The Effects of Logistics Activities on Organizational Performance: A Case Study of Modjo Dry Port, Ethiopia

A Thesis Submitted To Jimma University College Of Business And Economics Department Of Management In Partial Fulfilment Of The Requirements For The Award Of The Degree Masters Of Art In Logistics And Supply Chain Management.

BY

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COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

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CERTIFICATE

This is to certify that the thesis entitled "***The Effect of Logistics Activities on Organizational Performance: A Case of Modjo Dry Port, Ethiopia***" Submitted to Jimma University for the award of the award of the Degree Master of Art in Logistics and Supply Chain Management (LSCM) and is a record of Valuable research work carried out by Mr. *Adugna Gebissa,* under our guidance and supervision.

Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree of diploma.

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DECLARATION

I hereby declare that this thesis entitled "*The effects of logistics Activities on organizational performance a case of Modjo dry port Ethiopia"* has been carried out by me under the guidance and supervision of Emnet Negash (Associate Professor) and Mrs. Tsigereda Aboye (MBA).

The thesis is original and has not been submitted for the award of any degree or diploma to any university or institutions.

Name **Adugna Gebissa**

Date July 9, 2021

Signature:_____

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LIST OF ABBREVIATION / ACRONYMS

ANOVA Analysis Of Variance

CDMA Code Division Multiple Access

CCTV Computer Controlling Technology Visual

CSP Customer Service Policy

DPSE Dry Port Service Enterprise

ICD Indian Clearance Deport

IMF International Monitory Fund

LLDC Land Locked Developed Countries

LPI Logistics Performance Index

LSCM Logistics And Supply Chain Management

MDP Modjo Dry Port

NRT Net Registered Tons

SCOR Supply Chain Operation Reference

SD Standard deviation

SPSS Statistical Package Of Social Science

TEU Twenty-foot Equivalent Unit

TM Transport management

VIF Variance inflation factor

Abstract

Ethiopian logistics system is coupled with lack of sea port resulted in poor linkage of producers to the consumers and non-competitiveness of Ethiopian goods on global market, which compromised livelihood of the people and economy of the country. This research conceptualizes and develops on efficient and effective logistics system needs to be put in place to solve these socio-economic problems. The main objective of the study was to examine the effects of logistics activities on organizational performance in the case of Modjo dry port concerning to the four main logistics activities (transportation management, inventory management, warehouse management, and customer response). Both primary (questionnaires) and secondary sources of data were used. To achieve the objectives of this study descriptive and explanatory research design was used, and also this study applies a mixed research approach. Stratified Simple random sampling was used to select the respondents for the study and accordingly 133 sample size was taken for the study. The descriptive and inferential statistical tools such as; mean, standard deviation, percentage, correlation and multiple regressions were used to analyse collected data with the aid of SPSS. From finding, it is that there is average relationship between Logistics management and organizational performance. Based on the result of regression analysis all variables i.e. Transportation management, Inventory management, Warehouse management and Customer Response are significant effect on organizational performance. Therefore, in order to achieve advancement in profitability and customer satisfaction in the long-run through enhancing organizational performance, it is better for the organization to give due emphasis to the point recommended under recommendation and infrastructures of logistics activities and organizational performance.

Keywords: **Logistics, Logistics *Activities*, O*rganizational performance,* Dry port,**

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CHAPTER ONE:

This chapter is an introductory part to the study on the effects of logistics activities on organizational performance in Modjo dry port. It consists of a brief background of the study, statement of the problem, basic research question, objectives of the study, scope of the study, operational definitions, and organizational paper.

1.1.Background of the Study

Logistics is the part of a supply chain involved with the forward and reverse flow of goods, services, cash, and information. According to the council of the logistics and supply chain Management Professionals, logistics activities management typically includes inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning, and management of third-party logistics services providers. Logistics is a vital element to improve both profitability and competitive performance of a firm (Hajiesmaeili et al., 2016).

Logistics plays a key role in supporting organizations as they strive for more efficient management systems as in the business practices, the inefficient logistics system together with the inefficient internal management would disable the organization to respond to the needs of customers with the lowest price at the shortest feasible time frame including the quality level which does not meet customer expectation and would lead the organizations to the competitive disadvantage situation against their rivals (Nyaberi and Mwangangi, 2014)The ability to transport goods quickly, safely, economically, and reliably (logistics) is seen as vital to the success of businesses, and to a nation's prosperity and capacity to compete in globalized economy (Fekadu, 2013).

