



**Factors Affecting Logistics Performance of ESL: The Case of Kality
Port and Terminal**

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Letter of Certification

This is to confirm that Abiy Mulugeta completed his thesis work on the topic "*Factors Affecting Logistics Performance of ESL: The Case of Kality Port and Terminal*" under my supervision and assistance. As a result, I hereby certify that his work is appropriate and of sufficient quality to be considered for the award of a Master of Arts degree in Logistics and Supply Chain Management.

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DECLARATION

I, Abiy Mulugeta, hereby declare that the thesis titled "*Factors Affecting Logistics Performance of ESL: The Case of Kality Port and Terminal*" which I submitted for the award of the degree of Master of Art, School of Commerce, Addis Ababa University, is my original work and has never been presented at any university. All sources and materials utilized in this thesis have been properly acknowledged.

Abiy Mulugeta

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Date _____

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Abstract

The goal of this study was to evaluate the factors that affect the logistics performance of ESL in the case of Kality port and terminal. The study objectively analyzed the important areas aimed at influencing logistics performance. To capitalize on the advantages of qualitative and quantitative methodologies mixed-methods research approach was used. The sample size was determined to be 83 using the Taro Yamane sample size determination algorithm, but only 80 were able to be collected and used for data processing. The data were filled in using a five-point Likert scale, and Cronbach's alpha was used to assess the measuring scale's reliability. Customs clearing and freight forwarding agents at KPT were given a closed-ended questionnaire. SPSS version 26 was used to analyze the gathered data. The Pearson correlation matrix is used to cross-check the relationship between independent and dependent variables. Multiple linear regression models were used to predict logistics performance from the characteristics that influence logistics performance. According to the findings, the independent variables explained 76.4% of logistical performance.

The study's findings also revealed that KPT's overall performance level was low, and that political, managerial commitment, economic, employee-related issues, and technology elements are predictors of logistics performance effectiveness. The investigation found that there is a positive and statistically significant association between logistics performance parameters and logistics performance. Finally, those variables that affect logistics performance should be seriously studied and addressed for those within the branch office's control, while communication with stakeholders and relevant government entities is required for those beyond control.

Key Words: Logistics, Dry Port, Logistics Performance

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List of Acronym

3PL Third Party Logistics

4PL Forth Party Logistics

EMA Ethiopian Maritime Authority

ESL Ethiopian Shipping and Logistics

NLS National Logistics Strategy

GDP Gross Domestic Product

KPT Kality Port and Terminal

LLDC Land Locked Developing Countries

LPI Logistics Performance Index

MTO Multimodal Transport Operator

OECD Organization for Economic Co-operation and Development

SPSS – Statistical Package for Social Science

UNCTAD United Nations Conference on Trade and Development

UN-OHRLLS the United Nations Office of the High Representative for the Least Developed Countries,

VPA Vienna Program of Action

WWII World War Two

Chapter One

1. Introduction

The primary purpose of this section is to present a general description of the research, a background of the study, a statement of the problem, the research queries, the research objective, the importance of the research, the constraints of the study, definitions of terms, and a brief summary of the structure.

1.1. Background of the study

Ethiopia is an Eastern African landlocked country bordered by Sudan, Eritrea, Djibouti, Somalia, and Kenya. Because it increases a country's import and export capacities, trade and logistics efficiency is vital for attracting foreign direct investment. Ethiopian logistics practice is notable for its underdevelopment. (Fekadu, 2013)

Furthermore, logistic operations have a substantial impact on the country's foreign trade and are becoming a driving force in the country's economic growth and development (Erkan, 2014). In these circumstances, governments' efforts to gain a competitive edge have increased the importance of logistical activities. Effective logistics operations in international commerce contribute not only to increased supply chain dependability, but also to the development of trade relations between nations and their capacity to compete worldwide. (Rashidi and Cullinane 2019)

However, inadequate logistics services can harm a country's international trade balance and disrupt the activity of all sectors of the economy. Companies and governments may face greater operating expenses and disrupted supply chain relationships as a result of this. (Marti et al. 2014)

Countries could use the logistics performance index (LPI) to assess their performance while setting goals for the logistics industry. According to the World Bank's Logistics Performance Index (LPI) annual report (2018), Ethiopia was placed 131 out of 167 nations, with all scores falling below the Sub-Saharan Africa region. According to a recent World Bank research, Ethiopia's main logistical obstacles are connected to difficult border clearance and inland transit.

For example, inspections are frequent and particularly prone to rent seeking, which is handled by many agencies, resulting in delays.

The LLDCs are 32 nations spread over Africa, Asia, Europe, and Latin America. Dependence on transportation infrastructure, in addition to the location and features of their economies, is influenced to some extent by the role of foreign commerce in the national economy. They also face the problems of relying on the infrastructure of their transit neighbors, as well as the challenges of peace and stability, policies and administrative procedures, and cross-border political interactions. Many transiting poor nations are also suffering from infrastructural inadequacies that must be rectified. Overall, landlockedness affects not just economic growth through commerce, but also both economic and noneconomic components of development, such as human development, governance quality, and the environment. UN-OHRLLS (2018)

As a landlocked country, Ethiopia is dependent on seaports of other countries for its export and import. Although, due to the existing circumstance the country is depending mainly on port Djibouti. The cost of freight transport is an important factor in the competitiveness of a country's economy with high transport costs, large economies of scale will remain unexploited, and production will therefore be inefficient (Debela, 2013)

There is also a lack of collaboration among concerned stakeholders to expedite (accelerate) the import and export shipment processes, and the lengthy nature of paper-intensive processes causes the logistics sector to fall short of expectations.

Therefore the World Bank LPI helped to initiate numerous policy reforms and development of strategies by providing relevant information for policymakers, private executives and any other stakeholders about the abilities of countries to manage logistics operations in the global business environment. According to (WB) report, Ethiopia's status in LPI has been compared with the world's top performer country i.e. Germany and landlocked countries with poor logistics performance and thus Ethiopia is one of the lowest performing countries in trade logistics i.e., 126th out of 160 countries in LPI rank (World Bank 2016 LPI).

While the logistics performance of many countries has shown improvement, Ethiopia's performance has deteriorated on the contrast. Ethiopia's logistics performance relative to competing and peer group of countries in light manufacturing is not only the lowest, but it is far

behind. Based on 2012–2018 aggregated LPI rank, Ethiopia’s position has declined from 126th to 131th. FDRE NLS (2018-2028).

Kality Port and Terminal were established in 2014. The port is located in Addis Ababa Kality Sub City. The port covers a total area of 37 hectares, with 3 hectares dedicated to container terminal services. The port can accommodate 1241 TEU containers at a time, and its annual container handling capacity exceeds 23,131 TEU. (ESLSE Website). Its primary function is to provide, receive, and deliver cargoes; load and unload container goods; stuff and unstuff container goods; temporary storage for import and export cargoes; Weigh Bridge; customs control and clearance; banking and insurance; and container depot service. The efficient and successful performance of dry ports is critical to the success and value of the dry port that ESL manages. Many variables impact the efficiency with which services are delivered at Kality dry ports. Therefore, this research paper attempts to assess the factors that affect the logistics performance of KPT.

1.2. Statement of the Problem

Landlocked emerging economies have major commercial, transportation, and social growth constraints. Landlocked Ethiopia looks to be at a competitive and efficient commodities transportation disadvantage, with no direct access to the sea and port charges at the monopolistic Djibouti port. Ethiopia, being a landlocked emerging country, confronts a variety of issues. High transit transportation costs, limits in technical and technological capabilities, imported inflation, limited investable resources, and inadequate mobilization of domestic financial resources to finance the large investment necessary for fast development (Fikadu, 2013).

The nation poor logistics increased costs for local businesses and hinder the country’s competitiveness in the international market (IMF, 2014). IMF report asserts that inefficient logistics not only limit Ethiopia's export capabilities, but also raise consumer prices for imported cargos. Improving trade logistics is thus critical for making Ethiopia's export sector more competitive globally.

However, dry ports may be a remedy to this challenge because they facilitate country's global trade with the rest of the continents. With a dry port, cargo being transported to a landlocked country would instead be transported directly to the country's dry port, where customs clearance would take place, rather than undertaking customs processes at the sea port. As a result, competent dry ports could help decrease transportation costs and improve customer satisfaction.

The World Bank Logistics Performance Index (LPI), 2018, is an overall LPI score that gauges a country's logistics performance based on the efficiency of customs clearance process, the quality of trade and transportation infrastructure, the simplicity of organizing competitively priced shipments, the quality of logistics services, the capacity to track and trace consignments, and the regularity with which shipments arrive at the destination on time. According to the World Bank's 2018 Logistics Performance Index assessment, Ethiopia's trade logistics are fundamentally inadequate and need to be improved across all six major parameters.

Therefore, a full-fledged infrastructure, quality logistics service and network system might support the KPT for smooth flow of information that links users, custom and terminal yard activities; service that the KPT provides would support to decrease transit cost which enable the country to save significant annually incremental amount of hard currency as a result of unnecessary demurrage of containers in Djibouti port.

However, customers of KPT have expressed complaints about the efficiency and effectiveness of the dry port, saying that it affects their competitiveness in the global trade.

Some of the complaints include poor trade logistics, reduced free time for imported cargo, and shortage of empty containers for export goods and enough storage facilities.

Moreover, customs clearance process delays were also one of the issues affecting their performance. (Hiwot, 2016)

Physical observations at the dry port revealed poor service quality, a time-consuming customs clearance process, a lack of up-to-date cargo status information, limited size of the port, port machinery and equipment that is inefficient for container loading and unloading, system interruption and poor network communication, shortage of warehouse storage space and congestion as well as inadequate single window service.

Those above are some major complaints at KPT, and it is thus paramount to investigate the factors affecting logistics performance of ESL based on key performance indicators. In this regard, research will be carried out and it is vital to examine the performance of the dry port.

1.3. Research Questions

The study addressed the following research questions:

1. What is the logistics performance of KPT in terms of the customs clearance process, port infrastructure, quality of logistics service, port machinery, and port size?
2. What are the factors affecting the logistics performance of KPT?

1.4. Objective of the study

1.4.1. General Objective

The study's overarching goal would be to assess the factors that affect the logistics performance of ESL in the case of KPT.

1.4.2. Specific Objective

This study contain the following specific objectives

1. To evaluate logistics performance of KPT in terms of the customs clearance process, port infrastructure, quality of logistics service, port machinery, and port size.
2. To identify factors affecting the logistics performance of KPT.

1.5. Significance of the Study

This study is beneficial to a variety of audiences. First, it will assist the researcher in gaining practical knowledge of the overall logistics performance of the Kality port and terminal facility and the factors that affect it.

Second, the research is perhaps critical for EMA and ESL to evaluate the key logistics performance indicators and take appropriate corrective action.

More importantly, the study will benefit academicians and researchers by adding to the current literature as a valuable reference source in the area of logistics management.

1.6. Scope of the Study

ESL's headquarters is located in Addis Ababa, Ethiopia, with main branches in Djibouti, Modjo, and Kality, as well as further locations in Mekelle, DireDawa, Kombolcha, Semera, Gelan Woreta, and the customer's bonded warehouse for both passenger vehicles and containers..

Because ESL is too large to examine all branch office logistics performance, the researcher focused on the Kality Port and Terminal branch.

The study would also focus on the major dry port logistics performance indicators and the factors that affect them.

1.7. Limitation of the Study

It is acknowledged that this research will have some limitations. The major limitations of this study were: first, the research concentrated on elements that influence the logistics performance of KPT, so the results cannot be generalized to the overall logistics operation performance of ESL. Second, the research would be restricted by the available time and budget; it was restricted to focusing on single branch. Furthermore, respondents might be hesitant (uncertain) to respond on time, and the return of the questionnaire could be the source of a problem.

1.8. Definition of terms

Logistics is the process of planning, implementing, and controlling the efficient, effective forward and reverse movement and storage of goods, services, and associated information between the point of origin and the site of consumption in order to fulfill the needs of consumers. Council of Logistics Management (1991)

A dry port is one that is located near the water. It is located further inland and is linked to a seaport through a paved road or railway. Dry ports are terminals where cargo from ships is transshipped. (<https://digitalsupplychaintoday.com>)

Logistics Performance Index is an interactive benchmarking tool designed to assist nations in identifying the difficulties and opportunities in their trade logistics performance, as well as what they can do to improve it. World Bank (2020)

1.9. Organization of the Research Report

This research would be divided in to five sections. The first chapter provides the study's background, problem statement, fundamental research questions, purpose of the investigation, importance of the study, scope of the study, constraints of the study, and definitions terms.

