the increasing trade to making possible reforms towards creating a sustainable market for modern services according to (Avis, 2012). And as compared even with similar economic development, the trade cost of Ethiopia is levelled very high (Berkeley R. Kerbed, 2015).

Major challenges of logistics operation are (a) continued reliance on paper documents, fax, documents, official email, and information exchange between the private sector and government agencies, which is volatile, sluggish, and prone to errors and omissions, (b) inability to track and trace the real-time along the supply chain, (c) inefficient in-house business processing of information, which delays decision making and release of information/decisions; and (d) the lack of modern 13 port management systems in the dry ports, including Modoc. Information and communication technology (IT) solutions to these problems, which are widely used and seen as the backbone of logistics in other countries, have yet to be broadly implemented.

There has been some progress in customs automation and modernization, including the upgrading of Automated Systems for Customs Data (ASCIDIA), and a government directive requiring the installation of a global positioning system in the trucking fleet. However, there is no integrated approach to IT in logistics across stakeholders. (IDA, 2017) the major problems witnessed in previous studies motivate the researcher to conduct another research in detail in which major problems can be identified and to find a better solution to enhance the overall performance of logistics management practices in the industry.

1.3 Research Questions

- ✓ How logistics management is practiced in selected logistics & freight forwarding companies (in terms of Integration of information, inventory management, transportation management, warehouse management, and material handling)?

- ✓ What is the logistics management performance of logistics & freight forwarding companies (in terms of efficiency of the clearance process, logistics infrastructure, arrangement of competitively priced shipments, competence and quality of logistics services, ability to track and trace consignments, and the scheduled or expected delivery time)?
- ✓ What are the major factors affecting the logistics management performance of selected logistics & freight forwarding companies (in terms of Infrastructure, technology, supply chain visibility, inventory management, transportation cost, government regulations, customer expectations, and skilled human resources)?

1.4 Objectives of the Study

1.4.1 General Objective of the Study

The main objective of this research is to determine the logistics management performance of selected logistics & freight forwarding companies in Addis Ababa, Ethiopia.

1.4.2 Specific Objectives of the Study

I. To assess the logistics management practices of selected logistics and freight forwarding companies in Addis Ababa, Ethiopia (in terms of integration of information, inventory management, transportation management, warehouse management, and material handling).

II. To measure the performance of logistics management practices of selected logistics and freight forwarding companies (in terms of efficiency of the clearance process, logistics infrastructure, arrangement of competitively priced shipments, competence and quality of logistics services, ability to track and trace consignments, and the scheduled or expected delivery time).

III. To identify challenges affecting the logistics management performance of logistics and freight forwarding companies (in terms of infrastructure, technology, supply chain

visibility, inventory management, transportation cost, government regulations, customer expectations, and skilled human resources).

1.5 Significance of the Study

Conducting this study helps to identify and understand the gaps in the logistics practice and the major challenges the logistics service providers are facing. In this regard, this study will have multidimensional benefits for the service providers, policymakers, and all stakeholders in this industry. In addition, policymakers will be able to revise and improve policies, rules, and regulations of the logistics industry based on the outcomes and findings of the research after thoroughly identifying barrios and bottlenecks which seriously affected the performance of logistics practices. And it significantly helps the logistics industry to play a prominent role in a better way and remain a backbone in accelerating the economic growth of the country firms can be benefited from enhancing the efficiency and quality of services delivered in the industry by taking corrective action. It's also significant for domestic logistics service providers to be more competent, successful, and one of the best logistics service providers in East Africa as well as globally.

Considering the increasing demand for effective and efficient practices of logistics management from time to time most key enabler variables will be investigated aiming to enhance the overall performance of logistics and freight forwarding service providers in Addis Ababa, Ethiopia. And, to fill the gap of lack of empirical studies on the effect of logistics management practices and to thoroughly assess the challenges and performance of the logistics management practices of the logistics and freight forwarding companies in Addis Ababa, Ethiopia. The main reasons mentioned above, motivated the researcher to conduct further studies in the industry.

This study will also give insights to academicians when further research on the industry will be conducted. In addition, the outcome of this study will help potential foreign and domestic investors demonstrate reliable and updated information to enter the industry as well as when those who are currently operating in the sector of the logistics industry in Ethiopia.

1.6 Scope of the Study

Major challenges seriously affecting the performance of the logistics industry of the country toward its competitiveness in the region as well as the global market will be demonstrated in this study.

In this regard, the researcher has been selected 110 Logistics and Freight Forwarding private companies in Addis Ababa, Ethiopia among the 152 logistics and freight forwarding service provider companies in Addis Ababa city using random sampling techniques and cross-sectional data collection methods has been implemented.

1.7 Limitations of the Study

It was difficult to generalize the finding of the study to all other logistics activities that have already been described by different authors and researchers since the study was focused on the selected framework of logistics activities. Therefore, to improve and take a broad view the study needs to be replicated for other logistics activities, and since the location of the selected companies was scattered in different places in Addis Ababa city, it was a time taker to explore all.

1.8 Organization of the Paper

This research proposal has been organized into three chapters and accordingly, the introduction, background of the study, a statement of the problem, research questions, research hypothesis, significance, the scope of the study, and organization of the paper has been covered in chapter one. And the review of the theoretical and empirical literature, the research gap, and the conceptual framework has included in chapter two, chapter three was encompassing the research design and methodology, research paradigm, research approach, research design, and sampling design and chapter four includes Data Analysis and Interpretation, Introduction, Inland Transportation Practice, Customs Clearance Procedures, and Warehouse Management. Whereas chapter five incorporates a Summary, Conclusion Recommendation, Summary of Major Findings, Conclusion, Recommendations, and Suggestions for Future Study.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.1 INRTODUCTION

Based on previous research in the logistics industry and the present review of literature significant to this study, determinants of logistics performance of selected logistics & freight forwarding companies in Addis Ababa, Ethiopia will be assessed, and other relevant conceptual issues and empirical review associated to the study and theoretical framework will be addressed in this part of the study.

2.2 Theoretical Review

2.2.1 Logistics Management Practices

However, the fundamental concepts for logistics and its evolvement as well as the several distinct stages that have been in the development of logistics and distribution are not new, but vital ideas such as trade-off analysis value chains together with associated techniques and system theory are still utilized. Theory these days, the role of logistics and distribution becoming more essential and recognized as a vital function within the business and economic environment such as manufacturing, storage, and movements of goods and services, and continuing to play a major part in the success of many core firms and organizations (Alan, Phil and Peter,2003)

The systems related to the distribution were mostly presented by giant firms and manufacturers' account fleets and have also been unformulated and unplanned in the 1950s and early 1960s. And there were no real liaison and little positive control among distributions functions related.
In the development of the distribution concept for managerial concern, the 1970s was an essential decade and the concept of physical distribution loped in the 1960s and 1970s with the long-term realization that the ‘dark continent’ was in dead a suitable area. The recognition of the need and structure such as distribution in the structure of functional management by companies has been considered a major change.

In the 1980s, the cost increased rapidly, and the definition of the true cost contributed to a considerable augment in professionalism as a result, professionalism within the distribution began executed towards long-term planning aims to identify a cost-giving measure.

2.2.2 Integration of information flow practices

In many organizations, enhanced methods for the measurement of users' accommodation became given more attention and in addition to basic functional performance, perspective is required for the system to assess the performance of logistics.

Over years, for contemporary management research, integrated supply chain performance measurement experienced major challenges and this contemporary management research suggests and classified the following functional measures of logistics performance into the different categories such as; (1) cost, (2) customer service, (3) quality, (4) productivity, and asset management (David 2002). The measures also stress the need for unique accountability toward logistics performance in value, time, quality, and productivity. Consequently, the design for a unified logistics organization began suggested by the logistics scoreboard measurement system.
This can result in improved decision making, better customer service, and improved efficiency in operations. Furthermore, it can provide the ability to access real-time data for analytics and predictive modeling. ICT also enables the integration of different systems and applications, which can lead to improved data sharing and collaboration. Automation of logistics processes is also essential in order to speed up operations, reduce costs, and ensure accuracy and transparency Nowakowska and Grunt (2007).
By using modern technologies such as artificial intelligence, block chain, and the internet of things, organizations can streamline their logistics processes and guarantee a smoother flow of information according to Nowakowska and Grunt (2007), The successful operation of the logistics information technology system involves the use of hardware, such as computers, servers, and mobile devices, as well as software, such as databases, programs, and applications.
Technology transfer is also necessary to ensure that the system is properly configured to meet the needs of the business, and that staff are properly trained on the use of the system and the information system should be configured to enable the efficient and timely transmission of information between different stakeholders in the logistics system. This will enable better

coordination between departments and improve the communication lines for customers and suppliers. Additionally, the information system should be able to store and retrieve data quickly and accurately and be able to scale up or down depending on the needs of the logistics system (Wisner et al. 2007).

According to Long and Wood (2005) Studies have shown that organizations that are able to effectively manage their knowledge during a crisis are more likely to survive and thrive. This is because knowledge management allows an organization to quickly respond to changes in their environment, identify new opportunities, and leverage their strengths to achieve their goals.

IT can provide real-time data regarding the movement of goods, enabling companies to track their supply chain more accurately and efficiently. Additionally, IT can help optimize the supply chain by providing insights on how to reduce costs, optimize inventory management, and improve customer service. Furthermore, IT helps to improve customer satisfaction by providing visibility into the order status and tracking information. IT systems can provide real-time data on stock levels, shipping and delivery times, and other logistical information. This helps businesses optimize their processes, reduce costs, and improve customer satisfaction. IT systems also allow businesses to trace and monitor the flow of goods, providing a digital audit trail that can be used to verify the accuracy of information and prevent fraud Thomas and Kopczak (2005).

Relief operations require the coordination of multiple stakeholders in order to be successful. This includes the mobilization of resources, the coordination of personnel, and the implementation of protocols. To ensure efficient and effective operations, a comprehensive monitoring and management system must be in place to track progress and adjust operational plans accordingly. This system should include decision support structures, communications networks, and information systems that can be used to monitor and manage the relief operations Thomas and Kopczak (2005).

These programs helps to plan using data analytics, and predictive modeling to help identify potential risks or threats, develop strategies to mitigate and respond to such events, and monitor their implementation and progress. They also provide real-time situational awareness and actionable insights that help organizations make informed decisions and improve their operational resiliency Thomas and Kopczak (2005).

according to Nowakowska and Grunt (2007), The flow of information offers a unique advantage in the development of ICT in connecting one activity to another and distributing business data in

real time to external partners, channels, and customers. Through planning, tracking, collaboration, and tracking, logistics processes, the organization's logistics processes must be strengthened for efficient and successful information flow. In order for the logistics information technology system to function successfully, hardware, software, and communication networks must be used, as well as technology transfer.

2.2.3 Transportation system practices

In the history of humanity's technological development five modes of transportation such as road transport, rail transport, water transport, air transport and continuous flow system have been witnessed so far. Several types or modes of transpirations' are consisted in road transport and in this regard, motorized and non-motorized modes are among the two sub-categories division Temesgen Aklilu(2005).

Pedestrian, animal or human-drawn or driven carts, wheelbarrows, bicycles and tricycles, hand drown vehicles, draught animals (donkeys, horses, camels, mules and elephants etc.). And, pickups and trucks, or Lories, with load capacity up to 500 quintals are included in freight transport vehicles. Whereas the whole range of vehicles beginning with bicycles, and small cars and extending all the way up to cross-country buses and urban buses are included under human transport Temesgen Aklilu(2005).

Local water transport and international water transportation are two different types of water transportation. The local transport mode includes transportation on rivers, lakes, and canals, as well as transportation on large dams.

In the field of marine transportation, there are both the transport of cargo and people across the oceans or seas between ports located in different countries across the globe. Rail transport has been operating for nearly 200 years, starting around the time of the Industrial Revolution after the 1810s and 1820s. according to Temesgen Aklilu(2005).

Following the horse-drawn train phase was the steam-driven train phase, which was followed by the streetcar phase. The various types of rail transport modes come next: the rail transportation system is as Light Rail Transit (LRT) and Heavy Rail Transit (HRT). And regular surface railway, metro or subway, monorail, guided bus, etc. are included in this classification. The air transport is

the other mode of transportation that is fairly modern and recent in appearance in its establishment Temesgen Aklilu(2005). However, the idea of rood construction has been started during the regime of Emperor Tewodros as he cleared land for a pathway across which to haul his canon, the Sebastopol, to Mekdela, he used manual labor. Since, however, the purpose of the roadway had nothing to do with serving the public. But roller has been imported for the first time which has been considered as one of technological products of the time, by Emperor Menelik using his close relationship with the government of Australia and Emperor Menelik has also been played the prominent role when we speak about the modern transportation in Ethiopia according to some writers Temesgen Aklilu(2005).

In spite of this, the construction of the roadway itself, which was constructed approximately between 1885 and 1887, GC in which the roller was operated, was carried out with a labor force drawn from both the government's army as well as the general public, clearing forests and leveling the land Temesgen Aklilu(2005).

2.2.4 Inventory management practices

Stevenson (2010) defines Inventory Management as a framework used by firms to monitor inventory objectives. It also requires careful analysis of supply chain and logistics to ensure efficient delivery of products and services. Furthermore, it is essential to monitor the market and competitors to stay ahead and identify new opportunities. Finally, it involves forecasting the financial needs and costs of the business to ensure profitability.

This includes managing the receipt, storage, and use of inventory in order to maximize customer service while minimizing inventory costs. It also involves tracking the inventory levels and forecasting future demands. Furthermore, inventory management also requires the coordination of supply chain activities to ensure that goods are delivered on time.

The visibility helps organizations understand their customer needs, optimize inventory levels, and reduce overall inventory costs. It also enables them to identify any potential problems and take corrective action quickly. Finally, inventory visibility helps organizations develop better strategies for ordering and stocking the right product at the right time. Additionally, the inventory also helps to ensure that high-quality products are consistently available and can meet customer demands in

a timely manner. It also helps to minimize waste and increase productivity by ensuring that the right amount of inventory is always available when needed. Finally, the inventory system also helps to improve customer service by ensuring that orders are fulfilled accurately and efficiently (Lysons & Farrington, 2012). During the driving period, all stock policies in the business must be profitable by operating expenditures and working capital requirements.

The calculation of inventory's effective and productive efficiency is dependent on whether a firm has the right inventory quantity at the right place at the right time, according to Lysons and Farrington (2012). Among the measuring indicators for this inventory are lead time, service time (security inventory), stock turnover rate, inventory results and inventory coverage.

A study conducted by Naliaka and Namusonge (2015) shows that inventory management affects the competitiveness of production companies. Furthermore, the study shows that the company can compete on the basis of quality and delivery over the long term.

An organization's competitive value includes capabilities that make it possible to differentiate itself from its peers (Li, Ragu-Nathan, Ragu-Nathan, & Subba Rao, 2006). (Subba Rao, 2006). Inventory management flow across the value chain is one of the key success factors of any organization, including humanitarian organizations. Management of inventory involves balancing the interaction between inventory supplies and demand. This means they need to monitor stock levels and be able to react quickly when stock is running low. They also need to have efficient systems in place to ensure that orders are fulfilled and shipped quickly to customers. Finally, they need to have reliable suppliers who can provide stock in a timely manner.

At the same time, the company also doesn't want to have too little inventory, as this could result in lost sales and customer dissatisfaction. As such, the company needs to find an appropriate balance between having too much and too little inventory. Poor inventory decisions can lead to increased costs such as overstocking, tying up capital, or stocking insufficient inventory, which can lead to stockouts and customer dissatisfaction. Good inventory decisions require careful planning and monitoring of supply and demand, as well as accurate forecasting and analytics (Li, Ragu-Nathan, Ragu-Nathan, & Subba Rao, 2006). (Subba Rao, 2006).