Logistics has become a fundamental factor for the generation of competitive advantages and the creation of value, through the planning, implementation, and control of processes linked to physical flows, and the integration of processes along the supply chain (Alarcon & Antun, 2013). On one hand, the efficient management of the key and supporting logistical processes allows reducing the costs related to the goods flow through the supply chain, the production and physical distribution costs, and especially the storage, inventories, and transportation costs. On the other hand, the

capacity for putting a product in the place and at the time where demand exists, satisfying the clients' requirements before its competitors can do (Alarcon & Antun, 2013).

Logistics has become a crucial factor for the generation of competitive advantages and the creation of value, through the planning, implementation, and control of processes linked to physical flows, and the integration of processes along the supply chain (Alarcon & Antun, 2013).

Today, logistics activities is based on the system concept and cost approach. Transportation, warehousing, handling of material, inventory management, and order processing are the major logistics activities, which impact customer cost and operation. Integrated logistics helps in taking the cost out of the supply chain and also enhances the customer service level. When looking at the macro level, the growth of a country's economy depends on the availability of excellent logistics infrastructure. The speed of the movement of goods depends to a great extent on the various modes of transportation like rail, road, air, and sea. Logistics' role is to provide time and place utilities. Time and place Utilities facilitate the creation of global scale and scope economies while enhancing an organization's ability to provide high levels of seamless customer satisfaction (Hartwell, 2020).

Given the high percentages provided by researchers from the last two decades and by witnessing lecture book “Logistics and Supply Chain management” prepared by Ensermu et., al., (2013), customer response, inventory planning and management, supply, transportation, and warehousing are five main interdependent activities done under those elements to realize if end to end operations are meet which are accomplished by logistics work forces. Depending on the circumstances (situations), many other activities can be included in logistics. Sometimes an organization might include sales forecasting, production scheduling, customer service management, overseas liaison, third party operations, and so on. The important point is not to draw arbitrary boundaries between functions, but to recognize that they must all work together to get an efficient flow of materials (Douglas et al., 2010).

Realizing the importance of sustainability in logistics management was critical for competitive advantage because operational performance had a positive impact on company’s financial performance. Since logistics management consisted of many activities including customer service, orders processing, inventory management, transportation, storage, packaging, demand and forecasting, production planning, purchasing and procurement, facility location, and distribution

that were supported by enormous information flow every organization wanted to impress the efficiency on its formation. This could only be achieved when, logistics performance is managed in order to ensure sustainability of the firm (Varanya et al., 2012). Hence; I initiated to study entitled the effects of logistics management on organizational performance at Modjo dry port, Ethiopia.

1.2. Statement of the problem

Most of the time the goal of the organization is to maximizing their profit with the reduction of the total cost of logistics activities, rather than focusing on each activity in isolation. Reducing costs in one area, such as transportation, drives up inventory carrying costs as more inventories are required to cover longer transit times, or to balance against greater uncertainty in transit times (Douglas et al., 2010).

Effective logistics activities can lead to more efficient operation performance that increases profitability. Organization competitiveness and increase customer loyalty where distances are frequent and many environmental barriers increase the complexity and uncertainty of worldwide operations. Logistics is one of the major activities that have an effects /impact on organization performance. It deals with several sub-activities like Inventory control, warehousing and material handling, and transportation (Walters, 1969-2003). Effective logistics management has been recognized as a key opportunity to improve the profitability and competitive performance of firms (Douglas et al., 2010).

According to the IMF, 2019, Ethiopia's local industries costs are rising, and the country's economy is failing; competitiveness in the global market due to poor logistics. The report of 2019 ads that inefficient logistics practices not only impede Ethiopia's export, they also increase the cost for consumers for imported goods. Improving trade logistics is thus very important for making Ethiopia's export sector globally competitive. This index showed how low Ethiopia was in terms of logistics performance and the need for further research to come up with ways on how to improve the situation.