The next chapter contains a survey of related literature, including a theoretical and empirical literature review as well as a conceptual framework.

The methodology of the study is described in the third chapter, which includes a description of the study area, research strategy, research design, population and sampling technique, data source and type, data collecting procedure, ethical consideration, and data analysis method. The fourth chapter examines and discusses the results. Finally, in the fifth chapter, the study's summary, concluding remarks, and suggestions are discussed.

Chapter Two

2. Related Literature Review

This section of the research would cover key conceptual concerns, an empirical review connected to the study's topic, and a conceptual framework. It includes terminology and concepts such as logistics management, logistics performance, and factors affecting logistics performance, as well as dry port, by concentrating on earlier studies in this field and evaluating relevant literature for this study.

2.1. Historical Development of Logistics

The term "logistics" is said to have originated with the military forces, which use the term to cover all duties linked to troop support. However, the beginnings of logistics may be traced back far further (DHL 2008). For almost 5,000 years, logistics has played a critical role in world development. Logistics has advanced significantly since the construction of the pyramids in ancient Egypt. Brilliant logistics solutions have often served as the foundation for the shift to a new historical and economic sector. During the twentieth century, examples of fundamental advancement include the invention of the sea-cargo container and the development of new service systems. Both are essential components of today's globalization. (DHL 2008)

Logistics evolved dramatically during WWII (1939-1945). The army logistics of the United States and its counterparts demonstrated that they could accomplish more than the German army could. The supply locations for German military forces were severely damaged, and Germany was unable to unleash the same misery on its adversary. The US military guaranteed that services and supplies were delivered at the appropriate time and location. It also attempted to supply these services whenever and wherever they were needed in the most efficient and cost-effective manner possible.

The worldwide logistics business has grown significantly over the last decade, with the main driver being the introduction of third-party logistics (3PL) and fourth-party logistics (4PL) firms, who are likely to play a substantially larger role in the coming years. The global logistics business is characterized by high operational expenses, poor margins, a talent scarcity, and

infrastructure constraints, as well as increased customer demand for one-stop solutions to all of their demands and investments in cutting-edge technology. All of these reasons contribute to lower margins in this market and hasten the process of industry consolidation through acquisitions, mergers, and partnerships. (NSDC 2010)

2.2. Definition of Logistics and Logistics Management

The management of all operations that permit mobility and the coordination of supply and demand in the establishment of time and place utility is referred to as logistics. Heskett, Glaskowsky and Ivie, (1973)

Logistics is the process of coordinating the acquisition, storage, and transportation of resources. The term logistics was originally used to describe the military transportation of supplies and equipment to troops, but it has now become synonymous with the global supply chain.

Logistics management is defined by the Council of Supply Chain Management Professionals (CSCMP) in the United States as the part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet the needs of customers.

Logistics management tasks generally involve inbound and outgoing transportation management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply and demand forecasting, and administration of third-party logistics (3PL) service providers. To varied degrees, the logistics role also encompasses sourcing and procurement, manufacturing planning and scheduling, packaging and assembly, and customer support.

2.3. The Dry Port Concept

The dry port notion grew in favor alongside containerization. Creating a dry port can help to relieve congestion at marine ports while simultaneously improving port capacity. Congestion, pollution, and longer dwell time for containers have resulted from the ever-increasing container flow. One possibility for alleviating the sea ports is to outsource the major activity to dry ports.

Furthermore, the existence of a dry port is critical for landlocked nations that depend entirely on the neighboring coastal country for sea access. The majority of landlocked countries rely on one or two overland routes via "transit neighbors," which are neighboring countries that have agreed to grant access to convey their foreign goods to and from the sea. (Arvis et.al, 2011)

The LLDCs are 32 nations spread over Africa, Asia, Europe, and Latin America. In addition to the location and features of their economy, the prominence of foreign commerce in the national economy influences their reliance on transportation infrastructure. (UN-OHRLLS, 2018)

According to UNCTAD (2013), due to its flexibility and speed, road transport first dominated inland container transport in the developed countries. It was said that the availability of high-quality road infrastructure was the fundamental cause for industrialized countries' prosperity. Poor road condition, on the other hand, is typically a big disadvantage in poorer nations. The availability of adequate road condition and cars is required for container transportation by road.

The railway system now dominates the mode of transportation for products being transported from marine ports to dry ports. Rail transport is favored because it creates less pollutant, is more ecologically friendly, decreases traffic congestion, and is more cost efficient for longer transportation distances.

2.4. Dry Port

An early definition of a dry port which appeared in a United Nations text in 1982 was: "An inland terminal to which shipping companies issue their own import bill of lading for import cargoes assuming full responsibility of costs and conditions and from which shipping companies issue their own bill of lading for export cargoes."

A dry port might be an inland terminal inside a nation with a gateway port, or it could be in the hinterland of one or more sea ports in neighboring landlocked countries. The phrase was popularized in combination with containerization, and it is in this sense that it is used here.

Recently a dry port was defined as: "A common user facility with public authority status, equipped with fixed installation and offering services for handling and temporary storage of any kind of goods (including containers) carried under custom transit by any applicable mode of transport, placed under customs control and with customs and other agencies competent to clear

goods for home use, warehousing, temporary admissions, re-export, temporary storage for onward transit and outright export. UNCTAD (1991)

2.4.1. The Potential Advantages of Dry Port

UNCTAD (1991) summarizes the benefits of dry ports as follows:

Increased trade flows: beneficial to a region or to the country as a whole.

Lower door-to-door freight rates: the consolidation of consignments and the greater use of containerization can contribute significantly to the introduction of lower through-rates. Containerization offers numerous advantages.

Avoidance of clearing and forwarding agents' fees at sea ports: These fees may be completely avoided where a dry port allows the use of combined transport bills of lading or multi-modal transport documents. This is so when such documents are issued by a shipping line because the shipping line takes responsibility for the passage of goods through the maritime port.

Avoidance of storage, demurrage and late documentation fees: With a dry port and combined transport bills of lading, customs inspection at the maritime ports and at the borders of transit countries should be unnecessary or at least greatly minimized and many of the usual causes of delay at maritime ports will be removed. Storage costs, demurrage and late documentation fees will thus not occur.

Better utilization of capacity: A dry port can reduce empty rail wagon or truck movements by acting as a consolidation center for return loads of export cargo. The consignment increase in load factor may enable some savings to be made in overall transport costs.

Lower customs staff costs: As dry ports allow customs clearance to be concentrated at a few sites, it may be possible to affect the same volume of clearance with reduced customs involvement, especially where a dry port is accessed by two or more gateway ports.

Benefits to sea ports: apart from lowering congestion, the establishment of dry ports also results in reduced handling of goods at related maritime ports.

There is a reduction in demand for storage space owing to faster onward transit, saving in both capital costs of providing handling equipment and warehousing as well as in equipment

maintenance costs. With greater containerization of transit cargos, maritime ports also gain the advantage of higher berth throughputs, thus reducing the cost per unit of cargo handled.

Improved communications: Simple, rapid transfer of documentation and information, fundamental to efficient cargo transit, may be achieved by linking the introduction of computerized freight tracking or customs clearance to the provision of a dry port.

2.5. Role of Logistics

Logistics is becoming increasingly important in terms of value creation, revenue growth, capital consumption, and expense management. As a result, logistics financial performance is becoming more important in terms of corporate financial performance. Logistics financial performance is becoming increasingly important in measuring and improving corporate financial performance. Frazelle, (2002)

Logistics is important from both a micro and macro perspective. From a micro perspective, logistics service can meet customer expectations by providing excellent logistics services, and from a macro perspective, it drives a country's economic development. Worldwide, logistics began in the early nineteenth century with the distribution of farm products (Lambert, Stock, & Ellram, 1998) and continues to evolve to this day.

Logistics could also improve business performance by utilizing flexibility and advanced technology, resulting in organizational success. Logistics is becoming an increasingly important factor in everyday business activities and a major source of market differentiation as referred by Bowersox et al. (2003). In today's competitive environment, there is strong pressure to differentiate products and services while also operating on the price factor, allowing for price reductions. As Melnyk et al. (2009) mention, logistics can manage these aspects, constituting a strategic or value-creation tool.

2.6. Logistics Performance

LP is defined as 'analysis of both effectiveness and efficiency in accomplishing a given task' (Mentzer & Konrad, 1991). Other scholar refers LP as a metric used to quantify the efficiency and or effectiveness of an action (Neely, Gregory, & Platts, 2005). This topic continues and LP has been seen as multi-dimensional and is defined as the degree of efficiency, effectiveness and

differentiation associated with the accomplishment of activities (adapted from Fugate, Mentzer, & Stank, 2010). LP plays a vital role in achieving the organizational goals. The evaluation is based on how well goal is met (Mentzer & Konrad, 1991)

2.6.1 Logistics Performance Reports of Landlocked Countries

According to the UN-OHRLLS, Ethiopia's transit transport system has been observed in terms of the development of roads, logistics facilities, and other related infrastructures, as well as the establishment of bilateral agreements with coastal neighbors on port utilization, over a 10-year period (known as VPA). While the government has made subsequent efforts, the evaluation report shows that there is still a significant gap between the expected and actual results mentioned by FDRE NLS, (2018-2028).

2.7 External Environmental Factor

2.7.1 Political Environmental Factors

Any national or international political considerations that can positively or negatively affect the functioning of LSPs are referred to as the political environment (Wanjiru, 2013). It involves government subsidies for national carriers, security measures, migration boundaries, and so on. (Gerry Johnson, et al., 2008). Political imperatives are focused on logistics service providers through duty modifications, the lowest pay allowed by law passage, contamination techniques, and various actions aimed at protecting workers, clients, the general public, and nature.

Nonetheless, some policy steps are being proposed to provide benefits and preserve the logistics business. In Ethiopia, political influences such as legislation, tax increases, foreign trade agreements, political system stability, and others have an impact on logistics performance.

2.7.2 Economic Environmental Factors

The overall economic climate, trade rates, inflation rate, labor unemployment rate, interest rates, pace of economic development, per capita domestic product, and trade deficit or surplus are all economic factors. Gamble (2014) is cited in (Lienīte Litavniece and Daina Znotina, 2016).

Economic factors aid logistics service companies in making strategic decisions. It is critical for service providers to understand financial features and indicators and to use the information to aid in marketing decision-making and planning. For example, if interest rates fluctuate, it is possible that logistics service providers will be involved in cost-cutting measures.

2.7.3 Technological Environmental Factors

Technological forces are defined as the rate of scientific development and the fastest expansion of technology, which have the ability to have far-reaching consequences on society (Gamble, 2014) cited in (Litavniece L. and ZnotinaD, 2015). In Ethiopia, logistics service providers lack access to new technologies, limiting performance innovation and logistics companies' competitiveness. Some logistics service companies are no longer competitive or able to meet the expectations of their customers due to technological factors. However, logistics service providers must acknowledge the necessity for technological development and the need to adapt in order to maintain a competitive advantage.

To suit customer requirements and needs, decisions must be made to better alter or develop new technology processes. IT has been highlighted as a major role in innovation and competitiveness of logistics service providers. The full potential of IT will be realized if labor force is trained with the necessary skills and has access to high-tech infrastructure.

2.8 Internal Factor

2.8.1 Management Commitment

Robbins, DeCenzo and Coulter (2015) defined leader is someone who can influence others and who has managerial authority. Leadership is what leaders do. It's a process of leading a group and influencing that group to achieve its goals. More firms are using work groups; therefore, the role of the leader in guiding group members has become increasingly important. The role of group leader is found to be different as compared to the traditional leadership role, as discovered by J. D. Bryant, a supervisor at Texas Instruments' Forest Lane plant in Dallas. Many leaders are not equipped to handle the change to employee groups.

The challenge for many managers is learning how to become an effective group leader. They have International Journal of Academic Research in Business to learn skills such as patiently listening and sharing information, being able to trust others and to give up authority and understanding when to intervene. An effective group leader has mastered the difficult balancing act of knowing when to leave their groups alone and when to get involved. New group leaders may try to retain too much control at a time when group members need more autonomy, or they may be abandon their groups at times when the groups need support and help. Daily, B.F. and Huang, S. (2001) stated that senior manager's support can affect the success of green practices by human resource management actions such as compensations, education and improved communication.

2.9 Logistics Performance Index

The LPI is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. The LPI 2018 allows for comparisons across 160 countries. Germany and Sweden are the most efficient and highest ranked LPI countries as per the 2018 LPI.