Proper inventory management requires accurate forecasting and demand planning, efficient storage and retrieval systems, and regular cycle counting and stocktaking to ensure accuracy. It also requires the implementation of systems and processes to track inventory and to ensure items are in the right location at the right time. Additionally, effective inventory management requires the ability to keep up with customer demand while minimizing excess stock Dimitrios (2008).

2.2.5 Warehouse management practices

Warehousing is an important part of supply chain management that involves managing the storage of goods in an organized and efficient way. It includes activities such as space determination, stock layout, configuration, and stock placement to ensure that the stored goods are available when needed. It also involves the management of inventory levels and the movement of stock in and out of the warehouse (Ballou, 2003). Furthermore, accurate picking and delivering of goods can help to reduce losses and optimize inventory levels. This helps to control costs, increase customer satisfaction and improve overall operational efficiency.

Warehousing also helps to reduce inventory costs, improve customer service, and increase production efficiency. By keeping track of the inventory and ensuring that the necessary supplies arrive on time, businesses can avoid unnecessary costs and reduce the risk of operational disruption. Additionally, warehousing ensures that the quality of the product is maintained and that the customers receive the desired product quickly and efficiently according to Pienaar and Voght (2006). It has been suggested that successful customer service depends on the efficient operation of the warehouse. The warehouse has three main functions: receiving and processing customer orders; utilizing the latest technology to ensure maximum efficiency in storage; and storing products either temporarily or long-term.

The IT function ensures that the right technology is used to store the product efficiently, while the storage function provides the necessary infrastructure to securely store the product for either short or long-term duration. It is responsible for the efficient storage, handling, and distribution of goods, and it is also the main link between the two end points. Moreover, warehouses are essential in managing inventory levels, ensuring product quality, and providing customer service. The warehouse acts as a link between the supplier and the customer, and it is important for the success of the supply chain. It is necessary to ensure that the warehouse is efficient and can meet the

demands of the customers. Companies must invest in technology and processes to ensure that the warehouse can keep up with the changing needs of the industry. Furthermore, they must develop strategies to reduce costs and increase customer satisfaction (Grant, 2006).

Furthermore, an effective storage management system enables the company to keep track of inventory levels, anticipate customer demands, and plan ahead for potential disruptions in supply. It also allows for better forecasting of future needs, improved efficiency in the use of resources, reduced costs, and improved customer satisfaction (Forger 2004).

This change has drastically altered the perception of warehouses and the roles they play in a company's supply chain. Warehouses now offer a number of services beyond storage, such as order fulfillment, inventory control, and value-added services. These services have allowed warehouses to become an integral part of the supply chain, helping companies to streamline their operations and reduce costs (Richards, 2014). (Frazelle, 2002) (Crişan, 2009).

These best practices include tracking and evaluating warehouse performance metrics such as inventory accuracy, storage space utilization, and labor costs. Additionally, warehouses should focus on reducing product damage, managing safety protocols, and improving customer service delivery. Implementing these best practices can ultimately lead to increased efficiency and cost savings. Performance assessment involves collecting and analyzing data to evaluate how well an employee is performing in the workplace. It can help to identify areas of improvement and provide insights on how to make changes to improve performance. It also helps to identify areas of potential risk, such as customer dissatisfaction, process inefficiencies or cost overruns. By understanding the root causes of poor performance, solutions can be developed to ensure high productivity and quality (Ackerman, 2003).

However, other studies have found that the relationship between logistics management practices and performance may not be as clear cut as initially thought. For example, a study by Zhang and Zhang (2010) found that the relationship between logistics management practices and performance was moderated by the degree of competition in the industry Whitten, and Inman (2008).

An interesting observation by Solakivi, Töyli, Engblom and Ojala, (2011); companies should carefully consider the decision to outsource or not, taking into account their specific context and operational needs. The right decision should be one that is tailored to the company's specific needs and circumstances, and not just a generic decision that is assumed to apply to all companies.

Additionally, the study found that logistics management practices also included warehouse management practices which facilitated efficient and organized storage of raw materials and finished goods, and order processing and tracking practices which offered visibility and tracking of orders throughout the supply chain according to the study carried out in Kenya, (Gitonga, 2017). Additionally, the study found that the companies also employed warehousing management practices that allowed them to store products properly and efficiently, as well as customer service practices which enabled them to respond quickly to customer inquiries and requests (Mwangangi, 2016), Among manufacturing firms in Kenya, logistics management practices were examined to determine how they influenced their performance. The study concluded that logistics management was collectively significant in influencing manufacturing firms' performance.

Specifically, the research aims to assess the impact of inventory control, supply chain management, and transportation management on the performance of humanitarian organizations in Kakamega the North sub county Kenya. It also aims to analyze the challenges faced by these organizations in the utilization of logistics management practices. In order to fill this gap, further research is needed to investigate the effects of logistic management practices on performance in humanitarian organizations in Kenya. This will enable the organizations to better understand the impact of their logistic practices on performance and make necessary improvements (Mwangangi, 2016).

The study will use quantitative methods such as surveys, interviews, and case studies to collect data from a range of humanitarian organizations. The data will then be analyzed to determine the correlation between logistics management practices and organizational performance. The findings of this study will provide valuable insight into the effectiveness of logistics management practices in humanitarian organizations (Mwangangi, 2016).

2.2.6 Material handling management

Prior to the realization of containerization, cargo handling in manufacturing, storage, or during transportation, was labour intensive, expensive, time consuming and most importantly, vulnerable to loss, damage, or delay – including theft. Protecting cargo was one of containerization’s main goals from harm, loss, and postponement.

The transportation of raw materials, intermediate, or completed goods was seen for the first time as a component of an integrated material handling operation, and industry think tanks realized that investing in technology may increase productivity (Stopford, 1997).

Any investment must always take return on capital into consideration. This is considered a "sunk investment" when it comes to investments in ports and terminals, where it is much more crucial. Port and route option has been made possibly by containerization.

2.2.7 Logistics Management Performance

2.2.7.1 Efficiency of the clearance process

The difficulties with the customs clearing process (Towfik, 2013, Tweldebrehan, 2011, & World Bank, 2014) have also provided information regarding Ethiopia's average clearance time as well as areas where delays occur.

Nevertheless, they neglected to investigate empirically the length of time it takes for a particular import – export to clear customs at a particular customs station and the additional expenses paid as a result of delays in customs clearing.

Debebe Dessalegn Sirika & Teklu Kassu Gizaw (2016) state that the main factors influencing the price and duration of the customs clearance procedure increase, which is then directly transmitted to end users such as expert-oriented producers and consumers.

Additionally, this investigation found that the clearance delay time at the Kality Customs Branch Office is four days, and it could possibly be longer.

2.2.7.2 Quality of trade and transport related to infrastructure.

Highway and road sector development initiatives have generally advanced with the nation's road system development.The current road system is typically organized into three hierarchical functi onal classifications: federal, regional, and rural roads, in addition to urban roads, rural trails, and footpaths (2006) Asnake).

Broadly speaking, transportation infrastructure connects cities and includes human activity in co njunction with the industrialization, population growth, and social, economic, and environmental systems.

By fostering relationships between or within cities as a result of urbanization, the transportation network also contributes to socioeconomic development and a higher standard of living (Ebara , 2003; Hoff, 2010; Huang, 2016; Kaluza, 2010).
Consequently, when expanding the transportation network, goals like strong, lowcarbon expansi on should not be disregarded (Huang, 2016; Saretta, 2019).

With little gridding, the trunk road network extends from Addis Ababa to the regional centres.

Frequently, places that are near by air are hundreds of kilometres away by road.
Because of this, moving agricultural freight within the nation from regions with an abundance of produce to those with a shortage is frequently costly (Wubshet, 2011).

Policies in the business must be profitable by operating expenditures and working capital requirements.

The primary cities, ports, international entry ports, and regional offices are all well connected via the federal road network. All weather roads, however, only connect around 30% of rural areas currently, and many of these roads are in poor condition (Asnake, 2006).

Despite being in terrible shape and losing all its trade to trucks, Ethiopia's current railway connec tion with Djibouti is undergoing renovation, and the company's future appears to be quite uncerta in. Ethiopian Railroads the Company is a recently founded railroad freight service provider.

The business is now planning the construction of a new standard gauge (1435mm) railroad network along the nation’s trunk lines and corridors, with the Addis Ababa – Djibouti route receiving top priority.

The Djibouti line is anticipated to operational in the next four to five years, with building having begun as early as September 2011. The new company will have a big impact on the railroad growth and future corridor traffic (Fekadu M. Debela, 2013).

In Ethiopia, air travels also a vital and strategically significant means of transportation due to topography, distance, and unique supply and demand characteristics. It is also reasonably efficient.

Three organizations currently manage Ethiopia's aviation industry: the Ethiopia Airlines (ET), the Airport Administration Enterprise (AAE), and the Civil Aviation Authority (CAA).

There are three types of airports in Ethiopia: four international airports, fourteen more domestic a irports with concrete or asphalt surfaces, and more than thirty feeder airports with grass or gravel surfaces, several of which are undergoing upgrades.
Air freight services are offered by Ethiopian carriers, about twelve additional international carrie rs, and six small local private planes.

Ethiopia uses the port of Djibouti for import and export trade because it is a landlocked nation without access to see ports Ethiopian Shipping Lines Share Company (ESLSC), a public sea transport business under the Ministry of Trade and Industry, is owned by Ethiopia.

This contemporary shipping company manages a fleet of nine oceangoing ships, with a combined carrying capacity of more than 15, 000 MT, comprising five multifunctional general cargo ships, three semi-container ships, and one roll-on/rolloff vessel.

The business offers trading services to South Asia, the Gulf and Far East, Europe, the Middle East, and the Red Sea (Fekadu M. Debela, 2013).

In addition, it hires out vessels to enhance its own fleet and makes a concerted effort to advance containerization and multimodal transportation, managing all aspects of freight transportation an d facilitation (Fekadu M. Debela, 2013).

2.2.7.3 Performance indicators for transport

Transportation service provides vast and multi-dimensional offerings and numerous research have measured the overall performance of shipping. As an example, Hanaoka and Kunadhamraks (2008), measured the logistics performance of intermodal shipping the usage of the fuzzy AHP method. advanced a performance size gadget for measuring the performance of shipping logistics that contemplated the overall performance of shippers, delivery logistics service providers and consignees. Stoilova used infrastructural, economic, and technological criteria to evaluate the performance of railway delivery. Šakalys et al. [64] identified the primary indicators influencing synchro-modality and used multi-standards to attain the weightings of each indicator. Research

conducted in the place have entered on infrastructural service quality and its impact at the environmental aspects of transport overall performance.

2.2.7.4 Ease of arranging competitively priced shipments

The most appropriate form of transportation to use depends on the location of a production plant. Additional considerations when choosing a mode include the mode's transit time and material flow cost, which are determined by the location and potential infrastructures link (Son 2013).

A company's profitability may be impacted by the development of high performance and competitiveness in logistics, which is attained through increased efficacy and efficiency. In order to assess performance, an organization may establish and monitor objectives consuming aspects like timelines, flexibility, and customer service.

Divers modes offer distinct attributes that can facilitate the attainment of a company's supply chain and logistics objectives (Jonsson, 2008).

Liner shipping businesses (henceforward referred to as "liners") may use secretive procedures an d speculative inferring strategies, the influence of liner shipping on current trends have been exte nsively researched (Heaver, 2002).
In contrast to certain expectations, the hallmark effects of modern liner shipping can be broadly c lassified into hardware and software components. These effects include increased uniformity, sta ndardization, mechanization, and homogeneity.

Software structuring of liners involves acquisitions, mergers, and the formation of strategic shipping alliances, such as NOL's takeover of APL, P&O and Nedlloyd's merger, and the creation of the Global and New World alliances, respectively, these actions further reinforce the scale of operations.

2.2.7.5 Competence and quality of logistics services

A customer today expects more than just higher – quality products; they also wanted top-notch service, which is strongly tied to the idea of behavioral intentions and customer satisfaction (Bowersox 2002, Parasuraman 1985). It goes without saying that businesses whose operations are not focused on meeting client expectations well not be able to thrive in the marketplace.

Therefore, in order to develop a lasting relationship with clients by altering their behavioral in tensions, it is imperative to identify the crucial components of high-quality service. The ability of business to determine the expectations of the clients is becoming increasingly persuasive due to the competitive nature of the service industry.

The increasing level of competition in the service industry has made it more important for business to understand what their clients want.

Furthermore, logistics companies face greater challenges than other industries in understanding and meeting customer needs and desires (Mentzer 2001, Mentzer Londe 1994). The ability of logistics services to provide "the right amount of the product at the right place at the right time in the right condition at the right price with the right information" is essential to the creation of utilities through physical distribution (Coyle 1996, Mentzer 1999).

Because of this perspective, a physical distribution service quality (PDSQ) metric was created. The three primary elements of physical distribution service quality, as defined by Bienstock 1997) are available, condition, and timeliness.

PDSQ is only seen as one of the components of LSQ since the concept of utility creation has expanded to include value-added operational duties due to the market's pursuit of competitive advantage (Mentzer 1999). These dimensions are along with Parasuraman's 1985).

2.2.7.6 Ability to track and trace consignments.

Container monitoring and tracing systems, according to Guibin Xu (1999), allow transport operators and trading partners to follow containers from point of origin to point of destination and forecast the approximate time of arrival of incoming loads.

The advancement of multimodal transportation would be greatly aided by this technology. Shipment and monitoring and tracing are seen as being very important for providing excellent customer service and for effectively managing logistics networks.

Global enterprises are having trouble with tracing and tracking in their supply networks for logistics, which makes it extremely difficult for product development locations to coordinate. This issue causes the entire logistical chain, which runs from source to destination and accounts for

opportunity cost, to lost track of production, delivery, and distribution and tracking software aids in identifying consumers' discount.

2.2.7.7 Timeliness of shipments in reaching destination within the scheduled or expected delivery time.

All stakeholders must work together in concert to create an effective multimodal system.

Collaboration occurs amongst various carrier types in a variety of ways, such as conference agreements, strategic alliances, and vertical and horizontal partnerships (Panayides, 2001). From a policy perspective, the crucial aspect is that the firm's top priority is logistics, which is where the trade-off needs to be made.

Furthermore, only the firm can decide what is the ideal arrangement due to the trade-offs' extreme intricacy and situation – specific character.

Therefore, the state's duty should not be to determine what the optimum transportation plan is for business, but rather to support businesses in their efforts to make those commercial arrangements while taking into account both the social and private costs of those choices. It is believed that the public agenda should be established solely on the basis of it (Gwilliam and Ken, 2009).

The policy of protecting national flag carriers' transit right is erroneous in most emerging nations. They only made one hypothesis, based on one firm, DLA, which provides logistical services to internal customers, on the relationship between customer satisfaction and these nine dimensions: personal contact quality, order discrepancy handling, timeliness, and ordering procedure.

Additionally, (Murfueld, 2017) looked into how availability, timeliness, and condition affected client loyally and satisfaction in Omni channel retailing. Conversely, (Kilibarda, 2016) looked at the significance of LSQ dimensions in freight forwarding firms.

They discovered that different market segments have varied opinions about the quality of the services provided.

2.2.3 Challenges of Logistics Management

2.2.3.1 Logistics management challenges in different countries

In Vietnam, manufacturing industries are facing major logistics constraints due to most of these manufacturing industries are dependent on imported inputs according to the study by the Vietnam Ministry of Transport and the World Bank (2002). establishing direct relationships with buyers, taxes and the restrictions imposed on foreign-owned firms are among the difficulties associated with this, as the inadequate capacity of container handling and poor development and maintenance of the road, and railways capacity, insufficient facility of air freight, and effective management are among major problems in the logistics industry (according to the Ministry of Transport, Vietnam & The World Bank, 2002).