Even though logistics is a decisive factor to channel what the company owns to the rest of the company, the companies gave little attention to in and out material movements which ensure the company output to market (Cui and Hertz, 2011). Very recently, logistics performance is considered as a critical factor to determine business performance and manufacturing industries are

forced to give due attention to logistics activities to access new revenue-generation markets. In addition, it maintains already-existing markets because business becomes more customer-oriented due to the availability of many service providers and as more and more firms compete to survive with the introduction of products with short life cycles.

The World Bank (2018) report on logistics performance states that a competitive network of global logistics performance is needed. Logistics would be the backbone of international trade and the importance of efficient logistics for trade and growth would be widely acknowledged. Better logistics performance is strongly associated with trade expansion, export diversification ability to attract foreign direct investment and economic growth. The World Bank Logistics Performance Index (LPI), which is an overall LPI score, measures the performance of a country's logistics. It bases on the efficiency of the customs clearance process, quality of trade and transport-related infrastructure, ease of arranging competitive shipments in terms of price, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time.

According to this index, Germany, the Sweden, and Belgium are the most efficient and highest-ranked LPI countries at positions 1, 2, and 3 in the 2018 LPI. In Africa, South Africa, Egypt and Malawi are the most consistent and highest ranked in logistics performance at positions 34, 62, and 73 respectively. East African countries have had mixed rankings with Kenya ranked the highest at position 68 while followed by Rwanda, Ethiopia, Burundi, Tanzania, and Djibouti at positions 80, 104, 107, 138, and 154, respectively. Therefore, it is clear that logistics management has a great effect on the economy and a critical contributor to the competitiveness of the country. All the six key dimensions of logistics performance measured suggest that Ethiopia's trade logistics are fundamentally weak and need to be improved (Fekadu, 2013).

The Ethiopian logistics system is characterized by poor logistics practices and lack of coordination of goods transport, low level of development of logistics infrastructure (Fekadu, 2013). Even though there is a study done by Fekadu on Ethiopian logistics practices, it doesn't focus specifically on those logistics activities like ordering processing, customer response, transportation, inventory, and warehousing. Dry port operations play a crucial role in the upgrading of world trade and their competitiveness. The logistics process is also based on the port operation efficiency by improving the efficiency of dry port operations.

As conducted by Moses *et al.*,(2017), effective logistics management on the organization performance of shipping firms in Mombasa, Kenya. The main Logistics activities Warehousing management, Inventory management, Transport management, and reverse logistics positively influence the organization and highly practiced, and also, Kamran Azeem, (2018) on Impact of Effective Logistics Management on Organizational Performance;" he concluded that the study has been proved successful in evidencing that logistics effectiveness and financial efficiency have a positive relationship with organizational performance.

When coming to our county cases other research has been conducted by Yohannes, (2017) on the impact of logistics management on Organizational Performances, the researcher concludes that logistic management is inefficient, late delivery and no well-developed tool to check customer satisfaction and if the organization hasn't a well-developed tool which measures the customer service delivery in the organization and the organization fails to meet their ultimate goal in case of logistics management.

Other research was done by Merran, (2019) in an industrial park on the effect of logistics management the researcher conclude that those logistics key activities (i.e. transportation, warehousing, inventory management, customer order processing, and information flow managements) has a positive relationship with the organization performance, in this organization the logistics activity has good measurements to satisfy their customer requirements to pursue their mission. So there were exclusive critical activities between the authors to conclude their study on a similar topic in a different organization. Accordingly, it is difficult to conclude that the problem that exists in one organization may not be the same for the other organization because it depends up on the nature and core activities of the organization. Then, the study takes this gap to fill those gap/to see those contradiction ideas between those authors either the logistics activity can influence the organization performance positively or negatively by adding few variables which is the key logistics activity like inventory management which is not taken by the first author Yohannes and whereas warehousing management is not included by the second author Merran’s thesis. Therefore, the researcher by adding those variables forgotten by those authors to solve those authors contradiction idea it's needed to determine the effect of logistics management on organizational performance of Modjo dry port, Ethiopia. Furthermore, this study was to narrow down the above-mentioned gaps by raising the following basic research questions.

1.3. Basic research question

In the research, the researcher has answered the following research questions in this study.