The Logistics Performance Index was reported by the World Bank every two years from 2010 to 2018. As of 2022 no new data has been published. The LPI is based on a worldwide survey of stakeholders on the ground providing feedback on the logistics "friendliness" of the countries in which they operate and those with which they trade. They combine in-depth knowledge of the

countries in which they operate with informed qualitative assessments of other countries where they trade and have experience of global logistics environment. (<https://lpi.worldbank.org>)

According to the OECD (2015), the World Bank's LPI is an international benchmarking tool that focuses specifically on measuring a country's trade and transportation facilitation friendliness and assisting them in identifying key barriers to and opportunities for improvement.

The LPI summarizes a country's performance across six dimensions that capture the most important aspects of the logistics environment, such as 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, and frequency with which shipments reach the consignee within the scheduled or expected time (Arvis, et al.2014).

2.9.1 Custom Clearance

The LPI's customs clearance component assesses the effectiveness and efficiency of customs dispatch procedures in terms of **speed, simplicity, and predictability**. Improving customs clearance performance is linked to the overall trade policy environment. Although the objectives, implementation capacities, and resource availability vary greatly across countries, policies aimed at improving customs performance generally cover the following topics: efficient risk management, optimal use of information and communications technology, effective partnership with the private sector, including compliance programs, increased cooperation with other border control agencies, and transparency through information on laws, regulations, and administrative procedures. International Transport Forum, (2015)

2.9.2 Infrastructure

This sub-dimension assesses a country's transportation and telecommunications infrastructure. Infrastructure development is critical for ensuring basic connectivity and gateway access. A low overall LPI performance is frequently caused by low infrastructure scores. Poor transportation and communications infrastructure isolates countries, preventing them from participating in global production networks.

The LPI's infrastructure dimension includes both physical and telecommunications infrastructure. However, perceived differences in infrastructure quality are strongly related to the quality of roads and maritime facilities, the two major modes of freight transport. There is a strong positive relationship between a country's LPI score and the quality of its freight transport infrastructure, particularly its port and road infrastructure. (Celebi, et al., 2014)

2.9.3 Ease of arranging competitively priced shipment

This dimension estimates the country's performance in arranging competitively priced shipments. The availability of competitively arranged shipments is an important factor in sourcing decisions, which affects national competitiveness.

Shipping costs – i.e. the LPI's indicator relating to the ease of arranging competitively priced shipments – is often the weakest LPI component of top performers and tends to lower overall LPI scores in high income countries. This may be related to macroeconomic factors, which generally make services more expensive and can make it hard to arrange low-priced shipments (Arvis, et al., 2014).

2.9.4 Competence and quality of logistics services

The LPI indicator for logistics service competence and quality measures the overall competence of logistics services provided by parties within the logistics system. To achieve logistics excellence, you must constantly improve your dependability, responsiveness, and support services. The private sector is primarily responsible for dedicated investments in logistics operations as well as the adoption of continuous monitoring and recognized quality standards.

The quality of logistics services is critical in facilitating international trade in goods transportation. According to the LPI findings, the quality of services indicator drives logistics performance in both emerging and developed economies. (Arvis, et al., 2014)

2.9.5 Ability to track and trace consignments

Because all parties in the supply chain contribute to traceability, it is a product of the logistics industry as a whole. Because improved tracking and tracing benefits the majority of stakeholders, it can be considered one of the priority areas for future investments in trade logistics. Korinek, J. & Sourdin, P., (2009)

The advancement of information and communication technologies (ICT) provides a convenient method of improving LPI tracking and traceability performance by enabling cost-effective global information gathering, organization, and distribution. This includes product, service, and trade regulations information. Several companies use the Internet as an exchange mechanism with their partners to plan the supply chain. Major freight transport service providers provide information on their services, schedules and rates that can be easily accessed by their clients.

However, adequate traceability of shipments remains a major issue in the majority of developing countries. This is due in part to a lack of knowledge about how to manage new technology and adjust logistics procedures. Though it is obvious that information sharing benefits the entire supply chain, many businesses begin by optimizing their internal processes before focusing on their external relationships. OECD, (2002)

2.9.6 Timeliness

The reliability of shipment delivery times is measured by the timeliness of shipments in reaching their destination. The nature of the product, planning and supply chain management, logistics services, and distance to customers and suppliers all influence delivery times. Long lead times are not an issue if delivery is predictable and demand is consistent. Long lead times, on the other hand, are costly if there is uncertainty about future demand, even if the customer knows exactly when the merchandise will arrive. It has been estimated that a 1% reduction in exporter's processing time could increase bilateral trade by 0.4%, while a 1% reduction in the variability of shipping times could be associated with a 0.2% increase in bilateral trade (Hummels, 2001).

In addition, the impact of an extra day spent getting across borders has a significantly greater negative impact on trade flows compared with an extra day spent at sea delivering a container of

goods Korinek, J. & Sourdin, P., (2009). These results indicate that the time spent at the border and the cost of getting containers across borders has a strong impact on trade.

2.10 Size of Dry Port

A lot of study publications believe the size of seaports to be another aspect that effects their performance Gujar, C. (2011); Nyema, 2014), because land area defines a seaport's overall storage capacity. It is especially critical during peak season. As a result, the size of a dry port is one of the elements considered while evaluating its performance.

2.11 Cargo Handling Equipment

Dry ports, like seaports, use container handling equipment such as rubber-tired gantry cranes, mobile cranes, top handlers, side handlers, reach stackers, forklifts, and so on. Container handling equipment is commonly regarded as the primary machine for both dry and seaports, and it has a significant impact on both container handling capabilities and, as a result, dry port performance Gujar, C. (2011)

2.12 Basic Concept of Multimodal Transport System

The United Nations Conference on Trade and Development (UNCTAD) (1980) established multimodal transportation systems. The most authoritative definition of the term "international multimodal transport" is found in article 1 (1) of the United Nations Convention on International Multimodal Transport of Goods 1980 (hereinafter referred to as the MT Convention), which states that "International multimodal transport" means the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods are taken in charge by the multimodal transport operator to a place designated for delivery situated in a different country..." UNCTAD (2001)

2.12.1 International and Local regulation of Multimodal Transport

In the 1960s, the advent of new transportation techniques such as containerization and other means of unitizing goods created a considerable need for adjustment of commercial and traditional legal approaches to transportation UNCTAD (2001). The significant growth in the international carriage of containerized goods by multimodal transport has brought into sharp focus the practical importance of implementing international rules that regulate this particular type of transport operation. Theodora Nikaki, (2013)

The United Nation Convention on International Multimodal Transport of Goods, signed on May 24, 1980, was the first international legal instrument. Despite numerous attempts to create a standard legal framework governing multimodal transportation, no such worldwide regime exists. The MT Convention on Goods, which entered into force in 1980, did not receive enough ratification to enter into force. UNCTAD (2001)

The UNCTAD/ICC Rules for Multimodal Transport Documents, which entered into force in January 1992, lack legal force. They are common contract terms for use in multimodal transportation documents. Because the regulations are contractual in nature, they will have no effect if they conflict with mandatory law. The UN Convention on Multimodal Transport of Goods applies to all multimodal transport contracts between two States when the place of taking charge or delivery of the goods is in a contracting State.

2.12.2 Multimodal Transportation of Good under Ethiopian Law

Because of the varied changes in several unimodal forms of transport, mainly maritime transport, multimodal transportation laws are required.

The containerization of goods has already challenged the basic assumptions that underpin the notion of maritime law. When considering the possibilities for door-to-door service, the relative benefit of containers in international trading of products is comprehensible. Consignees in landlocked nations such as Ethiopia, in particular, profit from the ability to accept provision in locations other than seaports. However, the profitable advantage of containerized freight is hampered by the legal ambiguities that shippers frequently encounter. The main mode of transportation between Ethiopia and Djibouti is unimodal. This unimodal system faces certain constraints that are similar to transit trade between other landlocked countries and their transit

neighbors. The declaration of multimodal transport of commodities is highly particular in scope. In terms of scope, it only applies to international multimodal carriage under a single contract of carriage. Only the relationship between the intermodal shipper and the multimodal transport operator (in our example, an ESL service firm) is governed by the multimodal transport proclamation.

Current unimodal carriage legislation (maritime code, internal transport law, air transport law, and others, for example) control the interaction between the MTO and unimodal shippers acting on its behalf. As a result, the applicability of unimodal carriage laws is restricted. According to the terms of Article 15 of the Multimodal Transport Proclamation, the MTO is liable for commodities from the time they are placed in his responsibility until they are delivered. Proclamation, No. 548/2007

2.13 Empirical Literature

Assess factors impacting container terminal efficiency through a case study of the Mombasa Entry Port using a descriptive survey approach, as addressed by Nyema (2014). Inadequate cargo handling equipment, shorter berth times and delays for container ships, dwell time, container cargo and truck turnaround time, custom clearance, limited storage capacity, poor multi-modal connections to the hinterland, and infrastructure all have a direct impact on container terminal efficiency.

Rajasekar and Deo (2014) attempted to find the determining elements for major port performance in India from 1993 to 2011. Panel data models such as the pooled ordinary least squares approach, fixed effect models, and random effect models are used to determine the components. The study's findings revealed that berth throughput, operational expenditures, personnel count, cargo equipment, and idle time all had a major impact on port performance.

According to Elshaday (2016), an assessment of the performance of dry ports in Ethiopia using The Supply Chain Operation Reference (SCOR) model and queueing method have been developed to describe the business activities associated with all phases of satisfying a customer's demand with performance attributes of reliability, responsiveness, agility, costs, and assets, and she concluded that, because most of the existing dry ports are not fully utilized and developed,,

the main focus should be on improving the performances of the existing dry ports instead of increasing the number of dry ports.

Meron et al. (2022) evaluate the performance of logistics operations at Modjo Dry Port by examining six dimensions: container handling equipment, customs processes, delivery time, infrastructure quality, and employee competency. The results revealed that Modjo Dry Port performed poorly in terms of delivery time, with 66% of respondents reporting a delay, and 88% believing that the port's performance in terms of personnel safety was inadequate. Container handling equipment, customs operations, port infrastructure, logistics service quality, and port worker competence levels are all poor.

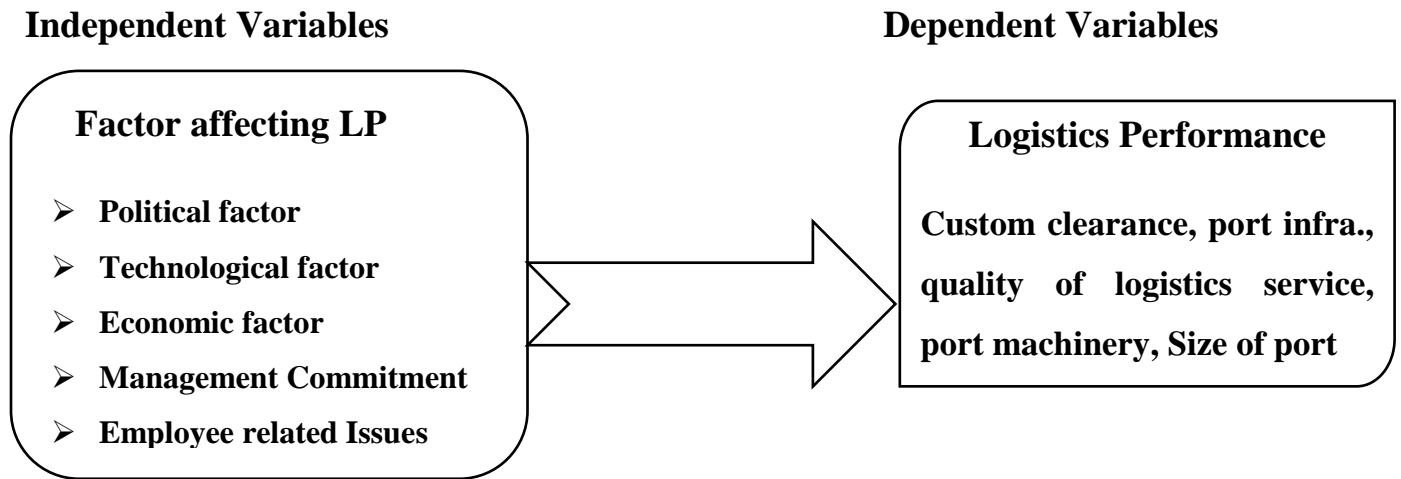
Fugate, Mentzer, and Stank (2010) empirically investigate the influence of logistics performance on organizational performance to investigate the nature of logistics performance and the contribution of logistics to the firm. The findings show that logistics performance has a beneficial influence on organizational performance. There is also theoretical and empirical support for assessing logistics performance as a second-order formative concept, demonstrating that efficiency, effectiveness, and distinction are not always trade-offs but rather complementing. Importantly, managerial responders' perceptions of organizational success were substantially connected with secondary financial data for participating businesses.