Similarly, the factors impeding the logistics development in Thailand studied by Goh and Pinaikul (2002) and found that the information system in the logistics industry is inefficient, transportation barriers, poor logistics management techniques, expertise, climate change, high cost related to obtaining and installing automated equipment of logistics information system.

2.2.3.2 Logistics management challenges in Ethiopia

The entry port Djibouti is the backbone of the Ethiopian logistics industry since Ethiopia is a landlocked country and the only means of the activities of logistics depends on this port whereas, as an alternative, currently the government of Ethiopia is trying to negotiate to use the port of Somali Land and Mombasa Port Tilahun (2014),

The problems associated with maritime transport can be taken as bottlenecks in the process to accelerate international trade in Ethiopia according to Fasika, Klaus, and Marcus (2014), similarly, the delays related to the customs procedure, and port handling have been observed in twelve types of industries and how the complex tariff for imported items become a challenge for the practices of logistics and supply chain has also been demonstrated in their study and inconsistency of quality raw material during the time of bidding and final delivery as major supply challenges and, due to lengthy bureaucracy procedure in the process of purchase, also the long processes and delivery time for importing items and unavailability of local suppliers have been revealed in their research.

How being landlocked and backward infrastructure of transportation affects the see freight/transportation due to the expensive and complex delivery process for the countries like

Ethiopia has been indicated in this study as a major challenge and can be considered as a hindrance to the competitiveness of the firms.

The recently revised 'Export Trade Duty Incentive Schemes Proclamation No 768/2012' aims to minimize the problems related to inventory stocking and lead time for firms that import raw materials, and chemicals for the production of manufacturing industries in the export market according to Girum and Florian (2013). In this regard, the bonded input supplies warehouse scheme can be taken as a main instrument whereby, under the supervision of customs authority, the exporters are allowed to store inputs without any charge so that customs clearing time can be reduced including overstocking of raw materials inventory and lead time. The above challenges, transportation, and supply side issues were found by different researchers and given high focus.

Whereas this study will not be limited in its scope, instead try to identify the general challenges of logistics using different categories such as lengthy procedures at customs and ports, technology, policies, and the impact of a shortage of hard currency on the industry's critical issues which require immediate action, since Ethiopia is underdeveloped and a landlocked country which the logistics industry remain as a backbone of the country's economy, the researcher will looking different techniques and experience from well-developed countries.

2.2.3.3 Inefficient infrastructure

Weak, and sometimes absent, basic infrastructure is one of the most crucial constraints to economic development in Sub-Saharan Africa. Logistics systems inefficiencies are among the highest in the region due to a lack of enabling infrastructure, which results in inflated prices and higher costs of doing business. For example, transport costs are exceptionally high in African countries, with shipping costs up to two to three times more expensive in landlocked countries than coastal countries, exacerbated by deplorable road conditions and inaccessible roads.

One study has shown that poor infrastructure is the main problem in Sub-Saharan Africa and accounts for up to half the cost of transport in intra-regional trade. These process inefficiencies which are major logistics challenges show up in forms of poor structure and organization in the moving of goods, unstructured formats among different actors (cargo recipient, truck driver, truck owner, cargo owner), manual procedures (manual supervision of cargo, paper documentation, etc.) and deadhead trucking (a process whereby a truck returns empty after making a drop-off), all of which are commonplace.

Participants noted that many truck drivers will usually reject smaller one-way jobs, especially when there is no return order as that would result in deadhead trucking, which is highly inefficient. This is made worse due to numerous checkpoints where officials extort bribes from drivers to avoid them being delayed. This also contributes to the high cost of doing business and reduces the efficiency of the trucks. Participant B also mentioned poor city mapping with non-standardized addresses for several rural areas and an absence of postal codes as another factor that makes deliveries difficult in these areas.

Rail transportation (especially for cargo) across several parts of the region is mostly non-existent, despite the fact that rail is one of the most efficient cargo logistics systems in developed countries. Air transportation is expensive and mostly cost-inefficient for SMEs. Non-existence of rail transport and the cost of air transport leave road transport as the only practicable alternative in most countries in Sub-Saharan Africa, many of which are landlocked. This has placed immense pressure on road networks, coupled with very poor maintenance cultures resulting in terrible roads conditions which characterize many regions across SSA.

These roads are usually filled with gigantic potholes sometimes covered in mud causing breakdown of trucks stuck in them, resulting many times in severe traffic situations.

Traffic situations lead to costly downtimes and sometimes entire losses (such as in the case of logistics for perishable commodities). These situations cause truck drivers to avoid certain Sustainability 2022, 14, 2399

13 of 18 routes, thereby making especially rural communities inaccessible and thereby cutting them off from regional markets and supply chains.

There is also the issue of monopolies being created due to bottlenecks in logistics across the region, which allows bigger players to grab a larger market share since they can pay their way through bottlenecks and stringent regulations which hinder smaller players.

When these bottlenecks are removed, more manufacturers and suppliers can deliver more products to the market which will eliminate monopoly of the market which is being created by bigger players and companies. Enabling easier and cheaper logistics will allow smaller players to participate and competes effectively Kuteyi, Damilola, and Herwig Winkler (2022).

2.2.3.4 Information asymmetry and lack of visibility

Lack of (relevant, real-time) information and data is a significant disadvantage in today's highly volatile supply chain. Many suppliers and supply chain stakeholders in Sub Saharan Africa often

operate with insufficient knowledge of the market, thereby causing them to make sub-optimal decisions. Participant D emphasized the lack of real-time information as a significant challenge to efficiency in his business as a last-mile delivery service provider. Various issues such as poor city planning, inefficient policing and tracking systems mean that if the address is not readily located, or the customer is not present to receive their delivery, then the service provider has to find a way to communicate with them or return with the package—resulting in sunken costs Kuteyi, Damilola, and Herwig Winkler (2022).

2.2.3.5 Inefficient inventory management

The resources or products that a business uses for manufacturing and sales are referred to as inventory and it also contains the materials, which are useful resources to facilitate creation. Work in progress, finished commodities, and raw resources are the three fundamental categories of inventory.

The things that businesses buy as raw materials are used in the manufacturing of completed produced goods. All products that are currently in the production process are considered work-in-progress. In actually these are partially manufactured goods. Items that have previously been moulded but have not been sold are referred to as finished goods (Ghosh & Kumar, 2003).

2.2.3.6 Government regulations gaps on the logistics industry

In leading the logistics sector with relevant knowledge and skills, the logistics service providers and various government organizations have institutional organization and capacity shortcomings. A legal framework exists for horizontal coordination and effective integration among logistics institutions, but not for vertical coordination and integration. One of the quagmires of the logistics industry is the shortage of qualified logistics professionals in the public and private sectors, as well as domestic and seaport logistics service providers according to National Logistics Strategy (Federal Democratic Republic of Ethiopia, 2019).

The Cross-Border Road Transport Act provides a framework for the regulation of cross-border road transport operations between South Africa and Southern African Customs Union SACU countries. It outlines the procedures and requirements for applying for authorization to transport goods, as well as the responsibilities of foreign operators in the domestic market. The Cross-Border Road Transport Agency is responsible for ensuring that the Act (amended in 2008) is properly enforced. However, in other parts of the world such as Europe, freight forwarders who are involved

in inland freight services are usually regulated by both transport authorities and customs, as they handle goods in transit under both their control Maika Watanuki (Trade and Competitiveness Global Practice Group August 2015).

Furthermore, the clearing agent license issued by the Kenya Revenue Authority is valid for one year and can be renewed upon request. The license includes the right to act as a clearing agent for motor vehicles, as well as to inspect the vehicles for any discrepancies in their records. It is also the responsibility of the clearing agent to ensure that all taxes and fees have been paid in full before releasing the vehicle. Has the freedom to intervene in road transport operations (forwarding) in the form of inspection. This intervention is necessary to ensure that goods and services are being transported safely and in compliance with the regulations set by the National Transport Safety Authority. Maika Watanuki (Trade and Competitiveness Global Practice Group August 2015)

2.2.3.7 Customer expectation

There are frequently discrepancies between the clients' perceptions and the actuality quality they received. When it comes to assessing the quality of a service, customers' perceptions matter more that the opinions of the service provider.

Future business decisions will be made Based on the customer's perception, should they believe they were given suburb service (Kenneth & David, 2003). As a result, service providers and organizations need to evaluate the concept of service quality from the perspective of their clients rather than their own.

Expectations are usually taken into account when evaluating perceptions due to the dynamic nature of expectations, assessments may vary over time between individual and cultures (Valarie et al., 2009).

2.2.3.8 Lack of skilled human resource

As a result of the rapid changes occurring in the business environment, industrial organizations have responded in various ways. As logistic and supply chain services become more globalized, technological innovation increases, consumer demand fluctuates, and the competitive environment becomes more dynamic, organizations must adapt to the changing landscape. Lack of expertise in logistics and supply chain, including information system support capabilities, has become a major challenge to the development of logistics and supply chains according to Long (2003).

Inadequate logistical infrastructure, coupled with a lack of skilled workers and management, is responsible for the high level of losses, damage, and diminishment of stocks, especially for perishables (Dolven 2002, kerr 2005). However, the challenges also create opportunities for companies with advanced logistics systems and skilled employees to grow.

Companies' logistics department is responsible for managing the acquisition, movement and storage of materials, parts, and finished inventory (as well as the flow of information related to those materials), so that profitability is maximized by maximizing the fulfillment of orders at the lowest cost Somuyiwa and Sangosanya (2007).

2.3 Empirical Literature Review

2.3.1 Logistics Management Practices

To enhance the performance of organizations striving for high efficiency and management system, logistics plays a significant role in supporting the ever-changing micro and macro-economic variables of different businesses and economic conditions of today's world. Biruk,(2020).

The need of the clients can be satisfied through the proper flow of products and services efficiently using logistics management practices. And activities like; the integration of information, transportation, inventory, warehousing, material handling, and packing among where security comes under logistics (Mishra, 2014).

According to Bagshaw (2017), Different strategies can be adopted by firms to enhance their performance, in this regard, among one of those strategies logistics management has been considered a key factor for firms to obtain higher performance. Logistics management is critical for the competitive advantage of the firms and also their finances because, operational performance has a positive impact and is significant (Tilokavichai et al., 2012).

To the success of business and prosperity of the nation and also to increase the competitiveness of the international economy the ability to deliver goods quickly, safely, economically, and reliably is considered vital according to numerous researchers and scholars according to Haji Esmael et al., (2018). To reduce domestic costs and advance the competitiveness of the market internationally, enhancing service capabilities associated with logistics management is essential (Boonpattarakan, 2016, Kant et. all, 2022). To gain access to new market entrée, ensure greater production efficiencies, and also smack competencies of technology as a result of evolving importance of

logistics management arose from companies becoming globalized beyond their geographical territories (Kilasi et al., 2013, Gobena & Kant, 2022).

To the ultimate customer providing the right product at the right time, with the right quality, at the right place at the right price is the main objective of logistics management (Ristovska et al., 2017). To improve organizational performance, promoting effective logistics management of its logistics is defined as a set of activities that logistics management practices undertook in an organization according to Adebayo (2012).

To clout the firm competition, organizational performance can be improved through logistics management practices by reducing the cost of logistics, doing so enabling them to sell their product and services at a better competitive rate (Qureshi, Dinesh & Pradeep, 2017; Wakjira & Kant, 2022).

Lack of coordination of transport of goods, the underdeveloped infrastructure of logistics, old and insufficient number of freight transport trucks, and also damage and deterioration of goods as a result of disorganizing of handling, transporting and storage and poor logistics management system are among characteristics of Ethiopian logistics system according to Debela (2017). Depending on these pillars, the researcher was motivated to the effect and contribution of logistic management practices on organizational performance.

Extensive use of logistics key performances and indicators of financials, use of strategic logistics service, use of incorporated logistics information system, to leapfrog a sense of exigency to the status of world-class, use of third party logistics providers strategically, through logistics ergonomics and green logistics, discipline and order, outstanding land and building utilization and acceptable use of automated storage are considered as a characteristic of world-class logistics according to Frazelle (2002).

In providing time and place utility logistics plays a prominent role. Enhance a firm’s ability in which high levels of seamless satisfaction of the customer and the creation of global scale economies can be provided by facilitating utilities of time and place (McGrath and Hoole, 1992). Similarly, logistics become significantly important in the process of value-adding for several reasons in many firms worldwide according to Ronald (1997).

Lambert & Stock (2001) as cited in Anna and Konrad, 2008). have also argued that a competitive advantage can be created by good logistics practices and they claim that more specifically in three significant elements of the market concept such as customer satisfaction, integrated effort, and company profit which plays a crucial role for best logistics practices.

It's vital to have the efficient and effective logistic performance to be more successful in business sectors and supply chain services since it has a significant impact on the advantage of business firms. (McGrath, 1992).

Procedures such as managing the procurement strategically, transportation, and storage of goods, spare parts, and finished materials in inventory through firms, organizations, and in their marketing channels can be defined as Logistics and how current and future profitability of firms can be maximized through the cost-effective order fulfillment (Christopher, 2005).

Generally, according to the above arguments, the competitive advantage of firms to maintain and ensure maximum customer satisfaction through logistics management practices is increasingly recognized as the main enabler.

Various strategies are adopted to ensure organizations remain competitive in the market Mundia et al. (2015),

According to Mundia et al. (2015), organizations are adopting various strategies to ensure they remain competitive in the market. In this regard, to reduce internal costs and improve competitiveness in the international market, enhancing logistics management is helpful and significant (Boonpattarakan, 2016, Kant et. all, 2022).

2.3.2 Logistics management performance

The company to enhance its performance and to be competitive logistics as well as supply chain management has been played a crucial role (Li, 2014).for the business performance of manufacturers and also in the perception of customers on the quality of the goods and services provided by the plant, effectiveness, and efficiency of logistics operation management has a considerable influence.

Also in providing a competitive advantage to the company effective logistics management can provide major sources to ensure the company can incessantly respond faster progressively or in a better way than competitors as per the requirement of its customers globally (Adebambo, 2016).

In respect of logistics management performances whatsoever improvement is done, in terms of maximizing revenue generated in every cost-effective way, in general, it helps to enhance the performance of business according to Tabeni (2006).

For the features of new business using a time-based strategy to competency and competition logistics management becomes the core centerpiece and the company that provides the fastest delivery of the product and the shortest order cycle time will be a winner in the logistics game (Ackerman, 1997).

All independent variables such as transport, customer order process, inventory, warehouse, and packing management have a positive and direct relationship with the performance of the organization, in the case of Kenya according to According to a study by Gitogna (2017), in making the availability of goods and services to the users at the right time, at the right place, with the right quality and at the right price in a highly competitive market logistics plays a key role which in turn promotes a high level of efficiency and effectiveness that leads to a better result.

2.3.2.1 Financial measures of logistics performance

In value creation, enhancement of revenue, capital consumption, and expense control logistics is progressively playing a prominent role. Therefore, towards corporate financial performance, logistics financial performance is playing a key role. Whereas measuring and improving logistics financial performance became ever more important in measuring and improving logistics financial performance.

The most accepted and important principal corporate financial measure in developing and implementing logistics financial performance measures has corresponding logistical measures. Accordingly, some corporate financial measures and their corresponding logistics financial measures described below are among the key. The overall utilization of logistics assets can be measured by the logistics asset turnover, and it’s computed as the ratio of corporate revenue to the investment in logistics assets.