1. What is the effect of transportation management on organizational performance in MDP?
2. What are the effects of Inventory Management on organizational performance in MDP?
3. What are the effects of warehouse management on organizational performance in MDP?
4. What are the effects of customer response on organizational performance in MDP?

1.4. Objectives of the study

1.4.1. General objective.

The main objective of the study was to examine the effects of logistics activities on organizational performance in the case of Modjo dry port.

1.4.2. Specific Objectives of the Study.

The specific objectives of the study were:

- To find out the effect of transportation management on the organizational performance of MDP.
- To analyse the effect of Inventory Management on the organizational performance of MDP.
- To identify the effect of customer response on organizational performance of MDP.
- To determine the effects of warehousing management on the organizational performance of DP.

1.5. Significance of the study

The significance of this study will have paramount importance. First, it will help the researcher to get practical knowledge about the effects of logistics activities; concerning inventory, transportation, warehouse, and Customer responses on organizational performance. Second, this research will have great input for the port authority, Ethiopian Shipping and Logistics Services Enterprise (ESLSE), and other concerned bodies by providing information on logistics activities to support their decision regarding the logistics on the performance of an organization. Furthermore, this study will benefit the academic community as it may contribute to the increasing body of literature on logistics and it presents avenues for continuing particularly on logistics.

1.7. Scope of the study

Logistics activities encompass vast areas of managerial practices. However, it is difficult and unmanageable to conduct the study in all areas, particularly in terms of research manageability. Logistics activities are defined in different ways depending on the understanding of the explanation of different scholars, but the subject scope of this study is delimited to the certain major logistics activities that can be identified concerning major and the organization can predominantly exercise it. Logistics is a composition of the following five activities: customer responses, inventory management, supply (sourcing), transportation, and warehousing (Ensermu, 2015).

Conceptually, the study focused only four aspects of logistics activities which included transportation management, inventory management, warehousing management, and customer response; because; it's difficult to generalize and use it the rest logistics activity at one study and these four variables are related with core activities of the organization. Modjo dry port is the main and the biggest dry port in Ethiopia, and the study geographically delimited to Modjo dry port Oromia regional state East Shoa zone of Modjo town starting from December 15, 2021, up to May 14, 2021. The study employed descriptive and explanatory research design with qualitative and quantitative approaches.

1.8 .Operational definitions

Customer response*:* is links logistics externally to the customer base and internally to sales and marketing. Customer response is optimized when the customer service policy (CSP) yielding the lowest cost of lost sales, inventory carrying, and distribution is identified and executed operating system as it is derived from the logistics strategy, which in its turn is created from the company's strategy (Mohamed , 2019).

Inventory management:-is a key issue in logistics system planning and operations. Inventories are stockpiles of goods waiting to be manufactured, transported, or sold (John *et al*., 2004).

Logistics:-encompasses all the information and material flows throughout an organization, it is the process of strategically managing the parts and finished inventory (and related information flow) through the organization at cost-effective fulfilment of orders (Christopher, 2010).

Transportation: is part of logistics, which originated in the military to support the troop and equipment movements of military operations. Nowadays it is used for various types of operations in both the public and private areas (Mohamed, 2019).

Logistics Management:-is the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption to conform to customer requirements (Lambert, 2011).

Warehousing: is a traditional approach in which goods are received by warehouses and stored in tanks, pallet racks or on shelves (John et al., 2011).

Dry port: A dry port is also known as an inland intermodal terminal directly connected to seaports with high capacity transports mean, where customers can leave and pick up their standardized units as if dealing directly with a seaport (Roso, 2010).

1.9 Organization of the paper.

This thesis mainly consists of five chapters. Orderly,

Chapter one contains the background of the study, statement of the problem, basic research questions, the objective of the study, the significance of the study, delimitation/scope of the study, limitation of the study, definition of terms, and organization of the study.

The second chapter deals with the literature relevant to the study and conceptual framework adapted from previous and modified ones.

The third chapter consists of research design, research approach, target population, sample technique, data type, and sources, sampling technique, sampling size determination, data collection, data analysis, ethical consideration, validity, and reliability of the research.

Chapter four-contain the data presentation, analysis, interprets and discussion of the finding.