As Nge D. et al. (2016) identify key variables affecting logistics performance of a private garment manufacturing firm in Myanmar. An empirical finding suggests that it is necessary to concentrate on critical elements that may influence the development of logistical activities. Moreover to these key components, emphasis is placed on external and situational factors that may have an impact on the activities of manufacturing enterprises.

2.14 Conceptual framework of the study

The conceptual framework of the study are presented in the following figure

Figure 1 Conceptual framework of the study



Source: adopted and modified from (Fugate, et al., 2010)

Chapter Three

3. Methodology

3.1 Introduction

This chapter will discuss the research methodologies. It focuses on the study methodology, research design, population and sample, data sources and kinds, data collecting technique, data analysis method, and certain ethical concerns.

3.2. Description of the study area

The research would be carried out at the Ethiopian Shipping and Logistics KPT branch. In general, ESL is the country's only state-owned shipping company.

Its headquarters is in Addis Ababa, Ethiopia, with main branches in Djibouti, Modjo, and Kality, as well as branches in Mekelle, DireDawa, Kombolcha, Semera, and Gelan and, most recently, Woreta. It also has a Maritime Training Institute in the town of Bishoftu at Babogaya. The researcher selected Kality port and terminal branch from the list above. The reason for choosing the study areas in Addis Ababa was to obtain adequate information on the research topic and also the researcher observes problems related to logistics performance.

3.3. Research Approach

There are two basic research approaches: quantitative and qualitative. The first step is to generate quantitative data that can be submitted to rigorous quantitative analysis in a formal and disciplined manner. A qualitative research technique is concerned with subjective evaluations of attitudes, views, and actions. (Kothari, 2004)

Mixed-methods research is a method of investigation that blends or connects quantitative and qualitative kinds of enquiry. It entails philosophical assumptions, the application of qualitative and quantitative methodologies, and the combination of both in the study. Thus, it entails more

than just gathering and evaluating both types of data; it also entails combining both methodologies such that the total strength of a research is larger than either of the two (Creswell & Plano Clark, 2007). Many researchers who use both methodologies get the benefits of the finest of both quantitative and qualitative research methods. (Creswell, 2003)

As a result, it is anticipated that the research approach for this study would be a combination of both approaches that would contribute more to the overall scope of the investigation.

3.4. Research Design

Burns, N., & Grove, S. (2001) describes the research design as a “blueprint for conducting a study that maximizes control over factors” that could interfere with the validity of the findings. Depending on the objective of the study descriptive and explanatory research design would be used to investigate the factors that affect logistics performance of KPT. Descriptive research investigations are concerned with describing the features of a certain individual or group. Using main statistical measures such as mean, mode, and median, using the descriptive research approach aids in the description of study findings. (Kothari, 2004). Whereas explanatory research design is examining the relationships between variables.

3.5. Population and Sample

3.5.1. Sample Design

Sampling design: is the specification of the sample frame, sample size, and the system for selecting and contacting individual respondent or questionnaire Alreck, P. & Settle, R. (1995).

3.5.2. Target Population

Hair et al. (2010) define target population as "a specific group of people or object for which questions can be asked or observations made in order to develop required data structures and information." A **census** involves a complete enumeration of the elements of a population.

A **sample**, on the other hand, is a subgroup of the population selected for participation in the study (Malhotra, 2010).

Therefore, the target population of this research would be freight forwarders and customs clearing agents working at KPT. The total number of population will be 473 (sources: KPT Planning and ICT Department)

3.5.3. Sampling Technique and Sampling Frame

A sampling frame is a representation of the target population's elements. It is a list or series of instructions for determining the target population. (Malhotra, 2010) .The sampling frame of this study would be custom clearing agent and freight forwarder working at Kaliti Port and Terminal.

The most crucial decision in sampling technique selection is whether to utilize non-probability or probability sampling. Non-probability sampling is based on the researcher's judgment, whereas probability sampling is based on chance. (Malhotra, 2010)

The simple random sampling technique (lottery method) would be employed to select the representative sample for this study.

3.5.4 Sample Size

The number of items to be included in the research is referred to as the sample size. Malhotra (2010). According to (Kothari, 2004), determining sample size varies depending on the type of research design, and there are several approaches in use. As a general rule, the sample size should be optimal; it should not be excessively large or too small. The most commonly used confidence intervals are 80%, 90%, 95%, 98%, and 99%, according to (Deborah 2010).

Because the population size is known (finite), the sample size was obtained using Taro Yamane's (1967) sample size determination formula.

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

Where n is the sample size

N is the population size (473)

e is the level of precision or sampling error = (0.10) at 90% confidence level

$$n = \frac{473}{1+473(0.10)^2} \approx 83$$

3.6. Data Source and Type

Primary data are those that are obtained for the first time and so have unique characteristics (Kothari, 2004). The actual raw data gathered by the researcher from persons, objects, or other units of measurement is referred to as primary data. The measurements of the unit, whether in the field, laboratory, or any other study location, are thus the major sources of data. In essence, the type of primary data collected depends on the objective and research questions the researcher is attempting to address in his or her study.

Primary data is collected through approaches, methods or techniques such as surveys, true experiments, quasi-experiments or case studies using instruments or tools.

Tools that are used to collect primary data include: scientific measurement equipment and scales; observation checklists; questionnaires; interview guides; etc. In colloquial terms, primary data is analogous to eye-witness record of the events (Mugenda & Mugenda, 2012). Primary data for this study would be gathered through questionnaires and unstructured interview.

Secondary data is information that has been recovered from storage or existing documents and is being utilized by someone other than the person who collected it. The phrase is synonymous with secondary sources of data since the data comes from these sources. Because of technological advancements, there are numerous instruments accessible to help researchers locate secondary material, such as online and printed resources, journals, websites, books, and articles, and contact with specialists via mobile technology, e-mail, Skype, and so on. The emergence of information technology has unfortunately led to plagiarizing of information. Research etiquettes and legal requirements demand that sources of secondary data be clearly indicated and credit be given to the original owners (Mugenda & Mugenda, 2012).

The secondary data would be collected from the company profile, annual report, bulletin, journal, books, empirical findings and other relevant documents in order to have a better understanding of the subject matters.

3.7. Data Collection Procedure

The researcher would conduct this study using both primary and subordinate data collection tools, such as a survey and interview for custom clearing agents and freight forwarders working at Kaliti Port and Terminal branch office. Secondary data would be gathered from the annual report of the firm and other related books, journal and website.

3.8. Data Presentation and Analysis

The researcher would collect data via questionnaires and interviews then organize and prepare the various data based on the information sources. Editing would be performed by the researcher to ensure data consistency. The collected and prepared data would be analyzed qualitatively and quantitatively. The quantitative data would be analyzed using SPSS software version 26.

On primary data, descriptive analysis would be performed. Mean and standard deviations would also be used to measure central tendencies and dispersion. Data would be presented in frequency distribution tables to aid in the description and explanation of the study's findings. The inferential analysis techniques would be applied to the correlation and regression test.

3.9. Ethical Consideration

The study would adhere to the firm's policy regarding any intellectual possessions rights of the KPT branch. Concerning the respondents' privacy, their responses are strictly confidential and would only be used for academic purposes. It is not ethical to gain access to some of the branch's confidential documents. As a result, the enterprise code of ethics would take this into consideration without jeopardizing the study's findings significantly. Furthermore, the reference works of other academician and authors would be properly cited.

3.10. Validity

Validity of an instrument is how accurate the instrument is in obtaining the data it intends to collect (Mugenda 2003). Content validity which is the extent to which a measuring instrument provides adequate coverage of the topic under study (Kothari, 2004)

Therefore the researcher would use Content validity for measuring the validity of the surveys for this study. The content validity of the research would be addressed through a review of the literature and adaptation of tools used in previous study, as well as by consulting experts and having discussions with peers and professionals in the area.

3.11. Reliability

Another important test of sound measurement is the data reliability test. A measuring instrument is reliable if it provides consistent results, (Kothari, 2004). Furthermore, trustworthy measurement devices add to validity. As a result, in order to demonstrate the instrument's dependability, the researcher would distribute some questionnaires as a pilot test and then make adjustment accordingly.

Cronbach's alpha is a simple test for determining the dependability, or internal consistency, of a composite score. Cronbach's alpha provides a straightforward method for determining whether or not a score is reliable. It is applied with the assumption that multiple items are measuring the same underlying construct. Cronbach's alpha results should theoretically give you a number between 0 and 1, but they can also be negative. A negative number shows that your data is incorrect. Perhaps you neglected to score certain items in reverse. Cronbach's alpha of 0.70 or higher is regarded good 0.80 or higher is considered better, and 0.90 or higher is considered excellent. (Source <https://www.statisticssolutions.com/cronbachs-alpha/>)

Table 1 Test of Reliability

No	Items	No of Items	Cronbachs alpha
1	Political Factors	5	.914
2	Technological Factors	5	.953
3	Economic Factor	5	.974
4	Management Commitment	5	.841
5	Employee Related Challenges	5	.972
6	Logistics Performance	5	.973

Source: SPSS Output 2023

Chapter Four

4. RESULT, DISCUSSION AND INTERPRETATION

4.1 INTRODUCTION

This chapter includes the presentation and explanation of the data composed. The data was mostly gathered through surveys and secondary sources, and it was examined primarily by descriptive and inferential statistics. The information gathered from the questionnaire was compiled and analyzed using SPSS version 26 statistical software. The research analysis was designed and carried out to answer questions by fulfilling the research goals. As a result, the primary goal of this section was to examine and present the data gathered on the factors influencing the logistics performance of ESL in the case of Kality Port and Terminal.

4.2 Demographic information of the respondents

The target populations of this study consist of 83 custom clearing and freight forwarding agents who are employed at KPT. However, of the total 83 questionnaires distributed, 80 were completed and returned.

Only 80 completed and returned questionnaires were included for analysis, resulting in a response rate of approximately 96.38%. The demographic information of those who completed and returned the questionnaire was displayed in the tables below.

Table 2 Demographic Profile of Respondent

Demographic profile of the respondents	Dimension	Frequency	Percent
Gender	Male	51	63.7
	Female	29	36.3
Age of Respondent	below 25 years	11	13.8
	25-35	30	37.5
	36-45	28	35.0
	above 45 years	11	13.8
Educational Level	certificate	6	7.5
	college diploma	10	12.5
	first degree	58	72.5
	second degree and above	6	7.5
Job Position	assessor	35	43.8
	manager	10	12.5
	transistor	24	30.0
	officer	11	13.8
Work Experience	below 5 years	12	15.0
	6-10 year	29	36.3
	11-15 years	28	35.0
	above 15 years	11	13.8

Source: SPSS Output 2023

According to table2 gender distribution of respondents, 51 (63.8%) of total respondents are Male , while 29 (36.3%) are female.

This means that the proportion of male workers is higher than the proportion of female employees.

According to the above table, 13.8% of respondents were under the age of 25, 37.5% were between the ages of 25 and 35, and 35% were between the ages of 36 and 45, 13.8% above 45. Based on the data the researcher discovered that the bulk of the participants were between the ages of 25 and 35. From this, the researcher concludes that 30 (37.5%) of the participants were in the most actively productive age group.

The respondents' educational background was primarily that of first-degree graduates (58, 72.5%), followed by college diploma (10, 12.5%), second-degree and above (6, 7.5%), and certificate holders (7.5%). This demonstrates that the vast majority of respondents held a first-degree.

In terms of job title, 43.8 percent of respondents were assessors, 30 percent were transitors, 13.8 percent were officers, and 12.5 percent were managers.

Concerning work experiences 36 percent of participants have between 6 and 10 years of job experience, 35 percent have between 11 and 15 years of work experience, 15 % have fewer than 5 years of work experience, and 13.8 percent have more than 15 years of work experience.

4.3 Descriptive Analysis and discussion of factors that affect the logistics performance of KPT

This section of the research attempts to examine primary data gathered from participants.

Respondents were asked to express their level of agreement with the logistical performance of KPT and elements that influence it using a five-point Likert scale where 1= strongly agree, 2= agree, 3= neutral, 4= disagree and 5= strongly disagree

Based on responses of the participants the mean was calculated for each item, and the findings are shown in the tables below.

4.3.1 Descriptive Analysis of Political Factors

The research intended to ascertain how political factors affect logistics performance in KPT.