Certain cost elements can be controlled by managers and engineers by focusing too much attention only on logistics costs. For instance, over some of the major cost factors such as; wage rate, fuel cost, occupancy cost, inventory carrying rates, and systems capitalization rates logistics managers have limited control. Instead, over the amount of inventory in the system logistics managers have direct control.

Logistics managers and analysts influence the consumed logistics resources such as the number of transportation miles travelled, the amount of occupied space, and the amount of expended working hours in providing target customer service levels (Edward 2002).

Measures of logistics that describe resource utilization and productivity are included in a performance indicator. The following measures of logistics utilization are; logistics workforce, transportation capacity, inventory, and logistics facilities, and those measures are the focus of this section.

The specified resource of productivity(s) is generally measured as the ratio of the output of the resource(s) to the consumption of the resources(s)

Productivity rate = Output resource/Consumption resource

However, it can be difficult and frustrating if (I) outputs are hard to measure and input utilization is difficult to match up for a given period; (2) input and output mix or types constantly change; or (3) data are difficult to obtain or unavailable. In this regard, productivity is considered a basic concept. Productivity measurement is a routine if a system has measurable outputs and identifiable as well as measurable inputs that can be harmonized with the appropriate outputs (David 2002).

2.3.2.2 Quality measures of logistics performance

How logistics quality can be measured? However, several kinds of measures are available that many managers have given up trying but unfortunately, no industry has a uniform standard for doing so. Universities around the country have entire research projects dedicated to identifying the right set of logistics accuracy indicators and the issue is so complex (Edward 2002).

The indices for logistics quality in each of the logistics activities are tied together by the perfect order percentage (POP) and it's the most effective indicator of logistics quality or accuracy, in the following section the perfect order percentage and its components will be defined.

Perfect Order Percentage (POP)

For an integrated setoff activity, defining the right measurement focus, the right standard, and defining the acceptable limit of deviation from the standard as broad as logistics are complex tasks. Accurate means deviating only slightly or within acceptable limits from a standard (accuracy is the quality or state of being accurate.) according to the American Heritage Dictionary.

Customer service, inventory planning, manufacturing, and procurement, as well as warehousing, are encompassing in logistics and when we consider each issue in turn, first, the right measurements focus on inventory planning, the link, and common deliverable of customer service, procurement, transportation, manufacturing, and warehousing is an order. In other words, logistics exist to fill orders.

Second, the standard, the order of magnitude improvements needed in all areas of logistics will not yield the quest of the standard; if the standard hasn't been perfect(Matiwos 2015).

To monitor the effectiveness of individual activities, many of the quality metrics have been designed relative to the service reliability performance and quality measurement of logistics reflected in firms, and others are focused on the large function of logistics.

Activities such as order entry, warehouse picking, and preparation of documents are considered as the accuracy of work performance, and calculating the ratio of the total number of times in the correctly performed activity can be trucked. For example, 99.5 accuracies indicate that the percent out of every 100 times, the correct items(S) that were picked in the warehouse (David 2002).

In a variety of ways, the overall quality of performance can also be measured and also damage frequency is included as a distinctive measure, which is computed as the ratio of the number of damaged units to the total number of units. While in the logistics procedure, the damage frequency can be measured at several points such as loading damage, warehouse damage, as well as transportation damage, until shipments are received by the consignee and even after the receipt time cannot be detected frequently. Hence, the number of returns of damaged or defective goods

can be monitored by many organizations, and measuring customer claims for credit is also common.

Many organizations specifically measure their ability to provide information when the information requested is not available and quality performance related to information can also be considered as the other most important indicator while tracking instances when inaccurate information is discovered is also common.

In this regard, the information system that must be updated to reflect the actual operating status when physical counts of merchandise inventory differ from the status of inventory as reported in the database can take as an example. Furthermore, for future action, the occurrence of information should be recorded (David 2002).

2.3.2.3 Cycle Time measures of logistics performance

The order entry time (OET) included in the total logistics cycle time (TLCT) if the product is not available in stock, order processing time (OPT), purchase order cycle time (POCT), and in transit time (ITT) (Edward 2002).

Until completed order entry and capture for processing OET is the elapsed time from order placement. The order entry time includes ITT for orders received by email, and order entry waiting for time (OET). OET includes fax transmission time for orders received by fax, time of waiting for order entry, as well as the time of keying and/or scanning for entry orders.

The conversation time, the waiting time for the client and the time of keying for the order entry specialist are included in OET in the case of orders received by phone. The OET is reduced the time of transmission for the orders received electronically.

The time to verify customer information included in OPT and by the order processing system when the order is entered and captured and stops when the order is released to the warehouse (or Manufacture) for picking, the OPT clock starts. The time to verify for credit clearance, customer information, batch for schedule for release, and inhabit for release to the warehouse for assembly will also be included in OPT.

Simply the time of customer order cycle you receive from a supplier is POCT. When you place your order with your supplier the POCT clock starts and stops once you received the order at the selected location. When the product is not available from the stock POCT is included in the TLCT (Edward 2002).

2.3.3 Logistics management challenges in different countries

In Vietnam, manufacturing industries are facing major logistics constraints due most of these manufacturing industries are dependent on imported inputs according to the study by the Vietnam Ministry of Transport and the World Bank (2002). establishing direct relationships with buyers, taxes and the restrictions imposed on foreign-owned firms are among the difficulties associated with this, as the inadequate capacity of container handling and poor development and maintenance of the road, and railways capacity, insufficient facility of air freight, and effective management are among major problems in the logistics industry (according to the Ministry of Transport, Vietnam & The World Bank, 2002).

Similarly, the factors impeding the logistics development in Thailand studied by Goh and Pinaikul (2002) and found that the information system in the logistics industry is inefficient, transportation barriers, poor logistics management techniques, expertise, climate change, high cost related to obtaining and installing automated equipment of logistics information system.

2.3.3.1 Logistics Management Challenges in Ethiopia

The entry port Djibouti is the backbone of the Ethiopian logistics industry since Ethiopia is a landlocked country and the only means of the activities of logistics depends on this port whereas, as an alternative, currently the government of Ethiopia is trying to negotiate to use the port of Somali Land and Mombasa Port Tilahun (2014),

The problems associated with maritime transport can be taken as bottlenecks in the process to accelerate international trade in Ethiopia according to Fasika, Klaus, and Marcus (2014), similarly, the delays related to the customs procedure, and port handling have been observed in twelve types of industries and how the complex tariff for imported items become a challenge for the practices of logistics and supply chain has also been demonstrated in their study and inconsistency of quality raw material during the time of bidding and final delivery as major supply challenges and, due to

lengthy bureaucracy procedure in the process of purchase, also the long processes and delivery time for importing items and unavailability of local suppliers have been revealed in their research.

How being landlocked and backward infrastructure of transportation affects the see freight/transportation due to the expensive and complex delivery process for the countries like Ethiopia has been indicated in this study as a major challenge and can be considered as a hindrance to the competitiveness of the firms.

The recently revised 'Export Trade Duty Incentive Schemes Proclamation No 768/2012' aims to minimize the problems related to inventory stocking and lead time for firms that import raw materials, and chemicals for the production of manufacturing industries in the export market according to Girum and Florian (2013). In this regard, the bonded input supplies warehouse scheme can be taken as a main instrument whereby, under the supervision of customs authority, the exporters are allowed to store inputs without any charge so that customs clearing time can be reduced including overstocking of raw materials inventory and lead time. The above challenges, transportation, and supply side issues were found by different researchers and given high focus.

Whereas this study will not be limited in its scope, instead try to identify the general challenges of logistics using different categories such as lengthy procedures at customs and ports, technology, policies, and the impact of a shortage of hard currency on the industry's critical issues which require immediate action, since Ethiopia is underdeveloped and a landlocked country which the logistics industry remain as a backbone of the country's economy, the researcher will looking different techniques and experience from well-developed countries.

2.4 Conceptual Framework

Six factors that are required to assess the determinants of logistics performance of logistics and freight forwarding service providers are comprised in the conceptual framework based on the reviewed literature. Accordingly, infrastructure, technology, supply chain visibility, inventory management, transportation cost, government regulations, customer expectations, and skilled human resources.

Factors that directly affect the logistics management practices such as efficiency of the clearance process, logistics infrastructure, arrangement of competitively priced shipments, competence and

quality of logistics services, ability to track and trace consignments, and the scheduled or expected delivery time which are considered as an independent variable in which this specific research will be managed. Whereas the performance of logistics service providers like; infrastructure, technology, supply chain visibility, inventory management, transportation cost, government regulations, customer expectations, and skilled human resources will also be included in the conceptual framework and considered a dependent variable of this research.

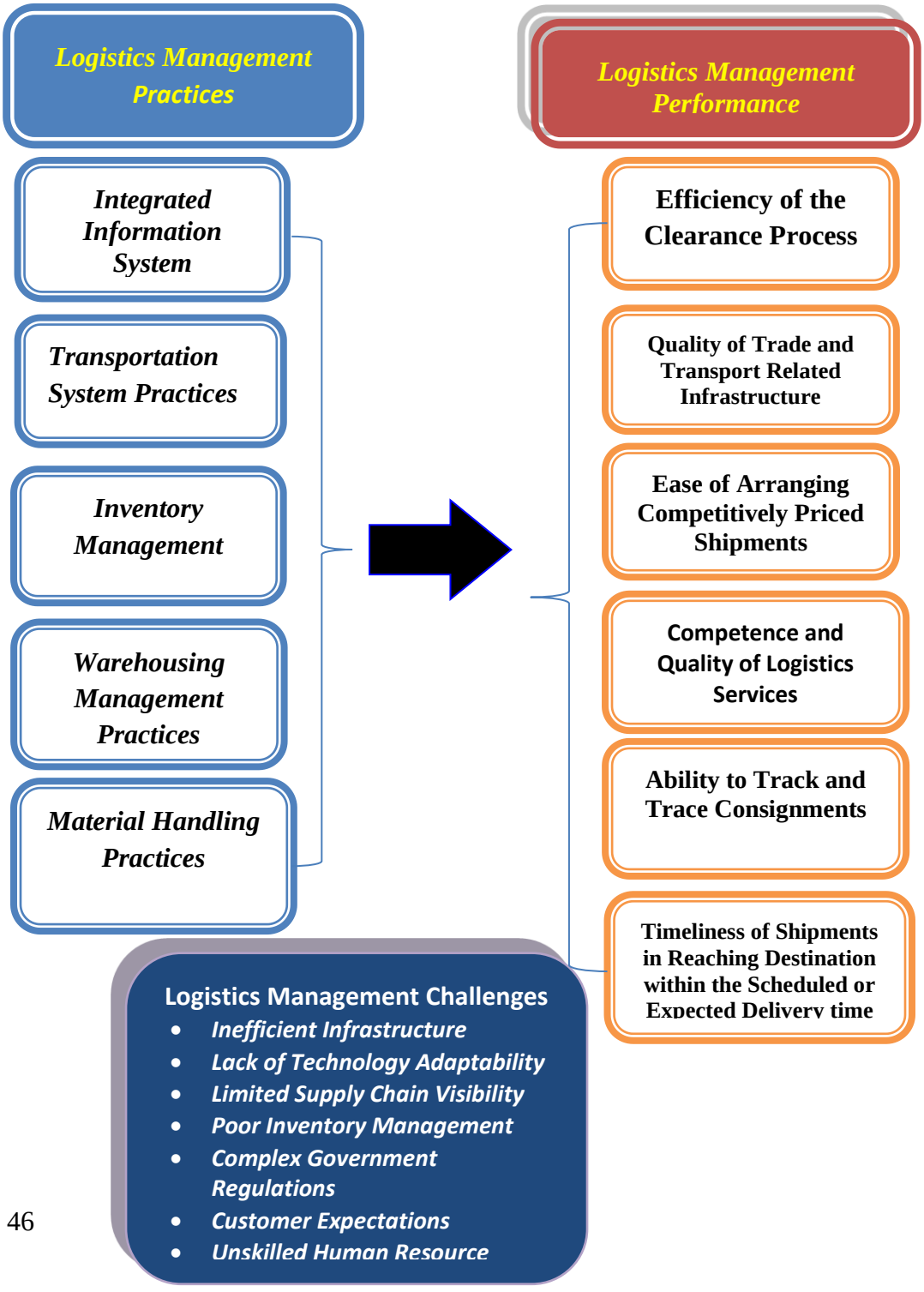

Figure 2.1 The impact of logistics management practices of the performance of logistics management and also the logistics management challenges (Developed by the researcher, October 2023)

CHAPTER THREE
METHODOLOGY OF THE STUDY

3.1 INTRODUCTION

To collect and analyse data, the approach, methods, and techniques that are has been adopted in this study and are described in this chapter. Accordingly, research design, data collection tools, sampling frame and techniques, data requirement and sources, data analysis and presentation methods have been discussed, as what the activities of research are, how can it be proceeding and the progress can be measured, and what comprises success also defied in the research methodology, Yin (2003).

3.2 Research Paradigm

This research was a systematic investigation of phenomena aiming to increase knowledge and understanding about determinants of logistics performance of selected logistics and freight forwarding companies in Addis Ababa, Ethiopia. And critical thinking and logical reasoning and careful observation have been adopted to help answer various questions and solve problems that affect the study.

the researcher used pragmatism approach that emphasize the importance of finding practical solutions and theories were tested in reality and modified accordingly to achieve the desired result and it also helps researchers to identify research questions. In this research mixed or both qualitative and quantitative method were commonly implemented.

3.3 Research Approach

The three methods such as quantitative, qualitative, and mixed methods are commonly implemented where one of them is not better than the other in a research based on how the author wants to do the research (Creswell, 2005). And accordingly, mixed approach has been adopted in this research because of qualitative variable were adopted due to the variables that cannot

assume numerical values whereas, the quantitative variable were used for the variables that can assume numeric values in this research.

3.4 Research Design

The research design can be classified as explanatory, descriptive, and exploratory research (Saunders, Lewis, and Thornhill, 2007).

To achieve the primary objective of this study which evaluates the performance of the logistics services of selected logistics companies in Addis Ababa, descriptive and exploratory method have been implemented.

Questionnaire was used to conduct the study. In this regard, a plan, structure, and strategy of investigation were represented in a research design and considered to obtain answers to research questions and to control variance. According to Emory (1985)

3.5 Sampling Design

3.6 Target Population

According to Ethiopian Maritime Authority, the total number of registered logistics and freight forwarding companies in Addis Ababa is 152. Consequently, the target population of this study will be 152 logistics and freight forwarding companies in Addis Ababa, Ethiopia.

3.7 Sample Size Determination

According to (Yamane, 1967) sample size determination formula, when the target population is known the sample size can be calculated as follows.

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

For business and social science research a confidence level of 95%, a margin of error of + or – 5% is acceptable (Krejcie and Morgan, 1970).

Where N = Population Size

K= Constant (1)

n = Sample Size

e = the desired level of precession or sampling error

$$\frac{152}{1 + 152(0.05)^2}$$

$$\frac{152}{1 + 152(0.0025000000000000005)}$$

$$\frac{152}{1 + 0.38000000000002)}$$

$$n = 110$$

3.8 Sampling Technique

From the 152-target population of logistics and freight forwarding companies located in Addis Ababa, Ethiopia, 110 companies were selected using a random sampling technique and taken as a sample. To select 1 suitable and appropriate respondent from each company, a judgmental sampling technique has been used from the non-probability sampling technique. The reason the researcher used the judgmental sampling technique is to get reliable information from participants since participants believed to have deep knowledge and experience about determinants of logistics performance, and the interview question was answered by 6 logistics specialists who are currently working for the selected six logistics and freight forwarding companies in Addis Ababa, Ethiopia. In this regard, the experience that this logistics companies have, their human resource capacity, capital were the main criteria the researcher to decide and considered this companies to be selected after gathering detail information from some government organizations such as Ethiopian Customs Commission and Ministry of Revenue.