The mean and standard deviations were calculated using SPSS and are shown in Table 3 below

Table 3 Descriptive Analysis of Political Factor

Question Item	Frequency	percent	Total	Mean	Std.D	
The government has given enough attention to the rapid response of the logistics sector to expand the port and terminal facility	Strongly agree	8	10	100%	3.20	1.287
	Agree	20	25			
	Neutral	15	18.8			
	Disagree	22	27.8			
	Strongly disagree	15	18.8			
The local community is willing to expand the port and terminal facilities	Strongly agree	1	1.3	100%	3.84	1.130
	Agree	14	17.5			
	Neutral	10	12.5			

	Disagree	27	33.8			
	Strongly disagree	28	35.0			
The location of the port did not prevent it from expanding its facilities	Strongly agree	2	2.5	100%	3.68	1.220
	Agree	20	25.0			
	Neutral	4	5.0			
	Disagree	30	37.5			
	Strongly disagree	24	30.0			
The country's existing peace and security are negatively affecting the logistics sector	Strongly agree	1	1.3	100%	3.75	1.185
	Agree	18	22.5			
	Neutral	8	10.0			
	Disagree	26	32.5			
	Strongly disagree	27	33.8			
A significant funding has been set aside to allow for the expansion of the port and terminal as needed	Strongly agree	3	3.8	100%	3.70	1.205
	Agree	16	20.0			
	Neutral	7	8.8			
	Disagree	30	37.5			
	Strongly disagree	24	30.0			
Mean of					3.63	
m.						

Source: SPSS Output 2023

Given the information in Table 3 for the first question, the government has given enough attention to the rapid response of the logistics sector to expand the port and terminal facility. 10% strongly agree, 25% agree, 15% are neutral, 27.8% disagree, and 18.8% strongly disagree, with a mean score of 3.20. According to this response, 27.8% of respondents disagreed, indicating that the government should not prioritize the sector in order to expand the facility.

The second question was intended to ascertain whether the local community is willing to extend the port and terminal infrastructure. With a mean score of 3.84, 28% strongly disagree, 27% disagree, 10% are neutral, 14% agree, and 1% highly agrees. Based on this finding, the majority of responses were "disagree and strongly disagree," indicating that if the government wishes to expand the facility, the local community will be prioritized.

The third question was asked: the location of the port prevents it from expanding its facilities 24% strongly disagree, 30% disagree, 4% are neutral, 20% agree, and 2% strongly agree, with a

mean score of 3.68. Based on this finding, the majority of replies disagreed and stated that the facility's location is inconvenient for logistical operations which hinder its performance.

The fourth question asked if the country's current peace and security were having a detrimental impact on the logistics sector; 27% disagreed, with a mean score of 3.75. The findings indicate that peace and security have had a positive impact on logistical performance.

The last question raised was whether significant funding has been set aside to allow for the expansion of the port and terminal as needed. The majority of the respondents disagreed, with a mean score of 3.70. The result shows that the government paid little attention to the facility.

4.3.2 Descriptive Analysis of Technological Factors

An analysis of technological factors was shown in the following table

Table 4 Descriptive Analysis of Technological Factors

Question Item	Frequency		percent	Total	Mean	Std.Dev
The company provides the necessary and modern logistics services in accordance with the standard	Strongly agree	5	6.3	100%	3.10	1.318
	Agree	32	40.0			
	Neutral	11	13.8			
	Disagree	14	17.5			
	Strongly disagree	18	22.5			
To deliver high-quality logistics services, a modern system has been implemented	Strongly agree	8	10.0	100%	3.16	1.354
	Agree	27	33.8			
	Neutral	5	6.3			
	Disagree	24	30.0			
	Strongly disagree	16	20.0			
All logistics services are available through a single point of contact	Strongly agree	9	11.3	100%	3.49	1.441
	Agree	19	23.8			
	Neutral	2	2.5			
	Disagree	24	30.0			
	Strongly disagree	26	32.5			
The system and network ensure continuous logistics service	Strongly agree	10	12.5	100%	3.45	1.457
	Agree	19	23.8			
	Neutral	1	1.3			

	Disagree	25	31.3			
	Strongly disagree	25	31.3			
Customs modernization and automation reform have a detrimental impact on the company's logistical performance	Strongly agree	9	11.3	100%	3.50	1.441
	Agree	18	22.5			
	Neutral	4	5.0			
	Disagree	22	27.5			
	Strongly disagree	27	33.8			
Mean of m.					3.74	

Source: SPSS Output 2023

Based on the data in table 4 above, the answer to the first question was that the company delivers the essential and modern logistics services in accordance with the standard. With a mean score of 3.10, 18% severely disagree, 14% disagree, 11% are neutral, 32% agree, and the remainders highly agree.

According to this response, 32% agreed that the organization delivers modern logistics services that conform to the requirements of the industry.

The second question was designed to establish that a modern system had been set in order to provide high-quality logistics services. With a mean score of 3.16, 16% strongly disagree, 24.7% disagree, 5% are neutral, 27% agree, and the remaining 8% highly agree. Based on this finding, the majority of respondents agreed, indicating that a modern system should boost customer satisfaction.

The third question was posed: "All logistics services are available through a single point of contact." With a mean score of 3.49, 26% definitely disagree, 24% disagree, 2% are neutral, 19% agree, and 9% strongly agree. Based on this outcome, the majority of respondents strongly disagreed, indicating that a single-window service is critical to facilitating logistics activities.

The fourth question assessed if the system and network ensured continuous logistics service: 25% strongly disagreed, 25% disagreed, 1% neutral, 19% agreed, and 10% highly agreed,

yielding a mean score of 3.45. Based on this finding, the majority of respondents strongly objected and disagreed, implying that a reliable system and network are required to provide continuous logistics service.

In the last question, modernization of customs and automation reform has a negative impact on the company's logistical performance. With a mean score of 3.50, 27% strongly disagree, 22% disagree, 4% are neutral, 18% agree, and 9% highly agree. Based on this finding, the majority of respondents strongly disagreed, indicating that custom modernization and automation reform considerably improve the company's logistical performance.

4.3.3 Descriptive Analysis of Economic Factors

Table 5 Descriptive Analysis of Economic Factors

Question Item	Frequency		percent	Total	Mean	Std.D
The current economic climate of the country positively affect the logistics industry	Strongly agree	8	10.0	100%	3.28	1.432
	Agree	26	32.5			
	Neutral	5	6.3			
	Disagree	18	22.5			
	Strongly disagree	23	28.7			
The company has sufficient foreign cash to purchase the required port machinery and parts	Strongly agree	9	11.3	100%	3.48	1.449
	Agree	19	23.8			
	Neutral	4	5.0			
	Disagree	21	26.3			
	Strongly disagree	27	33.8			
The organization has sufficient machinery to deliver the required services	Strongly agree	8	10.0	100%	3.45	1.457
	Agree	23	28.7			
	Neutral	1	1.3			
	Disagree	21	26.3			
	Strongly disagree	27	33.8			
Foreign exchange negatively affect the company efficiency	Strongly agree	9	11.3	100%	3.44	1.474
	Agree	22	27.5			
	Neutral	1	1.3			
	Disagree	21	26.3			

	Strongly disagree	27	33.8			
Inflation rate positively affect the company logistics performance	Strongly agree	10	12.5	100%	3.44	1.483
	Agree	20	25.0			
	Neutral	2	2.5			
	Disagree	21	26.3			
	Strongly disagree	27	33.8			
Mean of m.					3.42	

Source: SPSS Output 2023

As shown in Table 5 the answer to the first question is that the country's current economic situation favors the logistics industry.

With a mean score of 3.28, 23% strongly disagree, 18% disagree, 5% are neutral, 26% agree, and the remaining 8% severely disagree. Based on this, the majority of respondents agreed, indicating that the country's economic climate has a positive effect on the logistical performance of the organization if it is not in good condition.

The second issue was, "the company have enough foreign cash to purchase the necessary port machinery and parts" With a mean score of 3.48, 27% strongly disagree, 21% disagree, 4% are neutral, 19% agree, and 9% highly agree. According to this finding, the majority of respondents strongly disagreed, indicating that foreign currency plays a significant role in the acquisition of machinery and parts, which in turn fulfills customer expectations.

The third question was: does the organization have enough machinery to perform the essential services, with a mean score of 3.45, 27% strongly disagree, 21% disagree, 1% is neutral, 23% agree, and 8% highly agree. Based on this finding, the majority of respondents strongly disagreed, indicating that KPT's failure to provide necessary service results in customer dissatisfaction.

The fourth question was asked: foreign exchange negatively affects the company's efficiency, with a mean score of 3.44, 27% strongly disagree, 21% disagree, 1% is neutral, 22% agree, and 9% highly agree. Based on this conclusion, the majority of respondents strongly disagreed, indicating

that having enough foreign reserves has an impact on the sector in general and the company in particular.

The last question was if the inflation rate had a favorable impact on the company's logistical performance. With a mean score of 3.44, 27% strongly disagree, 21% disagree, 2% are neutral, 20% agree, and 10% highly agree. Based on this conclusion, most respondents strongly disagreed, indicating that when inflation rises, every business component gets more expensive, hampering the company's entire logistics operations.

4.3.4 Descriptive Analysis of Management Commitment

The table below summarizes the study's analysis of management commitment.

Table 6 Descriptive Analysis of Management Commitment

Question Item	Frequency		percent	Total	Mean	Std.D
The management team is committed to responding infrastructure demands raised by stakeholders	Strongly agree	9	11.3	100%	3.29	1.460
	Agree	25	31.3			
	Neutral	4	5.0			
	Disagree	18	22.5			
	Strongly disagree	24	30.0			
The management team is committed to keeping customers cargo safe and secure	Strongly agree	8	10.0	100%	3.49	1.432
	Agree	20	25.0			
	Neutral	4	5.0			
	Disagree	21	26.3			
	Strongly disagree	27	33.8			
The management team is dedicated to resolving the workplace issue	Strongly agree	10	12.5	100%	3.45	1.500
	Agree	21	26.3			
	Neutral	-	-			
	Disagree	21	26.3			
	Strongly disagree	28	35.0			
The management team is committed to providing a one-stop shop service	Strongly agree	10	12.5	100%	3.44	1.517
	Agree	22	27.5			
	Neutral	-	-			
	Disagree	19	23.8			
	Strongly disagree	29	36.3			

The customers are committed to obey the company rule, regulation and procedure	Strongly agree	4	5.0	100%	3.25	1.401
	Agree	34	42.5			
	Neutral	4	5.0			
	Disagree	14	17.5			
	Strongly disagree	24	30.0			
Mean of m.					3.40	

Source: SPSS Output 2023

As shown in Table 6 the management team is committed to responding to stakeholder infrastructure demands: 24% strongly disagree, 18% disagree, 4% neutral, 25% agree, and the remaining 9% strongly agree, for a mean score of 3.29.

Based on this finding, the majority of respondents strongly disagree and disagree, indicating that the insufficient infrastructure makes it difficult for customers to obtain the essential logistics service from the dry port.

The second question was: "The management team committed to keeping customers' cargo safe and secure" With a mean score of 3.49, 27% strongly disagree, 21% disagree, 4% are neutral, 20% agree, and 8% highly agree.

The majority of respondents strongly disagreed with this result, indicating that management is not committed to keeping customer cargo safe and secure.

The next question was, "The management team is dedicated to resolving the workplace issue."

With a mean score of 3.45, 28% strongly disagree, 21% disagree, 21% agree, and 10% highly agree. Based on this conclusion, the majority of respondents strongly disagreed, indicating that there are issues relating to the work environment that can impair employee morale, motivation, and mental well-being that are related to port infrastructure.

The fourth question was, "The management team committed to providing a onestop shop service" With a mean score of 3.44, 29% strongly disagree, 17% disagree, 22% agree, and 10% highly a

gree. Based on this result, the majority of respondents strongly disagreed, indicating that even though there is a one-window service, it is inadequate to serve customers efficiently.

The final question was, "Customers committed to following the company's rules, regulations, and procedures" With a mean score of 3.25, 24% strongly disagree, 14% disagree, 4% are neutral, 34% agree, and 4% highly agree.

Based on the result, the majority of respondents agreed, indicating that most customers adhere to the company's rules, regulations, and procedures.

4.3.5 Descriptive Analysis of Employee related issues

The Employee related issues of the KPT were shown in the following table

Table 7 Descriptive Analysis of Employee related issues

Question Item	Frequency	percent	Total	Mean	Std.D	
When introducing new procedures, the organization provides joint training for employees and customers	Strongly agree	13	16.3	100%	3.39	1.514
	Agree	17	21.3			
	Neutral	1	1.3			
	Disagree	24	30.0			
	Strongly disagree	25	31.3			
Because it provides swift service, customers did not confront the issue of clearing customs quickly	Strongly agree	12	15.0	100%	3.41	1.507
	Agree	18	22.5			
	Neutral	1	1.3			
	Disagree	23	28.7			
	Strongly disagree	26	32.5			
Customs clearance is quick because all of the company's personnel are qualified	Strongly agree	11	13.8	100%	3.03	1.467
	Agree	32	40.0			
	Neutral	-	-			
	Disagree	18	22.5			
	Strongly disagree	19	23.8			
Customers had no complaints with the logistics service because the proper person was	Strongly agree	10	12.5	100%	3.40	1.455
	Agree	20	25.0			
	Neutral	2	2.5			

assigned to the right place	Disagree	24	30.0			
	Strongly disagree	24	30.0			
A lack of training and development negatively affect logistics performance	Strongly agree	9	11.3	100%	3.39	1.428
	Agree	21	26.3			
	Neutral	3	3.8			
	Disagree	24	30.0			
	Strongly disagree	23	28.7			
Mean of					3.32	
m.						

Source: SPSS Output 2023

Given the information in Table 7 for the first question, when introducing new procedures, the organization provides joint training for employees and customers, 25% strongly disagree, 24% disagree, 1% are neutral, 17% agree, and the rest are 13% strongly agree with a mean score of 3.39. According to these responses, 25% of respondents strongly disagreed, which shows that organizations are expected to provide joint training for both employees and customers when new rules and procedures are introduced.

The second question was whether clients faced the issue of clearing customs fast since it delivers quick service. With a mean score of 3.41, 26% strongly disagree, 23% disagree, 1% are neutral, 18% agree, and 12% strongly agree.

Based on this finding, the majority of respondents strongly disagreed, indicating that the business should provide fast and dependable logistical services in order to meet customer expectations.

The third question, with a mean score of 3.03, was whether customs clearance is quick because all of the company's staff is competent. According to result, the majority of respondents agreed, indicating that most employees are qualified to deliver the required service.

The fourth question, with a mean score of 3.40, asked whether customers had any concerns about the logistics service since the right person was allocated to the right place. The findings indicate that firm personnel should assign the appropriate person to the proper position. The final issue was if a lack of training and development had a detrimental impact on logistics performance. With a score of 3.39, the majority of respondents (24%) disagreed. As a result of this finding, staff will require ongoing training and development.

4.3.6 Descriptive Analysis of Overall Logistics Performance of KPT

Table 8 Descriptive Analysis of Overall Logistics Performance of KPT

Question Item	Frequency		percent	Total	Mean	Std.Dev
The efficiency, speed and transparency of custom operation at the dry is excellent	Strongly agree	-	-	100%	3.69	1.228
	Agree	24	30.0			
	Neutral	4	5.0			
	Disagree	25	31.3			
	Strongly disagree	27	33.8			
The quality of physical infrastructure, telecom and IT service at the dry port is excellent	Strongly agree	4	5.0	100%	3.79	1.357
	Agree	19	23.8			
	Neutral	2	2.5			
	Disagree	20	25.0			
	Strongly disagree	35	43.8			
Availability and quality of cargo handling equipment at the dry port is excellent	Strongly agree	-	-	100%	3.85	1.294
	Agree	24	30.0			
	Neutral	1	1.3			
	Disagree	18	22.5			
	Strongly disagree	37	46.3			
A port and terminal are available to store sufficient containers and goods.	Strongly agree	1	1.3	100%	3.81	1.244
	Agree	20	25.0			
	Neutral	4	5.0			
	Disagree	23	28.7			
	Strongly disagree	32	40.0			
Quality of truck company, different inspection agencies at	Strongly agree			100%	3.85	1.274
	Agree	23	28.7			

the dry port is excellent	Neutral	2	2.5			
	Disagree	19	23.8			
	Strongly disagree	36	45.0			
Mean of m.					3.71	

Source: SPSS Output 2023

According to the above table, a considerable proportion of respondents believe that customs operations are very important in assessing the port's performance. The mean value of respondents on a continuous operation of the customs clearing process was 3.69, and the majority strongly disagreed, indicating that the speed, transparency, and efficacy of the customs clearing procedure at the port are severely weak.

Customs procedures at the port are a significant factor of port performance, according to a research of port performance factors conducted by Nyma (2014) and Ruto and Datche (2015).

According to the table above, the infrastructural element of Kality Dry Port is critical in determining port performance. According to Table 4.7, the mean value of the respondents was 3.79, with 43.8% strongly disagreeing, indicating that the majority of respondents thought the quality of port infrastructure was very poor which is supported by Sanchez et al. (2003), Yeo et al. (2008), and Balciet al. (2014) research studies all suggested that port infrastructure is a key factor of port performance.

According to the chart above, a substantial proportion of respondents stated that the accessibility and quality of cargo handling equipment affected Kality dry port's logistics performance. Based on the results, 46.3% strongly disagree, indicating that the quality and availability of port machinery were inadequate.

Gujar (2011), Nyma (2014), and Tongzon (1995) all conducted studies that supported the notion that cargo handling equipment is a key element of port performance.

According to respondents, the size of Kality Dry Port was a significant driver of port logistics performance. According to the above table, the mean value of the respondents on the availability of storage capacity at port was 3.81, with 40% strongly disagreeing. This suggests that the container terminal and warehouse had a limited storage capacity.

Based on the findings of Nyma (2014) and Ruto and Datche (2015), port size and storage capacity are crucial factors in determining port performance.

According to the table above, a large number of participants believe that the quality of logistics service is critical in evaluating the port performance. The mean value of the responders was 3.85, and the majority (45%) strongly disagreed, indicating that the truck company and several inspection firms at the dry port deliver poor quality.

Studies by Sanchez et al. (2003), Ng (2006), and Panayidas and Song (2009) all verified that logistics service quality is a major factor of port performance.

4.4 Inferential Statistics for evaluating the factors that affect the Logistics Performance of KPT

4.4.1 Correlation Analysis

The linear relationship between two or more variables is measured via correlations. According to Kothari (2004), a coefficient of correlation has a value of "r" that ranges between +1 and -1.

Positive "r" values indicate a positive relationship between the two variables, whereas negative "r" values indicate a negative relationship. A value of 0 for "r" indicates that no link exists between the two variables.

In this part, the researcher employed Pearson correlation coefficient analysis to conduct a correlation analysis, which is the most widely used technique of determining the degree of association between variables.

Table 9 Correlation between the independent variable (LP factors) and Dependent variable (Logistics Performance)

		lp	pf	tf	ef	mc	eri
lp	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	80					
pf	Pearson Correlation	.865**	1				
	Sig. (2-tailed)	.000					
	N	80	80				
tf	Pearson Correlation	.781**	.789**	1			
	Sig. (2-tailed)	.000	.000				
	N	80	80	80			
ef	Pearson Correlation	.783**	.795**	.838**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	80	80	80	80		
mc	Pearson Correlation	.856**	.864**	.845**	.824**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	80	80	80	80	80	
eri	Pearson Correlation	.815**	.818**	.882**	.847**	.909**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	80	80	80	80	80	80

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

Source: SPSS Output 2023

Where,
lp=logistics performance
pf=Political Factors
tf=Technological Factors
ef= Economic Factor
mc=Management Commitment
eri=Employee Related Issues

The correlation coefficients on the major diagonal are always 1.0, as shown in the table above, because each variable has a perfect positive linear relationship with itself. Political factors and Lp have a considerable positive link, with a correlation value of 0.865 and a significance level of 0.000. As a result, PF and LP are strongly and positively correlated.

The second correlated component is technology, which has a positive correlation with LP with a coefficient value of 0.781 and a significance level of 0.000, indicating that the two variables are highly correlated.

Economic factors are the third component. These variables were examined, and the results revealed a substantial and positive connection (0.783) with logistics performance at the 0.000 significance level.

The fourth aspect that can influence the company's LP is management commitment. The correlation coefficient value is 0.856 with a 0.000 significance level, as indicated in the above correlation matrix table, and the correlation is high and positive.

According to the above table, there is a considerable positive association between employee-related issues and LP, with a Pearson's correlation coefficient of 0.815 and a significance level of 0.000. As a result, the two variables are highly and positively linked.

4.4.2 Regression Analysis

The regression analysis is performed to determine the extent to which the independent variable explains the dependent variable. The regression was carried out between the independent variables the factor that affect logistics performance and the dependent variable logistics performance. The regression analysis findings are presented as follows:

4.4.3 Multi Collinearity Test

Table 10 Multicollinearity test of the independent variables

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Political factor	.230	4.344
Technological factor	.187	5.339
Economic factor	.227	4.408
Management commitment	.128	7.810
Employee related issues	.121	8.243

a. Dependent Variable: logistics performance

Source: SPSS Output 2023

When multiple independent variables have a high level of correlation with one another, or when one variable is a near-linear combination of other independent variables, multicollinearity occurs.

According to (Keith, 2006) the more variables that overlap (correlate), the more difficult it is for researchers to separate the variables' results. The preceding table shows that collinearity between independent variables is not a problem, while tolerance for all independent variables is greater than 0.1 and VIF is less than 10.

4.4.4 Test of Autocorrelation

For at least two reasons, autocorrelation, also known as serial correlation, is significant in econometric analysis. First, autocorrelation violates a basic premise of the OLS method, causing estimates of the coefficient of variance to be skewed downward and the T-statistic to be biased upward (Richard and Rosario, 1998).

The Durbin-Watson test is the most well-known autocorrelation test. An acceptable range is between 1.50 and 2.50. As a result, the Durbin-Watson test was used in the study to determine the presence of autocorrelation.

Table 11 Test of Autocorrelation

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.894 ^a	.800	.786	.564	2.158

a. Predictors: (Constant), employee related issues, political factor, economic factor, technological factor, management commitment

b. Dependent Variable: logistics performance

As seen in the table above, the Durbin-Watson autocorrelation test result is 2.158, which is within an acceptable range. As a result, the autocorrelation assumption is validated and the data set is statistically controlled (no outliers).

4.4.5 Test of Normality

To produce a substantially normal distribution, the values of skewness and kurtosis should be between -2 and +2 (Bachman, 2004). The study looked at the indicators' univariate kurtosis and skewness, and the values were well within their respective rule-of-thumb limits (between -2 and 2), indicating univariate normality. The test results reveal that the skewness and kurtosis values are within the normal range, indicating that the normality assumption was met.

Table 12 Test of Normality

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Logistics performance	80	-.550	.269	-1.358	.532
Political factor	80	-.487	.269	-1.116	.532
Technological factor	80	-.333	.269	-1.233	.532
Economic factor	80	-.299	.269	-1.544	.532
Management commitment	80	-.224	.269	-1.494	.532
Employee related issues	80	-.317	.269	-1.508	.532
Valid N (listwise)	80				

Source: SPSS Output 2023

4.4.6 Regression Analysis between LP factors and LP

Table 13 Model Summary independent variables

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.894 ^a	.800	.786	.564

a. Predictors: (Constant), employee related issues, political factor, economic factor, technological factor, management commitment

b. Dependent Variable: logistics performance

Source: SPSS Output 2023

When the R-squared value is greater, the model is assumed to be fit. R-squared could be used as a goodness-of-fit metric for statistical linear regression models. This statistic indicates how much of the variance in the dependent variable is explained by the independent variables together. On a handy 0-100% scale, R-squared measures the strength of the relationship between your models and the variable quantity.

There is a causal association between the factors and logistics performance, as illustrated in the table above adjusted R² = .786, implying that logistical factors may account for 78.6% of the variation in logistics performance. Although there are several elements that can explain the variation in operational performance, logistics factors account for roughly 78.6% of it. This suggests that the remaining 21.4% of variation in logistics performance cannot be explained by those dimensions of logistics factor.

According to the results of the correlation and regression analyses, those factors have a substantial impact on the company logistical performance. These factors account for 78.6% of the variation in organizational performance. Political, technological, economic, managerial commitment and employee-related challenges all have a direct impact on logistics performance.

In this study R² = 0.800 and adjusted R square = 0.786 is greater than 0.50. Hence, the model is fit to explain the dependent variable

4.4.7 ANOVA Test

The ANOVA test demonstrates **the statistical acceptability of the model**. As a result, the regression row represents the extent to which the model explains variation, but the residual row shows information about variation that the model does not account for, i.e., variation on the dependent variable explained by factors not included in the model.

The computed F statistic is 59.114 with an observed significance level of 0.000, indicating the statistical fitness of the regression model to the data, as shown in the table below.