In addition, the working experience related to the logistics operations, the role they have in the company was main criteria the interviewees to be selected.

3.9 Sampling Procedure

3.10 Sources of Data

Two types of data namely primary and secondary were defined according to Saunders (2007). Based on the data collection method and research type, the primary and/or secondary data can be used by the researcher. Primary and secondary data were used for this research as well. Through standard and structured questionnaire and interview the primary data was collected and the secondary data has been collected from companies' reports and publications.

I. Primary Source

Participants of the research were a primary source for the data that has been collected using structured questionnaires and interviews.

II. Secondary Source

Documents such as previous studies, books, journals, and performance recorded by companies were used as a source for the secondary data collection process.

3.11 Data Collection Methodology

Using questionnaires and interview guides was the main data collection instruments. Accordingly; in instances where a respondent could easily read and understand without assistance questionnaires were prepared based on the objective of the study and used.

In this regard, managers, line managers, and supervisors who have deep expert knowledge in the area of their field and have a direct relationship with the logistics activities were expected to answer the interview questions briefly.

Table 3.1 Table Data Collection Tools

Unit Of Enquiry	Data Collection Methods/Tolls that are going to be used
Logistics Companies' Logistics Experts	Interview
Employees of Logistics Companies	Questionnaires

(Source: Computation from own survey, June 2016)

3.12 Data Collection Instrument

Questionnaires and interview guides were adopted as major data collection instruments in this research. In this regard, based on the research objective the questionnaire was prepared and used so that respondents can easily read and understand without assistance.

To provide a succinct response to the interview questions, the interviewee was chosen based on their expertise, comprehension, and experience with the logistics industry's obstacles and bottle necks from their daily work.

3.13 Data Analysis

Using SPSS version 20 software statistical tools such as charts and frequency was used for the analysis and interpretation of quantitative data. The raw data that has been collected from the study for decision-making was unless it’s transformed into information (Emery and Couper, 2003). Based on the responses at the same time coding was captured, and a questionnaire was organized and categorized. By relating the result of quantitative data from the questionnaire the participants’ interviewees were analysed.

3.14 Validity Test

The extent to which an instrument measures what was supposed to measure is referred as validity Brink (1993). Data require not only being reliable but also accuracy. If a measurement is valid in an attempt to ensure content validity it is also can be considered as its reliable according to Joppe (2000), and also based on a careful review of the existing literature the questionnaires were developed concerning the area of inquiry with a little modification. Furthermore, to respondents,

the same sets of questions were administered so that to facilitate comparison responses would be similar.

3.15 Reliability Test

The extent of consistent findings of research using appropriate data collection techniques or analysis is referred to as reliability (Saunders et al., 2007).

Reliability is also defined as a measure of stability and consistency across time according to Dunn (2001).

As part of the reliability test, to assess how the result is valid and generalize similar results if the size of the sample increases, Cronbach's Alpha was calculated before proceeding to data presentation, analysis, and interpretation (Field, 2006). And consistency or dependability in measurement technique is referred to be 0.7 and above and it's concerned with the consistency or stability of the score obtained from a measure assessment overtime time and across settings or conditions.

Table 3.2 Analysis of Reliability

Variables	Number of Items		Values of Cronbach Alpha
	Initial	Final	
Information integration system	3	3	.775
Transportation system practices	4	4	.828
Inventory management practice	4	4	.826
Warehouse management practice	3	3	.801
Materials handling practices	4	4	.753
The efficiency of the customs clearance process	3	3	.873
Quality of trade and transport related infrastructure	4	4	.872
Ease of arranging competitively priced shipments	4	4	.873
Competence and quality of logistics services	4	4	.907
Availability to track and trace consignments	4	4	.888
Timelines of shipments in reaching the destination within the scheduled or expected delivery time	4	4	.893
Total	**41**	**41**	**.896**

(Source: Computation from own survey, June 2023)

Therefore, according to the table above to ensure reliability, it's important to have a sample sized appropriately to achieve statistically important and reliable results. There will be less chance that the obtained score to random factors and measurement error if the measurement is reliable (Geoffrey et al, 2005).

3.16 Research Ethical Consideration

To do the work honestly and with integrity, there is an ethical responsibility in undertaking any research (Adams et al, 2007:35).

"In association with the rights of those who become the subject of your work the appropriateness of your behaviour is referred to as Ethics or affected by it" after getting their willingness all participants of the questionnaire, and interview were responded to and they were not be required to write their name on the questionnaire and without any change by the author, the responses that the participants gave has been analysed according to Saunders, Lewis and & Thrombi (2001, p.130)

Participants of the research were informed about issues related to confidentiality and protection on answering the questionnaires by the researchers in addition to this, the researcher was also inform respondents their responses will not disclose to a third party without their permission and their responses will not be recorded. The respondents were also expecting to respond honestly. Moreover, a letter of cooperation was prepared for the companies for officials to show unreserved support during the research has been conducted. Furthermore, other researchers and authors' reference works was cited appropriately.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The raw data that has been collected from the logistics and freight forwarding companies in Addis Ababa and analysed using SPSS has been presented and interpreted in this chapter.

In the first portion the demographics of the respondents are examined, presented, and discussed, while concerns relate to the logistics management practices and logistics management performance examined, presented, and discussed in the second portion.

In this study the census approach has been used by the researcher and it's been able to collect all the completed questionaries from the entire population.

4.2 Demographic Characteristics

Educational information, job title, years stayed at the company, work unit, line of business, the fright mode that the company dealt with is among issues discussed this part. The following table shows the result of these variables.

Table 4.1 Demographic Characteristics

Variables		**Analysis**		
		N	**Frequency**	**Percent**
Education Information	Certificate	110	24	21.8
	College Diploma		10	9.1
	First Degree and above		76	69.1
Job Title	Director	110	15	13.6
	Manager		83	75.5
	Supervisor		8	7.3
	Other		4	3.6
Years of stayed at the company	Less than two years	110	28	25.5
	two - five years		64	58.2
	Six -ten years		18	16.4
		110		

(Source: Computation from own survey, June 2023)

Table clearly shows that 21.8 % of the respondents taken only a short-term training such as qualification in customs clearing and while 9.1% of the respondents completed a diploma and the vast majority which is 69.1% of the respondents were the older first degree and above among the total population.

On the other hand, the majority of the respondents were managers or most of the logistics and freight forwarding companies in Addis Ababa administered by managers. Accordingly, the respondents were 83% manager, 15% director, 8% supervisor and 4% others respectively among the total respondent.

Also the total working years of experience of the respondents stated as follows; 25.5% of the respondents worked for less than two years, 58.2% worked with the freight forwarding companies for two – five years and 16.4% of the respondents have been worked for six to ten years.

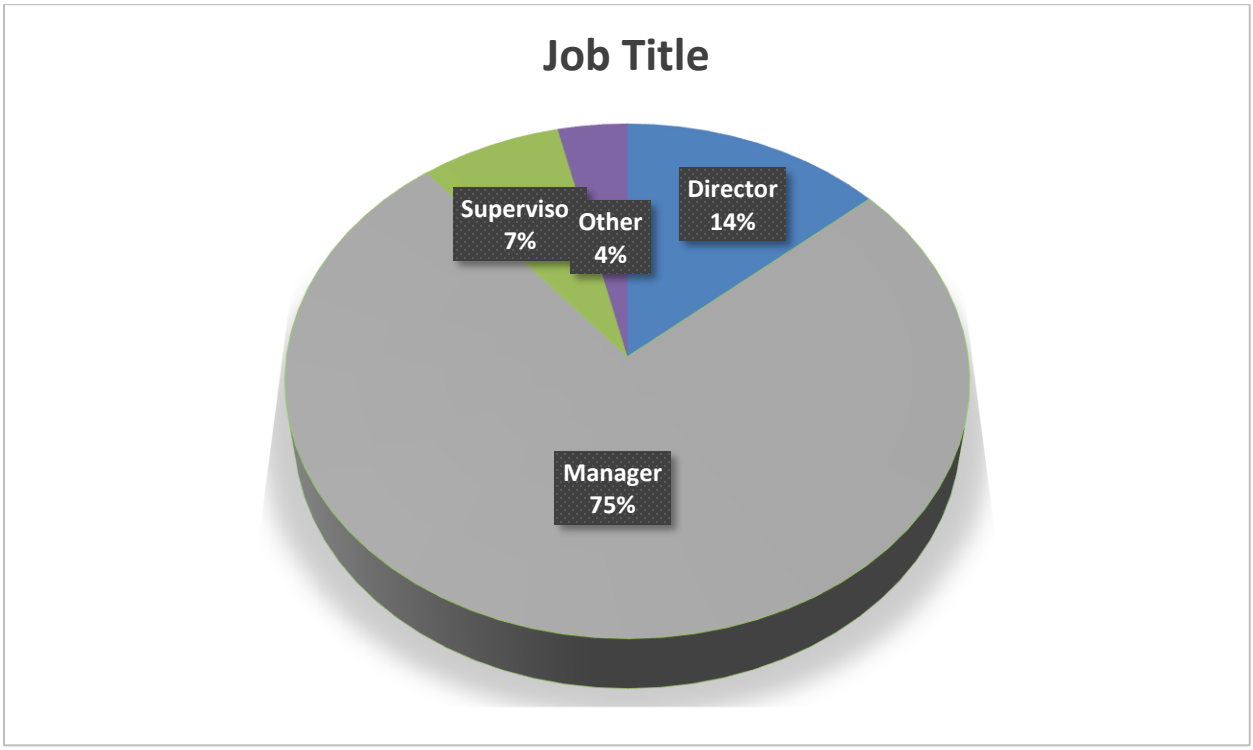

Figure 3.1 Demographic Characteristics

3.29 is the lowest mean score value and it indicates that the transportation management practices in their companies in enabling products and services to be delivery to customers timely is moderately practiced.

On the other hand, as per the highest mean score value 4.06 most of the respondents were agreed that electronic system is under use in their company to track all products transported to their customers. The grand mean value score 3.54 shows that how transportation system substantially practiced in freight forwarding companies in Addis Ababa.

Table 4.2: Inventory Management Practices

Item	No	Mean	Standard Deviation
The inventory management practices keep cost at a minimum cost in my company.	110	4.38	0.742
The inventory management practices enable my company to avoid inventory bottleneck in production.	110	4.18	0.768
Products and services are delivered using the right mode of transportation in my company.	110	4.09	0.934
My company uses the right inventory management technique (JIT, Kaizen, ABC analysis etc.) to manage its inventory.	110	4.02	0.908
Inventory Management Practices (Grand Mean)		**4.23**	**0.743**

(Source: Computation from own survey, June 2023)

The highest mean score value 4.38 simply indicated that how the practices of inventory management in freight forwarding companies in Addis Ababa playing a prominent role in keeping cost at a minimum cost. And the lowest mean value 4.02 implies that how the right inventory management techniques such as JIT, Kaizen, ABC analysis etc. have been moderately implemented in these freight forwarding companies.

The grand mean value 4.23 demonstrated that the significant role of the inventory management practices in minimizing cost and avoiding bottleneck in production in the logistics and freight forwarding companies of the respondents.

Table 4.3 Warehouse Management Practices

Item	No	Mean	Standard Deviation
Does the Bonded Warehouse organization reduces its operating cost, if it reduces fixed cost, overhead, stock holding cost and distribution cost?	110	3.57	1.192
Does the bonded warehouse operation play an important role in Ethiopian logistics industry? if yes, could it hold strong reputation high market share compared with Global players?	110	3.52	1.155
For perishable products does the bonded warehouse need specific technology of preserving which have high cost? How much you agree with this statement?	110	3.43	1.230
Warehouse Management Practices (Grand Mean)		**3.41**	**1.208**

(Source: Computation from own survey, June 2023)

The grand mean value of 3.41 revealed that how warehouse management practices listed in the above table have a significant role for the logistics and freight forwarding industry in Addis Ababa in reducing the fixed and overhead and distribution cost as per the majority of respondents agreed. In this case the item with the lowest mean value 3.52 indicated that how bonded warehouse operation in holding strong reputation high market share is less compared with the global players in the case of Ethiopian logistics industry. On the other hand, the highest mean value 3.57 shows how the role of bonded warehouses play a significant role in the case of Ethiopian logistics industry in reducing operation costs such as fixed cost, overhead cost, stock holding cost and distribution cost.

Table 4.4 Material Handling Practices

Item	No	Mean	Standard Deviation
The implementation of material handling has a contribution towards better control of the flow of goods in this company.	110	3.41	1.095
Proper material handling system has implemented lower the unit material handling cost of the company.	110	3.35	1.096
Material handling helps the company to improve customer service by making products to be found, moved and easily delivered.	110	3.46	1.089
Material handling has practiced in this company and playing a key role to improve quality and reduce damage.	110	3.39	1.067
Material Handling Practices (Grand Mean)		**3.29**	**0.962**

(Source: Computation from own survey, June 2023)

The majority of employees of the logistics and freight forwarding companies in Addis Ababa agreed that the implementation of material handling helps their companies to improve customer service by making products to be found, moved and easily delivered to their customers and the mean score value is 3.46, while the lowest mean score value 3.35 indicates that the respondents also agreed the implementation of proper material handling system towards lowering the unit material handling cost of their company is not significant.

In general the grand mean sore value 3.29 of material handling practices implies that most of the respondents agreed the implementation of material handling practices in their companies has a significant role in reducing cost, damage and improving the quality of the services delivering.

Table 4.5 The efficiency of customs clearance process

Item	No	Mean	Standard Deviation
The volume and frequency of goods being imported or exported can affect the efficiency of customs clearance.	110	3.63	1.132
The accuracy and completeness of documents affect the efficiency of customs clearance.	110	3.95	0.913
Making sure all necessary documentation and information are reduce the time that could take for the customs process	110	3.90	0.877
The efficiency of customs clearance process (Grand Mean)		**3.72**	**0.915**

(Source: Computation from own survey, June 2023)

The vast majority of the respondents were agreed that the efficiency of customs clearance process can play a crucial role for the logistics and freight forwarding industries in Ethiopia shipments to be delivered to the consignees as per the scheduled and expected date and time safely according to the grand mean score value 3.72 shows. In this regard, the highest mean score value 3.90 exhibited that how the accuracy and completeness of documents are factor the customs declaration process to be easy and short as the majority of the employees in this logistics industry agreed. While some of them were agreed that the volume of frequency of goods being imported or exported has less impact upon the efficiency of the customs clearance according to the lowest mean value 3.63

Table 4.6 Quality of trade and transport related infrastructure

Item	No	Mean	Standard Deviation
A good quality infrastructure enables shipments to move quickly and effectively from their point of origin to the end user.	110	3.900	0.877
A high quality of infrastructure reduces transport and logistics costs.	110	3.85	1.030
Investing in high-quality transport infrastructures can boost economic growth and improve standard of living.	110	4.06	0.089

A good and well-maintained transport infrastructure able to accommodate large volumes of traffic and help minimize congestion.	110	3.63	1.082
Quality of trade and transport related infrastructure (Grand Mean)		**3.77**	**0.984**

(Source: Computation from own survey, June 2023)

The items related with quality of trade and transport infrastructure listed on the above table and associated with this as the grand core mean value 3.77 revealed that the majority of the respondents were agreed that the significance of infrastructure in enhancing the quality of trade and transport is high. And also, the highest mean value 4.06 shows that the parallel relationships between the investment of high quality transport infrastructure and the overall economic growth and as well as improvement of the standard of living according to the majority of the respondents agreed. Though, the lowest mean value 3.63 implied that the respondents were agreed that a good and well-maintained transport infrastructure can play a major role in accommodating large volumes of traffic and help minimize congestion.