Table 14 ANOVA test

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	93.892	5	18.778	59.114	.000 ^b
	Residual	23.507	74	.318		
	Total	117.399	79			

a. Dependent Variable: Logistics Performance

b. Predictors: (Constant), Political factor, Technological factor, Economic factor, Management commitment, Employee related issues

Source: SPSS Output 2023

4.4.8 Regression Analysis of Factors Affecting logistics Performance of KPT

The regression coefficient is the associated independent variable that provides importance to the variation accounted for by the dependent variable.

Based on the results in the table below, the mathematical regression equation is:

$$Y = 0.450 + 0.496pf + 0.041tf + 0.081ef + 0.293mc + 0.043eri + \epsilon$$

Where Y is Logistics Performance

pf= Political factor,

tf= Technological factor,

ef= Economic factor,

mc= Management commitment,

eri= Employee related issues

€= Error term

Table 15 Model Specification

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.450	.225		2.004	.049
	pf	.496	.120	.447	4.127	.000
	tf	.041	.116	.043	.358	.722
	ef	.081	.095	.093	.851	.397
	mc	.293	.136	.312	2.145	.035
	eri	.043	.131	.049	.327	.744

a. Dependent Variable: logistics performance

Source: SPSS Output 2023

Logistics performance would be a factor of 0.450 and constantly increase.

pf = 0.496, indicates that one unit increases in political factor results in an increase in Logistics performance by a factor of 0.496. tf= 0.041, shows that one unit increase in the Technological factor results in an increase in Logistics performance by a factor of 0.041.

ef = 0.081, shows that one unit increase in the Economic factor results in an increase in Logistics performance by a factor of 0.081. mc = 0.293, indicate that one unit increase in the Management commitment results in an increase in Logistics performance by a factor of 0.293. eri = 0.043, shows that one unit increase in Employee related issues results in an increase in Logistics performance by a factor of 0.043.

Unstandardized coefficients cannot be used to compare the relative influences of predictor variables on criterion variables. To examine the relative strengths of predictors, standardized coefficients, or beta weights, are utilized. Thus, the most influential predictor is the political factor (0.447) with p value < 5%, while the second most influential predictor is managerial commitment (0.312) with p value < 5%.

For the technology predictor variable there is a 72.2% (0.722) of probability of getting its t -value (0.358) by chance. Since 72.2% is greater than 5% (0.05), the variable technology is not a significant predictor of logistics performance.

There is a 39.7% (0.397) chance of getting the economic predictor variable's t -value (0.851) by chance. The economic variable is not a significant predictor of logistics performance because it is greater than 5% (0.05).

There is a 74.4% (0.744) chance of getting the employee-related issue predictor variable's t -value (0.327) by chance. The variable employee-related issue is not a significant predictor of logistics performance because 74.4% is more than 5% (0.05).

An empirical study by Krauth E et al, 2004 and Nge D. et al. (2016) states that the findings of this study are consistent with those of previous studies. Technology, human resources, economic, and operations have been highlighted as critical factors influencing the efficiency of logistics performance.

The descriptive part of the research outcomes also depicts that technological factors affect logistics performance since participants with a mean score of 3.74 agreed that technology positively affects logistics performance. Gacuru, W. & Kabare, K. (2015) confirms that information technology, level of competence, business to business relationship affects the efficiency of logistics performance in trade and distribution firms. The descriptive part of the study's data presentation indicates that economic factors affect logistics performance. Because respondents stated that when inflation rises, every business component becomes more expensive, hampering the company's entire logistics operations, and because having sufficient foreign reserves has an impact on the sector in general and the company in particular, foreign currency plays a substantial role in the acquisition of machinery and parts, which in turn fulfills customer expectations. If the country's economic climate is not in good condition, it positively affects the organization's logistical performance. According to Gamble (2014) cited in (Lienīte Litavniece and Daina Znotina, 2016) the overall economic climate, trade rates, inflation rate, labor

unemployment rate, interest rates, pace of economic development, per capita domestic product, and trade deficit or surplus are all economic factors.

Furthermore, the descriptive section of the research depicts employee-related challenges influence logistics performance because the majority of respondents stated that staff will need ongoing training and development, and firm personnel should also assign the appropriate person to the proper position in order to deliver the required logistics service to the customers. Ellinger et al. (2008) conducted a study on 123 logistics service provider and concluded that employee-related activities such as service-related training and coaching influence both employee and organizational performance.

4.5 Summary of interview

1. What is the logistics performance of Kality Port and Terminal in terms of custom clearing process, port infrastructure, logistics service quality, port machinery efficiency and size of the port?

Most respondents stated that KPT's logistics performance is below the standard and that it is also difficult to say port and terminal at this time.

2. What are the main challenges influencing the logistics performance of Kality Port and Terminal?

The respondent replied that there is a coordination problem between the dry port and customs offices results in delay of custom clearing process, there is no reliable system and network, lack of adequate warehouse and container terminal yard. Even the warehouse is not equipped with modern facilities; paper intensive work is also the other issue; poor physical infrastructure damages containerized goods, shortage of stock in port machinery parts. The government and higher official also don't pay attention to this dry port as compared to other port. Even though there is a single widow service the location of the office was far away in order to get the necessary service which leads to customer dissatisfaction. Employees are reluctant to deliver the appropriate service based on the standard set by the enterprise, the rise in foreign exchange rate results in a decline in imported goods from abroad. In general the monopolistic nature of the organization results the aforementioned problems.

Chapter Five

5.0 Summary of Major Finding, Conclusion and Recommendation

5.1 Summary

The primary goal of this research is to evaluate factors that affect the logistics performance of ESL the case of KPT. This study will specifically examine logistics performance and the possible elements that can affect it, as well as test whether there is a probable association between logistics factors and logistics performance. Based on the research discoveries, here is a brief description of the significant findings:

A survey questionnaire was used to acquire quantitative data from individuals. Data were analyzed using descriptive and inferential statistics. Proper tests have been performed to ensure that the collected data is sufficient for generating statistical judgments. Furthermore, proper statistical approaches were used for the analysis.

The overall goal of this research was to evaluate those elements that influence the logistics performance. The key factor of the dry port was evaluated using five parameters, and the overall study results are as follows:

According to the results of the participants' background information, the majority of the total participants were male. Most responders are between the ages of 25 and 35. In terms of education, the majority of responders have first degree, and greater than half have 6-15 years of experience. The majority of them were assessors and transitors.

Based on the study's descriptive statistics, among the internal factors affecting performance are absence of management commitment to improving overall logistics performance, absence of swift logistics service by employees due to improper allocation of the right person at the right position, and a lack of joint training for employees and customers are found to be the most important, while external factors include a lack of foreign exchange and government support, a lack of sufficient machinery to deliver the required service, and a failure to deliver reliable systems and networks in order to ensure continuous logistics service are found to be the major ones from external factors.

The correlation analysis results show that logistics performance has a substantial relationship with political factors ($r = 0.865^{**}$), technological factors ($r = 0.781^{**}$), economic factors ($r = 0.783^{**}$), management commitment ($r = 0.856^{**}$), and employee-related challenges ($r = 0.815^{**}$) with a significance value of 0.000.

According to the model's coefficient of determination (adjusted R square), 78.6 percent of logistics performance is predicted (explained) by logistics performance factors identified in this research, and 21.4 % of logistics performance is described by another factor which is not discovered in this research.

Taking all other independent variables to zero, the regression analysis results show that a unit increase in the political component results in a 0.496 rise in logistics achievement; a unit increase in the technological factor leads to a 0.041 increase in logistics achievement; a unit increase in economic factor results in a 0.081 increase in logistics performance; a unit increase in management commitment results in a 0.293 rise in logistics performance; and a unit increase in employee-related challenges leads to a 0.043 increase in logistics performance.

The regression analysis of the study variables depicts the predictive variables included in the study had an effect on overall logistics performance at various degrees of significance.

As a result, the independent variables (political factor, management commitment) were found to be positively related to overall logistics performance at a significant value of $p < 0.05$, but economic factor, employee-related challenges, and technological factor were positively related to overall logistics performance insignificantly. The regression study revealed that the explanatory variables managerial commitment and political factors were the most influential, followed by economic factors, employee-related issues, and technology factors.

Factors affecting logistics performance should be seriously investigated and addressed for those under control, while discussions with partners and responsible government entities are required for those beyond the branch office's control.

5.2 Conclusion

The study attempted to evaluate elements that affect the logistics performance. The following conclusions were taken from the study's findings based on the results of the analyses:

Major factors affecting logistics performance were found based on the study's descriptive statistics. The study's findings revealed that KPT faced a variety of internal and external obstacles.

Respondents believe those five factors have an impact on the organization logistics performance. Among them, failure to improve overall logistics performance due to absence of management commitment, absence of government support, as well as the existing peace and security of the country leads to a decrease in the logistics performance of the company, while a lack of foreign exchange, a lack of swift logistics service delivery by employees due to improper allocation of the right person at the right position, a lack of sufficient machinery to deliver the required service, and a failure to provide reliable systems and networks in order to ensure continuous logistics service and a lack of paperless online service for the customers are a few to mention.

The correlation between response and predictor variables demonstrates a strong positive association. Political, technological, and economic issues, as well as management commitment and employee-related challenges, were discovered to be positively and significantly associated with KPT's overall logistics achievement.

The outcomes of multiple linear regressions depicts that predictor variables such as political, technological, and economic constraints, as well as management commitment and employee-related challenges, explain the variation in overall logistics performance.

In general, political factors and management commitment have a considerable impact on KPT's overall logistics performance, but economic, technological, and employee-related challenges have a less significant impact. However, an empirical studies by Krauth E et al, 2004 and Nge D. et al. (2016) states that the outcomes of this research are congruent with those of earlier studies.

Technology, human resources, economic, and operations have been highlighted as critical factors influencing the efficiency of logistics performance.

As a general inference from the research outcomes, the dry port has not performed as anticipated because of limited and special purpose port machinery, an interrupted system and network, and poor physical infrastructure. The key issues impeding KPT's performance are a delayed customs clearance process, a limited number and lack of well-secured warehouses for the examination of break bulk cargo, and a container terminal yard that is too small to hold large number of containers.

5.3 Recommendation

The researcher has given the following suggestions based on the findings of the study: The researcher is confident that implementing those recommendations will alleviate the problems and boost performance to some degree.

Physical infrastructure investment in dry ports will have significant effects on logistics performance. As a result, in order to enhance dry port performance, ESL needs to capitalize in contemporary dry port machinery and other dry port physical facilities.

The government might take on substantial responsibility for performance improvement in order to change external issues such as political, economic, and technological factors. Internal issues that influence logistics performance should be handled primarily by individuals in managerial positions.

In collaboration with the concerned government party ESL will expand the current dry port and terminal facilities to meet existing demand while adhering to best practices that ensure the necessary flow of commodities and services and also reduce congestion at the dry port during peak season.

In order to deliver quick and reliable service the management bodies must look at those employees who are not properly assigned to the right position.

5.4 Limitation and suggestion for further study

This study offers plenty of information and insights regarding the factors that affect the logistics performance, as well as valuable implications for future research. The study was limited to one branch of ESL. As a result, future researchers should include similar firms while doing study in similar areas of interest to gain a better understanding of logistics company performance. Furthermore, future studies may investigate looking for interdependencies between the factors stated.

References

Alreck, P. & Settle, R. (1995). *The survey research handbook*. 2nd ed. Boston: Irwin McGraw-Hill.

Arvis JF, Carruthers R, Smith G and Willoughby C (2011). *Connecting landlocked developing countries to markets: Trade corridors in the 21st century*. *Direction in Development*. World Bank. Washington, D.C.

Arvis, J-F., Ojala, L., Shepherd, B. and D. Saslavsky, Busch, C. and A. Raj. (2014), *connecting to compete 2014: Trade logistics in the global economy: the logistics performance index and its indicators*. The World Bank, 2014

Bachman, L., (2004). *Statistical Analyses for Language Assessment (Cambridge Language Assessment)*, Cambridge, Cambridge University Press

Bowersox, D.J., Calantone, R.J. and Rodrigues, A.M., (2003) "Estimation of global logistics expenditures using neural networks" *Journal of Business Logistics*, 24(2), pp.21-36.