Table 4.7 Ease of arranging competitively priced shipments.

Item	No	Mean	Standard Deviation
The company always compare shipping rates to choose the best one that suits the company's budgets and shipping needs using online platforms.	110	3.67	1.006
Our company negotiates with carriers to consider a discount when it shipping a large volume of goods and frequent shipment.	110	3.63	0.985

My company always tries to schedule off-peak periods when shipping rates are low.	110	3.64	1.064
Our company consider multiple carriers or doesn't rely on only one carrier to increase the chance finding of affordable and efficient shipping lines.	110	4.38	0.790
Ease of arranging competitively priced shipments (Grand Mean)		**3.68**	**0.865**

(Source: Computation from own survey, June 2023)

According to the grand mean value 3.68 of the items of the Ease of arranging competitively priced shipments listed in the above table, most of the respondents were agreed that ease of arranging competitively priced shipments is a vital for the logistics and freight forwarding industries to reduces costs associated to shipment in choosing the affordable and efficient shipping line. And as the highest mean score value 4.38 shown most freight forwarding companies considers multiple carriers aiming to increase the chance of finding an efficient and affordable shipping lines as per the majority of respondents agreed. Whereas the lowest mean value 3.63 implies that only few of the freight forwarding companies negotiate with carriers to consider a discount when it is shipping a large volume of goods and frequent shipment as the respondents agreed.

Table 4.7 Competence and quality of logistics services

Item	No	Mean	Standard Deviation
Our employees are provided continuous training and development opportunities to improve their skills and knowledge for better service delivery.	110	3.48	1.002
My company is offering services at a reasonable cost without compromising quality.	110	4.64	0.483

Our company is adopting advanced technologies such as real-time tracking and warehouse automation to enhance the accuracy and efficiency of the service provided.	110	3.55	0.584
Our company is using modern technologies to improve the efficiency and accuracy of the logistics process.	110	3.95	0.531
(Grand Mean)		**3.87**	**0.359**

(Source: Computation from own survey, June 2023)

Table 4.8 Ability to track and trace consignments

Item	No	Mean	Standard Deviation
The company has using technologies such as Bar-coding which can be scanned at various points in the supply chain, to track and trace consignments.	110	3.72	0.544
Using GPS technology to track the location of vehicles and containers and provide real-time visibility on the status and location of consignments in my company.	110	3.63	0.675
Using electric data interchange (EDI) technology enhances the ability to exchange data electronically with clients and partners in this company.	110	3.51	1.163
Using cloud-based logistics software can help to track consignments and manage inventory in real-time in our company.	110	3.69	1.038
Ability to track and trace consignments (Grand Mean)		**3.51**	**0.620**

(Source: Computation from own survey, June 2023)

The items listed in the ability to track and trace consignments in the table above, the grand mean value 3.51 implies the significant of the ability to track and trace consignments in advancing the

ability to exchange data with partners and providing real-time visibility on the status and location of consignments.

The highest mean value 3.72 indicated that the usage of technologies such as Bar-coding has a significant role in the logistics industry to track and trace consignments according to the majority of respondents.

And the lowest mean value 3.51 indicated that the usage of the electric data interchange (EDI) technology in logistics and freight forwarding companies in Addis Ababa is less and implemented only in a few companies in the industry.

Table 4.9 Timelines of shipments in reaching the destination within the scheduled of expected delivery time.

Item	No	Mean	Standard Deviation
The modes of transportation used such as air, sea or land affects the shipment delivery time.	110	3.57	1.129
The efficiency of carriers in handling and delivering shipments affect the time of delivery.	110	3.24	1.091
The customs clearance procedure for international shipments may take longer delivery time.	110	3.62	1.058
Choosing a reliable carrier to ensure timely delivery is essential.	110	3.31	1.107
Timelines of shipments in reaching the destination within the scheduled of expected deliver time (Grand Mean)		**3.39**	**0.749**

(Source: Computation from own survey, June 2023)

The items listed in the table above concerning the timelines of shipments in reaching the destination within the scheduled of expected delivery time, in this case, the lowest mean score value as a variable is 3.31 and it implies that choosing a reliable carrier to ensure timely delivery by freight forwarders is less essential. While the highest mean value 3.62 shows that how the international shipments may take longer customs clearance procedure and delivery time. In general, as per the mean value score 3.39, most of the respondents have been agreed that timeline

of shipments plays prominent role in reaching destinations within the schedule and expected time of delivery.

4.3 Normality test

According to Bulmer (1979) there are three forms of skewness in terms of their value. If skewness is < 1 or greater than 1, the distribution is considered as severely skewed. If the skewness is between – 1 and −½ or +½ and above the distribution will be considered as moderately skewed. If the skewness is between −½ and +½, the distribution is roughly symmetric. However, three different types of kurtosises which are described below have been identified by Westfall (2014), Kurtosis in a normal distribution is 3 (excess kurtosis is 0). Any with kurtosis 3 (excess 0) are Mesokurtic distribution. Leptokurtic distributions have a kurtosis of 3 (excess kurtosis 0). After compared to a normal distribution it's tails are longer, and it's central peak is frequently teller and shaper.

Table 4.10 Normality test

		Skewness		Kurtosis	
Variables	**N**	**Statistic**	**Std. Error**	**Statistic**	**Std. Error**
Integrated information system	110	-.307	.230	-.783	.457
Transportation system practices	110	.197	.230	.182	.457
Inventory management practices	110	-.202	.230	-1.256	.457
Warehouse management practices	110	-.481	.230	-.728	.457
Material handling practices	110	.256	.230	-.442	.457
The efficiency of the customs clearance process	110	.033	.457	-.540	.230
Quality of trade and transport related infrastructure	110	-.307	.457	-.587	.230
Ease of arranging competitively priced shipments	110	-.188	.457	-.303	.230
Competence and quality of logistics services	110	.297	.457	-.263	.230
Ability to track and trace consignments	110	-.455	.457	-.674	.230
Timeline of shipments in reaching the destination with the scheduled or expected delivery time	110	.959	.457	.295	.230

(Source: Computation from own survey, June 2023)

In this study, based on the aforementioned argument and the result listed in the table above, Integrated information system, Transportation system practices, Inventory management practices ,Warehouse management practices ,Material handling practices, The efficiency of the customs clearance process, Quality of trade and transport related infrastructure, Ease of arranging competitively priced shipments ,Competence and quality of logistics services ,Ability to track and trace consignments, Timeline of shipments in reaching the destination with the scheduled or expected delivery time were found to be symmetrical (normal) with values of -.307, .197, -.202, -.481, .256, .033, -.307, -.188, .297, -.455, .959 respectively. The Kurtosis and standard skewness distribution results must fall within the ranges of +2.58 according to Yi (1988). Considering that the skewness in this study ranges from -.481 to .959 and that the kurtosis ranges from -1.256 to .295, which all the results fall into the category of +2.58 and it's considered as a normally distributed data.

4.4 Multi collinearity analysis

There is a high level of correlation between independent variables when we refer to multi colinearity. Identifying the specific contribution of each predictor variable is difficult when they are correlated among themselves. This is due to the fact that the predictor variables share or overlap in variance.

It is possible to assess multicolinearity using two measurements: tolerance and VIF. A tolerance is calculated by using the formula 1-R 2 for each independent variable in order to determine how much variability is not explained by the other independent variables in a model. If this value is very low (less than.10), it indicates substantial multiple correlations with other variables, indicating multiple colinearity.

One of the parameters provided is the VIF (Variance inflation factor), which is simply the tolerance value divided by one.

A multi collinearity indicator is a tolerance value below 0.10 and a VIF value above 10 according to Pallant (2005). Mult icollinearity is not indicated in this study, where tolerance values range from .293 to .732and VIFs for all independent variables range from1.366 to 3.410.

Table 4.11 Multi Collinearity Analysis

	Multi collinearity Analysis	
Variables	Tolerance	VIF
Integrated information system	.606	1.650
Transportation system practices	.732	1.366
Inventory management practices	.622	1.609
Warehouse management practices	.336	2.975
Material handling practices	.293	3.410

(Source: Computation from own survey, June 2023)

4.5 Correlation analysis

Correlation is the relationship between two or more quantitative variables, where the key premise is that the variables are [linear] connected in a straight line. The "strength" or "extent" of an association between the variables and its direction also assessed by correlation and also measures the association for binary operations.

A correlation coefficient yielded by a correlation study which has a range of values from -1 to +1. Its considered as the two variables are perfectly related in a positive [linear] way, if the correlation coefficient is 1 whereas, it can be considered as there is no linear relationship if correlation coefficient is zero.

To examine the relationship between the constructs, the Pearson Correlation coefficient has been used in this study.

The table below lists the outcomes. According to Ratner (2014), a weak positive (negative) linear relationship is indicated by values between 0 and 0.3 (0 and -0.3), though, values between 0.3 and 0.7 (-0.3-0.7), and implied as a moderate positive (negative) linear relationship, while values between 0.7 and 1.0 (-0.7 and -1.0) indicated as a strong positive (negative) linear relationship.

Therefore, to the results in the following table the author has used aforementioned rule to interpret them.

Table 4.12 Correlation Analysis

Inter-Item Correlation Matrix											
	IIS	TSP	IMP	WMP	MHP	ECCP	QTTR	EACP	CQLS	ATTC	TSID
IIS	1.000										
TSP	.294	1.000									
IMP	.317	.466	1.000								
WMP	.541	.212	.145	1.000							
MHP	.587	.215	.380	.781	1.000						
ECCP	.692	.317	.534	.565	.763	1.000					
QTTR	.737	.387	.566	.515	.665	.890	1.000				
EACP	.612	.471	.550	.584	.777	.826	.788	1.000			
CQLS	.108	-.081	-.158	.066	.060	.017	.019	.075	1.000		
ATTC	.882	.191	.185	.435	.460	.531	.588	.465	.116	1.000	
TSID	.451	.840	.257	.330	.252	.333	.393	.440	-.048	.258	1.000

(Source: Computation from own survey, June 2023)

Table 4.9 shows the relationship between variables and accordingly, the correlational value 0.29 implied that a weak positive and significant relationship between integrated information system and transportation system practices. While the correlation value 0.31 indicated that the relationship between integrated information system and inventory management is a weak positive but has significant relationship. The other is the association between integrated information system and warehouse management practice is a moderate positive relationship according to the correlation value 0.54. Also as per the correlation value 0.58, the association between integrated information system and material handling practice has a moderate positive relationship. The other statistically significant and moderate positive association between integrated information system and the efficiency of the customs clearance process as the correlational value 0.69 indicated.

Moreover, the association between integrated information system and quality of trade and transport related infrastructure according to the correlational value 0.73, has a strong and positive

relationship which is significant. Also the correlational value 0.61 shows that the moderate, positive and significant relationship between integrated information system and ease of arranging competitively priced shipments. The other correlational value 0.10 shows that the weak, positive and significant association between the variables integrated information system and competence and quality of logistics service.

The other strong and positive relationship between integrated information system and the ability to track and trace consignments which is significant according to the correlation value 0.88. The association between integrated information system and timelines of shipments in reaching the destination within the scheduled or expected delivery time as per the correlation value 0.45 is moderate, positive and significant.

The correlational value 0.46 revealed that the moderate and positive which is significant relationship between transport system practice and inventory management.

The other correlational values 0.21, 0.21, 0.31, and 0.38, have been exhibited the weak and positive which are significant relationships between transport system practice and warehouse management practice, material management practice, efficiency of the customs clearance process, quality of trade and transport related infrastructure.

In addition, a moderate, positive and significant relationship between transport system practice and ease of arranging competitively priced shipments according to correlation value 0.47 indicated.

The association between the transport system practice and, competence and quality of logistics service has a weak negative but significant relationship as per the correlation value 0-.08 implied. The other relationship between transport system practice and ability to track and trace consignments has a weak and positive which is significant association as the correlational value 0.19 indicated. Whereas, the correlation value 0.84 showed that the strong, positive and significant relationship between transport system practice and timelines of shipments in reaching the destination within the scheduled or expected delivery time respectively.

The correlation values 0.14 and 0.38 have exhibited that the positive weak and significant relationship between inventory management practice and warehouse management practice and material handling practice respectively. While the correlation values of 0.53, 0.56 and 0.55 indicated that the moderate positive and significant relationship between the inventory management practice and efficiency of the customs clearance process, quality of trade and transport related infrastructure, quality of trade and transport related infrastructure and ease of arranging competitively priced shipments respectively.

On the other hand, the correlation value -0.15 shown that the weak and negative which is significant relationship between the inventory management practice and competence and quality of logistics services. The correlation values 0.185 and 0.25 have showed that the weak, positive and significant relationship between inventory management and ability to track and trace consignments and timelines of shipments in reaching the destination within the scheduled or expected delivery time respectively.

The strong, positive and significant relationship between warehouse management practice and material handling practice has been exhibited according to the correlation value 0.78. Whereas the other correlation values 0.56, 0.51 and 0.58 have been shown the moderate and positive which is significant relationship between warehouse management practice and efficiency of the customs clearance process, quality of trade and transport related infrastructure and ease of arranging competitively priced shipments respectively. As per the correlation values 0.06 implied, the relationship between warehouse management practice and competence and quality of logistics services has a weak and positive which is significant association.

Although, the correlational values 0.46 and 0.25 indicated the weak and positive and also significant relationship between warehouse management practice and ability to track and trace consignments and timelines of shipments in reaching the destination within the scheduled or expected delivery time respectively.

The strong, positive and significant relationship between the material handling practice and the efficiency of the customs clearance process has been exhibited as per the correlational value 0.76. And also the correlational value 0.66 has been indicated the moderate, positive and significant

relationship between material handling practice and quality of trade and transport related infrastructure.

The relationship between material handling management practice and ease of arranging competitively priced shipments has a strong and positive which is significant as per the correlation value 0.77 indicated. While the correlation value 0.06 indicated that the relationship between material handling practice and competence and quality of logistics practices is weak, positive, and significant.

The other correlational values 0.46 and 0.25 have been indicated that the relationship between material handling practice and ability to track and trace consignments and timelines of shipments in reaching the destination within the scheduled or expected delivery time have a moderate, positive, and significant association.

The correlational values 0.89 and 0.82 exhibited that the strong and positive which has also significant relationship between the efficiency of the customs clearance process and quality of trade and transport related infrastructure and ease of arranging competitively priced shipments respectively. Although, the correlation value 0.01 showed that the weak, positive, and significant relationship it has between efficiency of the customs clearance process and competence and quality of logistics service. On the other hand, the moderate, positive, and significant relationship between efficiency of the customs clearance process, ability to track and trace consignments and timelines of shipments in reaching the destination within the scheduled or expected delivery time respectively has been indicated as per the correlation values 0.53 and 0.33 indicated.

According to the correlational value 0.78 implied the strong, positive, and significant relationship between quality of trade and transport related infrastructure and ease of arranging competitively priced shipments.

The correlational value 0.01has been indicated that the weak, positive, and significant relationship between quality of trade and transport related infrastructure and competence and quality of logistics services. The association between quality of trade and transport related infrastructure, ability to track and trace consignments and timelines of shipments in reaching the destination

within the scheduled or expected delivery time is moderate, positive, and statistically significant according to the correlation values 0.58 and 0.39 respectively.

The relationship between ease of arranging competitively priced shipments and competence and quality of logistics services has been indicated as a weak, positive, and statistically significant as per the correlational value 0.07.

The weak, positive, and statistically significant relationship between ease of arranging competitively priced shipments and competence and competence and quality of logistics services has been revealed according to the correlation value 0.1.

The correlation value -.048 shows the relationship between ease of arranging competitively priced shipments and competence and timelines of shipments in reaching the destination within the scheduled or expected delivery time is weak, negative, and statistically significant.

The last correlation value 0.25 indicated that the relationship between the ability to track and trace consignments and timelines of shipments in reaching the destination within the scheduled or expected delivery time is weak, positive, and statistically significant.

4.6 Linearity test

The last correlation value 0.25 indicated that the relationship between the ability to track and trace consignments and timelines of shipments in reaching the destination within the scheduled or expected delivery time is weak, positive, and statistically significant.

According to Chatterjee and Hadi (2012), the model that links the response Y to the predictors X1, X2, X3, and so on is thought to be linear in the regression parameters, according to Chatterjee and Hadi (2012).

The relationship between the independent and dependent variables must be linear, for linear regression to be effective. Because linear regression is sensitive to their impacts reaching for outliers is also essential. Using scatter plots the linearity assumption can be tested. Consequently, the linearity assumption is fulfilled based on the aforementioned argument and the result.

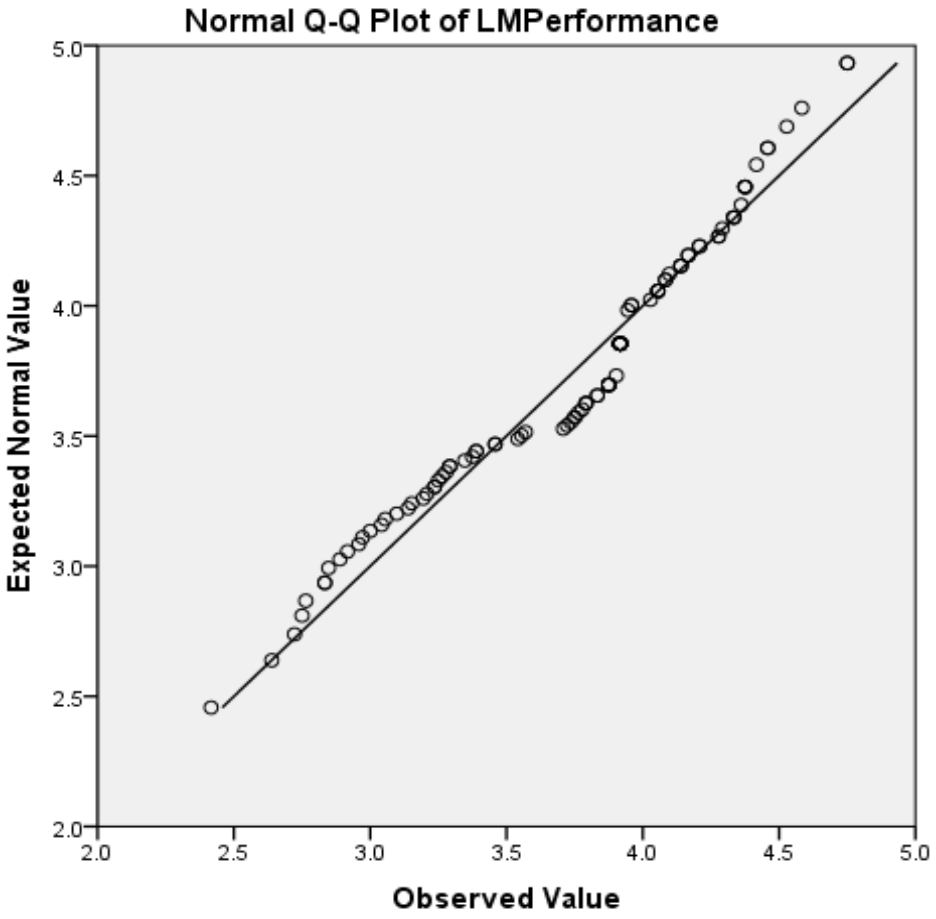

Figure 3.2 Linearity tests

4.7 Heteroscedasticity Test

In a variety of shapes Heteroscedasticity can appear and exists when the line in an evenly spaced fashion do not follow the residuals line. Bowtie or a fan is among the variety of shapes Heteroscedasticity can appear. When the plot of residuals seems to stray significantly from the norm at the same time more rigorous tests for heteroscedasticity should be run; accordingly, the figure below satisfies the homoscedasticity assumption.

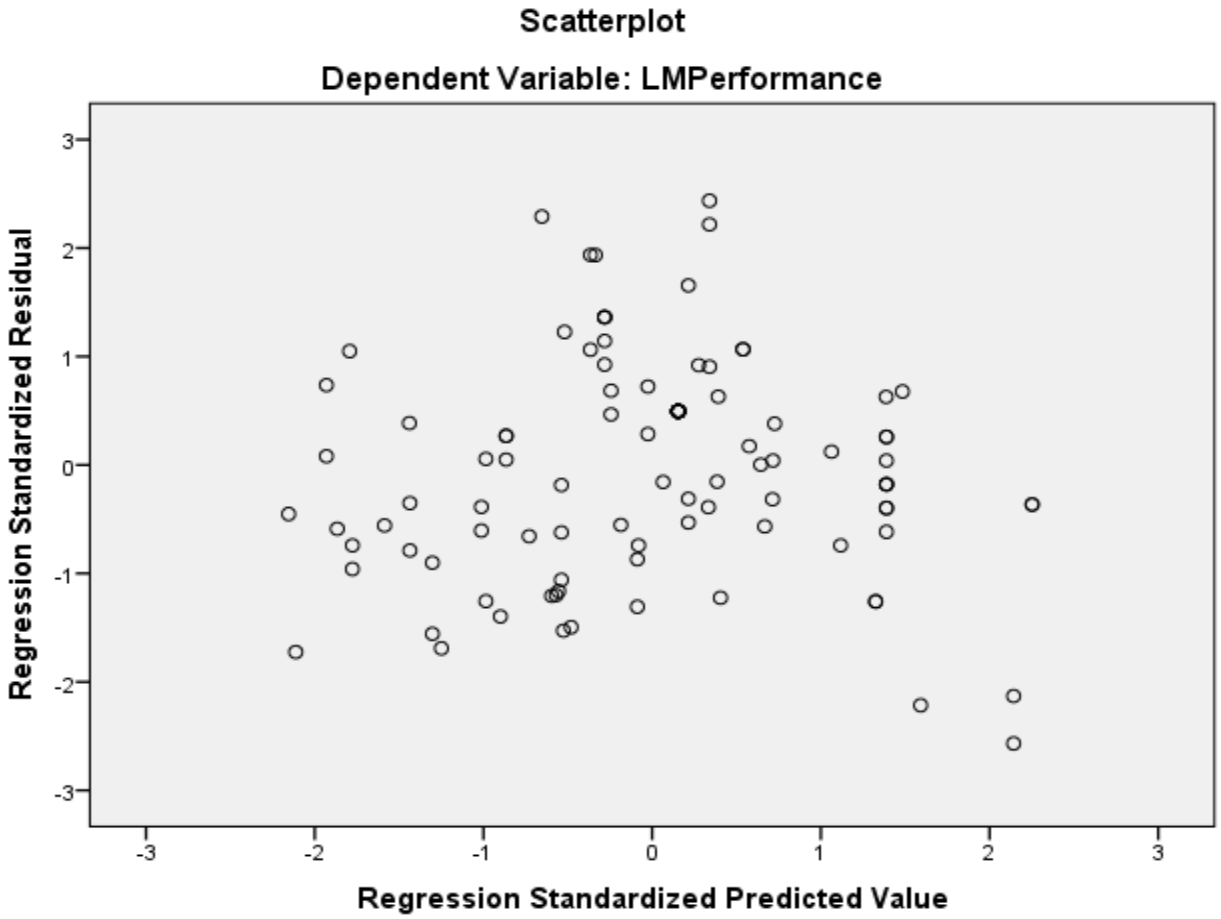

Figure 3.3 Heteroscedasticity tests

4.8 Regression Analysis

In multiple linear regressions to estimate the coefficient of linear equation, the best predictors of one or more independent variables are used.

The following variables of logistics management, practices, challenges and performance namely, Integrated information system, Transportation system practices, Inventory management practices, Warehouse management practices, Material handling practices were compared to the dependent variable (Logistics Management Performance) according to the author of this SPSS analysis. Consequently, how the logistics management practices affect the logistics management performance of logistics and freight forwarding companies in Addis Ababa, Ethiopia.

Table 4.13 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.931a	.867	.861	.19057	1.887

Predictors (Source: Computation from own survey, June 2023)

: (Constant), MHP, TSP, IMP, IIS, WMP, integrated information system, transport system practice, inventory management practice, warehouse management practice and material handling practices

b. **Dependent variable: Logistics Management Performance**

According to the table above, the value of variance in dependent variable (Logistics Management Performance) according to the author that has been conducted this SPSS analysis, the model can measured by the R-Square value in the model summary. In other words, the logistics management performance variance of 86% has been explained by logistics management practices according to the R-square value 0.86 and as a result we can conclude that the logistics management performance of the logistics and freight forwarding companies in Addis Ababa, Ethiopia become increasing by .86 when the logistics management practices rise by one unit.

Table 4.14 Multiple Regression Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.048	.127		8.263	.000		
IIS	.278	.024	.523	11.389	.000	.606	1.650
TSP	.205	.034	.251	6.002	.000	.732	1.366
IMP	.071	.031	.104	2.282	.025	.622	1.609
WMP	-.009	.027	-.021	-.341	.734	.336	2.975
MHP	.209	.039	.355	5.369	.000	.293	3.410
a. Dependent Variable: Logistics Management Performance							

(Source: Computation from own survey, June 2023)

According to the multiple linear regression analysis on the above table indicated variables of the effect of each logistics management practices and their significance. Therefore, the effect of integrated information system, transport system practice, inventory management practice, warehouse management practice and material handling practice on the logistics management performance in the case of the logistics and freight forwarding companies in Addis Ababa, Ethiopia. Whereas, if the significant value of multiple regressions is > 2.045, it is called rejection region and mean that. In this case the sig value of the warehouse management practice 0.73 and as a result the researcher concluded that the warehouse management practice for the logistics management performance is not linearly related and decided to drop off the model.

Moreover, to determine the potency of each predictor standardized Beta coefficient can be used which is independent variable affects the dependent variable.

In the regression coefficient, the average change in the dependent variable is brought by the independent variables. The independent variable with a larger beta coefficient provides more support for the independent variable as its more important determinant in regards of predicting the dependent variable because its more significant predictor of the dependent variable.

As a result of the regression finding indicated, each variable related to the logistics management practices had a unique standardized beta value in which these variables are directly corresponded and affected the logistics management performance.

Therefore, the integrated information system with the beta coefficient value 0.52 is considered as a highest standardized beta coefficient among all five independent variables. It means that is has also a significant impact on the logistics management performance. While material handling practice, transport system practice, inventory management practice and warehouse management practice come in the second, third, fourth and fifth places respectively.

With a lower standardized beta coefficient .355, .251, .104 and -.021 and all are statistically significant with $p<0.05$.

4.3 Qualitative analysis of interview data

The responses provided below represent the respondents' overall viewpoint on the logistics m anagement difficulties facing Ethiopia's logistics sector, and the necessary steps to address th e main issues are indicated in the appropriate places:

1. **In what way does poor infrastructure affect the safety and security of logistics operations?**
   - *"Inadequate road and rail infrastructure can lead to rough and poorly maintained routs, increasing the risk of accidents, vehicle damage, and delays. This poses a direct threat to the safety of goods, drivers, and other road users".*
   - **Actions need to be taken** infrastructure investment by governments and relevant authorities should prioritize investing in the maintenance and expansion of roads.
2. **How do you perceive the impact of lack of technological adaptability on the logistics industry and what actions need to be taken to eliminate the problem?**
   - *"Technology provides real-time tracking and visibility into the supply chain. Without it, logistics companies may struggle to provide accurate and up-to-date information on the status of location of shipments".*
   - **Actions need to be taken** it would be recommended if logistics companies invest robust technology infrastructure, including cloud-based platforms, LOT devices, and data analytics tools. This forms the foundation for implementing advanced technologies.
3. **How does limited visibility affect the overall efficiency and performance of logistics processes in the industry?**
   - *"Limited visibility can lead to a lack of transparency for customers, resulting in poor service experiences".*

- **Actions need to be taken** companies should invest in digital solutions, including transportation management system (TMS), warehouse management system (WMS) and supply chain platforms that enable real-time monitoring, data analysis, and reporting.

4. **How does inefficient inventory management affect customer satisfaction and overall service quality in the logistics industry?**
   - *"May result stock outs, where products are not available when customers place orders which can lead to lost sales and frustrated customers".*
   - **Actions need to be taken** implement Robust Inventory Management Systems, or use modern inventory management system software that can provide real time on inventory levels, demand forecasting and order tracking.
5. **How do global or international regulations impact the logistics industry, and what strategies are used to harmonize compliance across multiple regions or countries?**
   - *"International regulations govern customs processes, tariff classifications, and trade documentation procedures".*
   - **Actions need to be taken:** the logistics industry responds to the impact of global regulations by implementing standardized processes, embarrassing technology, and actively participating in collaborative efforts to harmonize compliance across boarder.
6. **In what ways do customers' expectations do influence the decision-making process of logistics companies, including service offerings and pricing strategies?**

- "*Customers may have unique requirements and may expect logistics services to be customized to meet their specific needs".*

- Actions need to be taken Logistics companies can offer tailored solutions and work closely with clients to understand their individual requirements.

7. **In what ways do unskilled human resources affect customer satisfaction and the overall customer experience in the logistics industry?**
   - *"Unskilled workers may not be efficient in their tasks, leading to longer delivery times and increased costs".*
   - **Actions need to be taken** impalement efficient processes and workflows, and monitor employee performance regularly and provide incentives for productivity improvement.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 INTRODUCTION

The researcher's goal in this study was to find out what factors affect the logistics management performance of a selected logistics and freight forwarding businesses in Addis Ababa, Ethiopia based on the main findings of the preceding section, the researcher has drawn the following conclusions:

5.2 Summary of Major Findings

Respondents predominantly agreed that information integration system has been implemented in freight forwarding companies in Addis Ababa.

Majority of Addis Ababa freight forwarders in this study agreed that goods are transported to the right location timely through the right mode of transportation and fleets are tracked electronically.

According to most of the respondents, inventory management practices exist in the sampled companies in Addis Ababa for instance keeping low cost and their companies uses the right inventory management technique. In a similar manner, respondents also agreed to the items regarding warehouse management practices.

Overall, the material handling practises grand mean score of 3.29 indicates that most respondents felt that using these practises in their businesses significantly lowers costs, minimises damage, and enhances the quality of services provided.

Respondents expressed their agreements to the existence of efficiency of customer clearance process particularly regarding proper documentation, accuracy, and completeness.

Regarding quality of trade & transport related infrastructure respondents agreed that it enables shipment quickly and effectively, reduces transportation and logistics costs.

The majority of respondents agreed, as indicated by the grand mean value of 3.68 for the items regarding the ease of arranging competitively priced shipments, that this ability is essential for

the logistics and freight forwarding industries to lower shipping costs by selecting an economical and effective shipping line.

Competence & quality of logistics services is confirmed by respondents with items like employees' training and development opportunities, offering services at a reasonable cost and so on.

The ability to track and trace consignments is indicated by the items in the above table, and its grand mean value of 3.51 suggests that it is important for improving data exchange with partners and giving real-time visibility into the location and status of consignments.

Freight forwarders in Addis Ababa also agreed that there is timeliness of shipments in reaching the destination within the scheduled expected delivery time.

The researcher used skewness and kurtosis to determine if the collected data was regularly distributed or not, and the results showed that it was. Additionally, the VIF and multi co linearity tolerance were examined, and the results revealed no evidence of multi co linearity. Additionally, this study satisfies the assumptions of linearity and homoscedasticity.