Burns, N., & Grove, S. (2001). *The Practice of Nursing Research: Conduct, Critique and Utilization*. WB Saunders, Philadelphia

Celebi, D., Ojala, L., Kauppila, J. & Crist, P., (2014). "Understanding drivers of trade and transport performance" Vietnam, *International Symposium on Logistics*

Creswell *et al.*, (2003) *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Council of Supply Chain Management Professionals (CSCMP) USA (2012) www.cscmp.org

Council of logistics management (1991) definition of logistics. [Http //www.cscmp.org/](http://www.cscmp.org/)

CSCMP (2016) <http://www.cscmp.org/> [accessed 15 September 2016]

Daily, B.F. and Huang, S. (2001), "Achieving sustainability through attention to human resource factors in environmental management", *International Journal of Operations & Production Management*, Vol. 21 No. 12, pp. 1539-1552

Debela, F., (2013). *Logistics Practices in Ethiopia*, Uppsala: s.n.

Deborah R. (2010) *Statistics Essentials for Dummies*, confidence interval pp. 72, Wiley publishing Inc.

DHL n.d., (March 2014) *Historical Development of Logistics*, viewed 15, from https://www.dhl-discoverlogistics.com/cms/en/course/origin/historical_development.jsp

International Transport Forum, (2015) *Drivers of Logistics Performance a Case Study of Turkey*

Elshaday W., (2016), *Assessment of the Performance of Dry Ports in Ethiopia Using SCOR Method Unpublished Thesis work*

Erkan B., (2014). "The importance and determinants of logistics performance of selected countries" *Journal of Emerging Issues in Economics, Finance and Banking*, 3(6), 1237-1254.

ESLSE Website

FDRE NLS (National Logistics Strategy) (2018 – 2028)

Frazelle, E. (2002). *Supply chain strategy: the logistics of supply chain management*. McGraw Hill.

Fugate, B. S., Mentzer, J. T. and Stank, T. P. (2010). "Logistics Performance: Efficiency, Effectiveness, and Differentiation" *Journal of Business Logistics* 31: 43-61

Gacuru, W. & Kabare, K. (2015). Factors affecting efficiency in logistics performance of trading and distribution firms based in Jomo Kenyatta International Airport area. *International Academic Journal of Procurement and Supply Chain Management*, 1 (5), 50-71

Gerry Johnson, K. S. a. R. W., (2008). *Exploring corporate strategy*. 8th ed. London:

Pearson Education Limited.

Gujar, C. (2011). Essays on Dry Ports. Erasmus University

Hair, J. F, William C. Black, Barry J. Babin and Ronald L. Tatham, (2010) Multivariate Data Analysis. Seventh Edition, Pearson Education.

Hesket, J L, Glaskowsky, N and Ivie, R M (1973) Business Logistics, Ronald, New York

Hiwot T., (2016) Exploratory Study on Dry Port Service in Ethiopian Context: Case of Addis Ababa Kality Dry Port Branch Unpublished Thesis work

Hummels, D., (2001) Time as a Trade Barrier. Working paper, West Lafayette, IN.: Purdue University, Department of Economics.

<https://www.statisticssolutions.com/cronbachs-alpha/>

IMF Country Report No. 14/303 pp24

Keith, T., (2006). Multiple regression and beyond. PEARSON Allyn and Baconl.

Korinek, J. & Sourdin, P., (2009) Maritime Transport Costs and Their Impact on Trade, OECD Trade Policy Working Papers, No. 108, Paris: OECD Publishing

Korinek, J. & Sourdin, P., (2011) To What Extent Are High-Quality Logistics Services Trade Facilitating, OECD Trade Policy Working Papers, No. 108, Paris: OECD Publishing.

Kothari, C.R., (2004). Research methodology: Methods and techniques. New Age International.

Krauth E et al, 2004. "Agent technology and logistics service provider" A literature review. Working paper, 1 1, p. 20

Lambert, D.M., Stock, J.R. and Ellram, L.M., (1998) Fundamentals of logistics management. Mc Graw Hill/Irwin.

Litavniece L. and Znotiņa D, (2015). External Business Environment Problems and Opportunities In Rezekne City. Latgale National economy research, pp. 107-119

Lienīte Litavniece and Daina Znotina, (2016). External business environment problems and opportunities in rezekne city. Journal of Social Sciences, 1(7), pp. 107-114.

Malhotra, N, (2010) Marketing Research, an Applied Orientation, Prentice Hall. Inc. New Jersey.

Marti L., Puertas R., Garcia L., (2014) the importance of the Logistics Performance Index in international trade. Applied Economics, 46(24), 2982-2992,
<http://doi.org/10.1080/00036846.2014.916394>

Melnyk, S. A., Lummus, R. R., Vokurka, R. J., Burns, L. J. and Sandor, J. (2009) “Mapping the future of supply chain management” A Delphi study. International. Journal of Production Research 47: 4629 - 4653.

Mentzer, J. T., & Konrad, B. P. (1991). “An efficiency/effectiveness approach to logistics performance analysis” Journal of Business Logistics, 12(1)

Meron T., Seid M., and Simon P., (2022) Proceedings of the International Conference on Industrial Engineering and Operations Management Istanbul, Turkey, March 7-10, 2022

Mugenda, O. & Mugenda, A. (2003). Research methods: quantitative and qualitative approaches. 1st ed.. Nairobi: African Centre for Technology Studies (ACTS)

Mugenda, O. & Mugenda, A. (2012). Research methods dictionary. Nairobi: Applied Research & Training Services (Arts Press).

Neely, A., Gregory, M., & Platts, K. (2005). “Performance measurement system design: A literature review and research agenda” International Journal of Operations & Production Management, 25(12)

Nge D. et al. (2016) Critical factors affecting logistics activities: An empirical study of garment Industry in Myanmar. International Journal of Business Management, 14(14), p. 10.

NSDC, (2010), National Skill Development Corporation ‘Human Resource and Skill Requirements in the Transportation, Logistics, Warehousing and Packaging Sector (2022)’, Report

Nyema. (2014). ‘Factors influencing container terminals efficiency: a case study of Mombasa entry port. European Journal of Logistics Purchasing and Supply Chain Management Vol.2, No.3, pp. 39-78

OECD, (2002) Transport Logistics: Shared solutions to common challenges, Paris: OECD.
Proclamation, No. 548/2007, Article 2(3).

Rashidi and Cullinane K., (2019) Evaluating the sustainability of national logistics performance using Data Envelopment Analysis. *Transport Policy*, 74, 35-46,

<http://doi.org/10.1016/j.tranpol.2018.11.014>

Rajasekar and Deo (2014). Measurement of efficiency of major ports in India – a data envelopment analysis approach. *International journal of environmental sciences* vol,4 issue 5,

Richard M. Levich and Rosario C. Rizzo, (1998). Alternative Test for Time Series Dependence Based on Autocorrelation Coefficients. Pp3

Robbins, S. P., DeCenzo, D. A. & Coulter, M. (2015). *Fundamental of management: essential concepts and applications* 9th ed. Essex, UK. Pearson.

Theodora Nikaki, 'Bringing Multimodal Transport Law into the New Century: Is the Uniform Liability System the Way Forward,' (2013), p. 70.

UNCTAD (1991) *Handbook on the Management and Operation of Dry Ports*. Geneva: United Nations Conference on Trade and Development.

UNCTAD (2001), 'Implementation of Multimodal Transport Rules'. 6, 7

UNCTAD (2013), "Review of maritime transport, 2013", United Nations Conference on Trade and Development. New York and Geneva, s.n.

UN-OHRLLS, (2018). *Financing Infrastructure in Transport Sector in Landlocked Developing Countries: Trends, Challenges & Opportunities*, UN.

Wanjiru, N., (2013). External Environmental Factors Influencing China-Kenya Trade. *Journal of Business*, I(1), p. 4.

World Bank's *Logistics Performance Index annual report (LPI)* (2018)

World Bank (2020) *Logistics Performance Index*.

Yamane, T. (1967) *Statistics: An Introductory Analysis*. 2nd e, Harper and Row, New York.

Appendix I
Addis Ababa University
College of Business and Economics
School of Commerce

Dear Participants:

I am a graduate student in logistics and supply chain management at Addis Ababa University's school of commerce. I am currently conducting research on "**Factor affecting logistics performance of ESL**" the case of Kality Port and Terminal which is required as part of the MA degree in Logistics and Supply Chain Management.

The purpose of this research is to assess Kality Port and Terminal's logistics performance based on key performance indicators. The discovery appears to benefit all stakeholders in the dry port, including management, customers, employees, and national citizens. The findings of this study will aid in identifying bottlenecks, problems, and opportunities for improvement in the port's logistics operational performance.

Your contribution will be crucial to the research. As a result, your honest, forthright, and timely response is critical to the study's success. Therefore, I respectfully request that you carefully respond to each item of the question.

The study is solely for academic purposes and your responses will be kept strictly confidential. There will be no mention of any individuals, and the data will be presented in aggregate form. On request, I will provide a summary of my findings.

I can be reached by phone or email at the following address. Please do not hesitate to contact me if you have any questions. I appreciate your consideration and cooperation in advance.

Sincerely,

Abiy Mulugeta

School of Commerce

Addis Ababa University

Tel: 0913831979

Email: abimule14@gmail.com

General Instructions:

- 1. It is not necessary to write your name.
- 2. Where answer options are available please tick “✓” in the appropriate box for part I and tick for your response to each statements of part II.

Part I: Personal Details of Respondent

1. Gender Male Female

2. Level of Education

Grade 12 Completed Certificate College Diploma First Degree

Second Degree & Above

3. Age range in (year)

Below 25 Years 25-35 36-45 Above 45 years

4. Job title

Assessor Manager Transitor Officer Other -----

5. Work Experience <5yr 6-10yr 11-15yr >15yr

Part II. Measure the Dry Port's Logistics Performance using the following measurement variables (Make tick Mark as “✓”1 for strongly agree, 2 agree, 3 neutral, 4 disagree and 5 for strongly disagree)

Objectives 1: Factors affecting the LP of KPT. Please rate the following five points.
Where 1. Strongly agree 2.agree, 3.Neutral 4. Disagree and 5. Strongly disagree

		Scale				
I	Political Factor	1	2	3	4	5
1	The government has given enough attention to the rapid response of the logistics sector to expand the port and terminal facility					
2	The local community is willing to expand the port and terminal facilities.					
3	The location of the port did not prevent it from expanding its facilities.					
4	The country's existing peace and security are tremendously affecting the logistics sector.					
5	A significant funding has been set aside to allow for the expansion of the port and terminal as needed.					
		Scale				
II	Technological Factor	1	2	3	4	5
1	The company has provides the necessary and modern logistics services in accordance with the standard.					
2	A modern system has been created to provide high quality logistics services.					
3	All logistics services are available through a single point of contact.					
4	The system and network ensure continuous logistics service.					
5	Customs modernization and automation reform have a detrimental impact on the company's logistical performance.					

		Scale				
III	Economic Factor	1	2	3	4	5
1	The current economic climate of the country positively affect the logistics industry					
2	The company has sufficient foreign cash to purchase the required port machinery and parts.					
3	The organization has sufficient machinery to deliver the required services.					
4	Foreign exchange rate negatively affect the company efficiency					
5	Inflation rate negatively affect the company logistics performance					

		Scale				
IV	Management Commitment	1	2	3	4	5
1	The management team is committed to responding to infrastructure demands raised by stakeholders.					
2	The management team is committed to keeping customers cargo safe and secure.					
3	The management team is committed to resolving the workplace issue.					
4	The management team is committed to providing a single widow service.					
5	customers are committed to obey the company rule, regulation and procedure					

		Scale				
V	Employee related Issues	1	2	3	4	5
1	When introducing new procedures, the organization provides joint training for employees and customers.					
2	Because it provides swift service, customers did not confront the issue of clearing customs quickly.					
3	Customs clearance is quick because all of the company's personnel are qualified.					
4	Customers had no complaints with the logistics service because the proper person was assigned to the right place.					
5	A lack of training and development negatively affect logistics performance					

Objective 6: Dry port logistics performance measurement Indicators Please rates the following five points. Where 5. Strongly Disagree 4. Disagree, 3. Neutral 2. Agree and 1. Strongly Agree

		Scale				
I	Logistics Performance	1	2	3	4	5
1	The efficiency, speed and transparency of custom operation at the dry is excellent					
2	The quality of physical infrastructure, telecom and IT service at the dry port is excellent					
3	Quality of truck company, different inspection agencies at the dry port is excellent					
4	A port and terminal are available to store sufficient containers and goods.					
5	Availability and quality of cargo handling equipment at the dry port is excellent					

Appendix II

Questions for further clarification

1. What is the logistics performance of Kality Port and Terminal in terms of custom clearance, port infrastructure, logistics service quality, port machinery efficiency and availability and size of the port?

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2. What are the major challenges affecting the logistics performance of Kality Port and Terminal?

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Thanks for your time and participation!

Appendix III

1. Graph of linear regression assumption

1. Linearity of relationship test