All the independent variables in this study have a relationship with the dependent variable ranging from weak negative relationship to strong positive relationship with values of minimum -0.15 and maximum .882.

The R square revealed that 86.7% of the variation in logistics management performance is explained by the logistics management practices. And all the independent variables have a positive statistical effect on the dependent variable with p value<0.05 except WMP which is insignificant with a value of .734. Finally, IIS has the highest standardized beta implying the highest effect on logistics management performance.

5.3 Conclusion

In this study the researcher has tried to investigate the factors that influences the logistics management performance of some selected logistics and freight forwarding companies in Addis Ababa, Ethiopia; accordingly, the following conclusions have been drown based on the major findings in the previous section.

- **Integrated information system:** due to inefficient use of information technology, most of the logistics companies are facing challenges in coordinating and tracking various aspects of their operations, such as shipments, inventory and inland transportation which leading to increased risk and reduced efficiency.
- **Transportation system practices:** the poor transportation infrastructure has a significant impact and hampering the operations of freight forwarding companies in Ethiopia which causing delays, increasing costs, compromising customer service, and introducing the inefficiencies.
- **Inventory management practices**: the absence of integrated system in most freight forwarding companies makes it difficult to maintain accurate and up-to-date data which is result in inventory discrepancies, inaccurate demand forecasting, and improper resource planning.
- **Warehouse management practices:** the smooth flow of operations in freight forwarding companies in Ethiopia has disrupted due to the shortcomings in this area and cause for increasing operational cost, delays and inaccurate shipments, loss of business opportunities and increase risk of damages.
- **Material handling practice:** a significant impact on the performance of freight forwarding companies in Ethiopia. This includes expenses related to damaged goods, increased labour requirements, longer processing time, increasing safety hazards for workers, and errors in tracking stock levels all those factors were result for loss of productivity, legal liabilities, and harm the reputation of the industry as a whole.

5.4 Recommendations

The study key results, and conclusions drown in the preceding sections serve as the foundation for the recommendations that follows. As a result, the researcher provided some perspective ideas that were carefully considered and in the researcher's opinion, applying such recommendations would help to reduce challenges related to logistics management performance and undoubtedly increase the competitive advantage of freight forwarding companies in Addis Ababa, Ethiopia

- Technology for information and communication is the primary factor in assessing the multimodal transport system’s service quality and dependability. Setting up a complete information communication networks and this would enable the freight forwarding

companies to make reservations, track shipments with ease, or obtaining up to date shipping information without requiring assistance from other partners and consequently the overall effectiveness and efficiency of the industry can be enhanced.

- Several key steps need to be addressed to improve the poor transportations system of Ethiopian logistics industry. Among these, investing in infrastructure development, maintenance of road networks, this includes upgrading existing roads and constricting new ones to improves connectivity between major cities and rural areas, modernizing and upgrading the fleet of used in in land transportation, meet safety standards, establishing and developing logistics hubs strategically located across the country.
- However, the usage of warehouses in Ethiopian freight forwarding industry may vary depending on the company size, specialization, and the nature of the goods being transported and these factors influences whether warehouse utilization is a critical aspect of their operation or not. And according to the study the usage of bounded warehouses in Ethiopian freight forwarding business is insignificant due to lack of availability and quality of infrastructure; costly maintaining of warehouses, shortage of skilled labour, limited scope of operations, customer preferences, and these companies could predominantly focus on coordination and transportation of goods and prioritize their resources to other areas of the business rather than investing in storage and warehousing.

  Consequently, to increase the significance of usage of warehouses in Ethiopian logistics industry several actions can be taken; adopt technological solutions, enhance the warehouse infrastructure to meet the growing demand of the industry, encourage warehouses to adopt international best practices. Overall, a combination of infrastructure development, streamlined processes, skilled workforce, technological adoption, and market promotion can contribute to leveraging the role of warehouses in the Ethiopian freight forwarding industry.
- To mitigate challenges related with material handling practices, its essential for the logistics companies in Ethiopia to invest in training programs for employees, adopt modern material handling equipment, implement proper warehouse layouts, and establish standard operating procedures for material handling practices. Additionally, government support and regulations can play a vital role in promoting best practices and ensuring compliance within the industry.

5.5 Suggestions for future study

The logistics management practices, challenges and performance of selected logistics and freight forwarding companies in Addis Ababa, Ethiopia was examined in this study, and because of the interdisciplinary of the logistics industry, it is not feasible to cover all subject in single research. Therefore, upcoming research on logistics and freight forwarding industry must expand by considering more logistics elements, components, and variables.

This research looked at the effects of integrated information system, transport management system, inventory management system, warehouse management system and material handling management upon the performance of logistics management and logistics management challenges of freight forwarding companies in Addis Ababa, Ethiopia.

And the researchers believe that other major issues that can affect the performance and efficiency of Ethiopian logistics industry need to be studded to improve the overall performance of the sector.

APPENDICES

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT
GRADUATE PROGRAM

QUESTIONNAIRE

Dear Participants,

I am a graduate student of Logistics and Supply Chain Management at Addis Ababa University, School of Commerce. I am currently conducting a research study on the **determinants of logistics performance of selected logistics & freight forwarding companies in Addis Ababa, Ethiopia.**
I have required the fulfilment of a Master's degree in Logistics and Supply Chain management. This research is fully endorsed by Addis Ababa University, School of Commerce.
This study aims to assess factors influencing the performance of logistics management practices: The case of selected logistics & freight forwarding service providers', performance in terms of Efficiency and use of integrated information, Transportation system practices and Related Infrastructure, inventory management practices, warehousing practices, and packing practices.

The findings would benefit all stakeholders of the enterprise including the management, clients, employees, and citizens of the nation in general and the economy of the country. The results from this study would help to identify bottlenecks, problems, and improvement opportunities in the logistic operational performance of the industry.

Your participation will form a critical part of the research. So, your genuine, frank, and timely response is vital for the success of the study. Therefore, I kindly request you to respond to each

item of the question very carefully. The study is purely for academic purposes and thus shall not affect you in any case. Besides, your responses will be treated with the strictest confidence. No reference will be made to any individual and the information will be reported in an aggregate form. A summary of my finding will be provided upon request.

I can be contacted via phone or email at the address listed below. If you have any queries, please do not hesitate to contact me. I thank you in advance for your cooperation and consideration.

Sincerely,

Fitsum Desalegn

Addis Ababa University
School of Commerce
Tel: +251911810998
Email: fitsumdesalegn144@gmail.com

General Instructions:

There is no need of writing your name

Where answer options are available please tick (√) in the appropriate box for part I and tick for your response to each statement of part II.

Thank you for scarifying your precious time in advance!

PART I: Demographic Information

1. **Educational Information**

Grade 10 completed, Grade 12 Completed, Certificate,
College Diploma, First Degree, Second Degree & Above

2. **Job title**

Director, Manager, Supervisor Other ----------

3. **Years stayed at the Company**

Less than 2 Years, 2-5 years, 6-10 years, Over 10 Years

4. **Your department/Work unit**----------

5. Do you evaluate your logistics management practices according to customer response? a. Yes, b. No

If your answer is yes, what are the performance metrics used for measurement

……

3. Is there a Logistics Information System/LIS in your firm? a. Yes, b. No

If your answer is no, which method of communication do you use for customers' communication? You can mark more than one.
a. Calling b. mailing c. Faxing d. Posta

PART II: Major Factors Influencing the Performance of Logistic Management Practices

Indicate your level of agreement concerning factors affecting the performance of logistics management practices, please tick the appropriate number to indicate the extent to which you agree or disagree with each statement. The item scales are five-point rating Scale with **1 =Very poor, 2 =poor, 3 =good, 4 =very good, & 5=Excellent**

1. Integrated Information System

Do you develop and maintain the integration of information systems in your company? a. Yes, b. No
If your answer is yes, please specify what kind of platform you are currently using?
……
……

Please rate the following integration of information practices in your company. Please tick;

1. Never practiced 2. Poorly practiced, 3. Moderately practiced, 4. Well-practiced, 5. Extensively practiced

	Integrated Information System	**Rating**				
		1	**2**	**3**	**4**	**5**
1	Information flow through ICT has used to plan the company's logistics processes.					
2	Logistics management process is monitored using information flow through IT in my company.					
4	In this company, Information flow through ICT practice is used to schedule shipments.					

2. Transportation System Practices

Please rate the following transportation route planning and management practices in your company.

	Transportation System Practices	**Rating**				
		1	**2**	**3**	**4**	**5**
1	Products are made available to the customer desire location through transportation management in my company.					

2	Products and services are delivered using the right mode of transportation in my company.					
3	The transportation management practices enable timely delivery of products and services to customers in my company.					
4	My company uses electronic system to track all products that are transported to customers.					

3. Inventory Management Practices

Please rate the following Inventory planning and management practices in your company.

	Inventory Management Practices	**Rating**				
		1	**2**	**3**	**4**	**5**
1	The inventory management practices keep cost at a minimum cost in my company.					
2	The inventory management practices enable my company to avoid inventory bottleneck in production.					
3	Well-developed replenishment planning has implemented in our company.					
4	My company uses the right inventory management technique (JIT, Kaizen, ABC analysis etc.) to manage it's inventory.					

	Warehouse Management Practice	**Rating**				
		1	**2**	**3**	**4**	**5**
1	This company has bonded warehouse and it reduces its operating cost, fixed cost, overhead cost, stock holding cost and distribution cost.					
2	The implementation of warehouse management practices in this company plays a major role in increasing customer satisfaction.					
3	For perishable products the bonded warehouse of this company uses specific technology of preserving which have high cost.					

	Material Handling Management	**Rating**				
		1	**2**	**3**	**4**	**5**

1	The implementation of material handling has a contribution towards better control of the flow of goods in this company.					
2	Proper material handling system has implemented to lower the unit material handling cost of the company.					
3	Material handling helped this company to improve customer service by making products to be found, moved and easily delivered.					
4	Material handling has practiced in this company and playing a key role to improve quality and reduce damage.					

PART III: The Logistic Management Performance

Please read each statement carefully and show the extent of your agreement with the statements by putting a tick mark (√) in the boxes against each rating scale of choice. Indicate to what extent their effect on your organization. The rating represents your level of agreement as follows:
5=strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=strongly Disagree

	The efficiency of the customs clearance process	**Rating**				
		1	**2**	**3**	**4**	**5**
1	The volume and frequency of goods being imported or exported can affect the efficiency of customs clearance.					
2	The accuracy and completeness of documents affect the efficiency of customs clearance.					
3	Making sure all necessary documentation and information are reduce the time that could take for the customs process.					

	Quality of trade and transport related infrastructure	**Rating**				
		1	**2**	**3**	**4**	**5**
1	A good quality infrastructure enables shipments to move quickly and effectively from their point of origin to the end user.					

2	A high quality of infrastructure reduces transport and logistics costs.					
3	Investing in high-quality transport infrastructures can boost economic growth and improve standard of living.					
4	A good and well-maintained transport infrastructure able to accommodate large volumes of traffic and help minimize congestion.					

	Ease of arranging competitively priced shipments	**Rating**				
		1	**2**	**3**	**4**	**5**
1	The company always compare shipping rates to choose the best one that suits the company's budgets and shipping needs using online platforms.					
2	Our company negotiates with carriers to consider a discount when it is shipping a large volume of goods and frequent shipment.					
3	My company always tries to schedule off-peak periods when shipping rates are low.					
4	Our company consider multiple carriers or doesn't rely on only one carrier to increase the chance finding of affordable and efficient shipping lines.					

	Competence and quality of logistics services	**Rating**				
		1	**2**	**3**	**4**	**5**
1	Our employees are provided continuous training and development opportunities to improve their skills and knowledge for better service delivery.					
2	My company is offering services at a reasonable cost without compromising quality.					
3	Our company is adopting advanced technologies such as real-time tracking and warehouse automation to enhance the					

	accuracy and efficiency of the service provided.					
4	Our company is using modern technologies to improve the efficiency and accuracy of the logistics process.					

Please read each statement carefully and show the extent of your agreement with the statements by putting a tick mark (√) in the boxes against each rating scale of choice. Indicate to what extent their effect on your organization. The rating represents your level of agreement as follows:

5=strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=strongly Disagree

	Ability to track and trace consignments	**Rating**				
		1	**2**	**3**	**4**	**5**
1	The company has using technologies such as Bar-coding which can be scanned at various points in the supply chain, to track and trace consignments.					
2	Using GPS technology to track the location of vehicles and containers and provide rear-time visibility on the status and location of consignments in my company.					
3	Using electric data interchange (EDI) technology enhances the ability to exchange data electronically with clients and partners in this company.					
4	Using cloud-based logistics software can help to track consignments and manage inventory in real-time in our company.					

	Timeline of shipments in reaching the destination within the scheduled or expected delivery time.	**Rating**				
		1	**2**	**3**	**4**	**5**
1	The modes of transportation used such as air, sea or land affects the shipment delivery time.					
2	The efficiency of carriers in handling and delivering shipments affect the time of delivery.					

3	The customs clearance procedure for international shipments may take longer delivery time.					
4	Choosing a reliable carrier to ensure timely delivery is essential.					

Appendix IV – Interview Questions

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT
GRADUATE PROGRAM

Interviewee: _____ Date of Interview: _____ Place: _____

Time of Interview ---------- Duration of Interview: _____

Thank you for your precious time to spend with me regarding a research study — on determinants of logistics performance of selected logistics & freight forwarding companies in Addis Ababa, Ethiopia for the fulfilment of master's degree in Logistics and Supply Chain management. This research is fully endorsed by Addis Ababa University, School of Commerce.

After acquiring detailed information from different governmental organisations such as Ethiopia's Customs Commission and Ministry of Revenue the following logistics and freight forwarding companies in Addis Ababa were chosen based on the level of capital, human resource they have and annual transaction (customs clearance documents handled).

1. Segon-Marill International Movers
2. Panafric Global Logistics
3. Akakas Logistics
4. Africa Global Logistics
5. Massida Logistics
6. Packtra Logistics

As a result, a logistics and freight forwarding senior professionals who are employees in the logistics companies listed above were interviewed about the challenges of managing logistics performance in Ethiopia logistics industry.

1. In what way does poor infrastructure affect the safety and security of logistics operations?

   ……

   ……....

2. How do you perceive the impact of lack of technological adaptability on the logistics industry and what actions need to be taken to eliminate the problem?

   ……

   ……

3. How does limited visibility affect the overall efficiency and performance of logistics processes in the industry?

   ……

   ……

4. How does inefficient inventory management affect customer satisfaction and overall service quality in the logistics industry?

   ……

   ……

5. How do global or international regulations impact the logistics industry, and what strategies are used to harmonize compliance across multiple regions or countries?

   ……

   ……

6. In what ways do customers' expectations influence the decision-making process of logistics companies, including service offerings and pricing strategies?

   ……

   ……

7. In what ways do unskilled human resources affect customer satisfaction and the overall customer experience in the logistics industry?

   ……

   ……

Thank you!

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3.6 Time and Budget Schedule

3.6.1 Time Schedule

No	Activity	Duration of Months						
		January	February	March	April	May	June	July
1	Finalizing the research proposal							
2	Finalizing the review of related literature							
3	Development of research instrument							
4	Data collection							
5	Data analysis							
6	Research report writing							
7	Submission of report							

3.6.2 Budget Schedule

No	Activity	Unit of Measure	Unit Cost/Rate	Total Cost (in Birr)
1	Stationary materials secretarial service	Pcs/Packages	Overall	10,000.00

2	SPSS application training			7,000.00
3	Advisor fee		Overall	18,240.00
4	Sub-total			35,000.00
5	Contingency (10%)			3,500.00
	Grand Total			**38,740.00**