Chapter five- summarizes the results/findings of the study and interprets and/or discusses the findings. Finally chapter five comprises four sections, which includes a conclusion, and a recommendation, Limitation of the study and Direction for Further Studies.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

This chapter of the study describes the relevant literatures. It explains the history and advancement of logistics, logistics management, logistics management challenges, organizational performance. In short this chapter gives an extensive review of the available theoretical literature, empirical literature, and conceptual framework of the study and literature gap.

2.1. Theoretical Literature Review

A theoretical review is an account of the theories that have been established on the topic by accredited scholars & researchers. The objective of this section is to convey to the reader what theory or models have been established on the research subject. The theories are formulated to explain, predict, & understand a phenomenon, in many cases, to challenge & extend existing knowledge; hence they form the structure that holds or supports a research study.

2.1.1 Concept of logistics and dry port

The development worldwide concerning "dry ports" addresses many of the challenges facing contemporary logistics and ports. Elements of logistic activities, such as customer services, sales forecasting, distribution communications, stock control, materials handling, and order, amongst others, may give companies competitive advantages, especially when based on the exchange of reliable information between the links in the chain. On other hand fourteen key logistics activities are involved in the flow of products, from point of origin to point of consumption: these are customer service, demand forecasting, inventory management, logistics communications, material handling, order processing, packaging, parts, and service support, plant and warehouse site selection, procurement, reverse logistics, traffic and transportation, warehousing and storage (Lambert and Stock, 2011).

As a crucial part of the international transportation systems, ports are not solely an independent and natural area for the transfer of physical goods, but also a systematic element of the logistical supply chain (Gujar, 2011). Therefore, the role of a dry port within this system is becoming particularly important. Due to the roles of dry ports in the coordination of materials and information flows;

minimization of costs; as well as reliable cargo handling which is becoming crucial as a functional part of the global logistics and supply chain management.

The World Bank Logistics Performance Index (LPI) which is an overall score, measures the performance of a country's logistics based on the efficiency of the customs clearance process, quality of trade and transport-related infrastructure, ease of arranging competitive shipments in terms of Price, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time.

2.1.2. Definition of Logistic Activities and Dry Port

Logistics can be defined as the process of strategically managing the procurement, movement, and storage of materials, parts, and finished inventory through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfillment of orders (Christopher, 2012). Transportation is defined as the activities involved in shipping any goods or finished products from suppliers to a facility or warehouses and sales locations. A "dry port" is defined as an inland terminal to and from which shipping lines could issue their bills of lading.

To improve port performance and competitiveness, it is, therefore, necessary to have a better understanding of the various components of cargo delays in ports and address the underlying causes (Raball and et al., 2012). The assessment of the performance of dry ports in Ethiopia using the Supply Chain Operation Reference (SCOR) has been described as the business activities associated with all phases of satisfying a customer's demand with performance attributes of reliability, responsiveness, agility, costs, and asset. Dry Port or Inland Clearance Depot (ICD) also defined as: “A common user facility with public authority status, equipped with fixed installations and offering services for handling and temporary storage of any kind of goods carried under customs 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, 2017).

2.1.3. Organizational performance

Port Efficiency and productivity studies concerning port performance assessment have been reviewed and examined by many scholars and industrial practitioners for the past three decades.

The concept of port performance is notably associated with operational issues, i.e., the efficient use of infrastructure, superstructure, and all other resources used. The majority of the indicators, or relevant exercises, applied are constructs dealing with the operational productivity of the assets, equipment, and productivity factors available (Brooks et al., 2011).

Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals. Performance is one of the most widespread dependent variables used by academics to assess the impact of an organization. In the opinion of some scholars performance is nothing but a reflection of strategic management. Performance could be defined as the nature and quality of action that an organization takes to accomplish its principal mission and functions for the generation of profit (Sink, 1991). In a commercial organization performance measures usually have financial connotations such as costs and profits. Many prior studies have measured organizational performance using both financial and market.

2.1.4. Port performance measurement approach

Performance is defined as the ratio of actual output to standard output, which requires establishing a goal and a strategy to meet such standard output. This definition was based on differentiating between productivity, utilization, and performance. Productivity refers to the ratio of output to input, while utilization is the ratio of used facilities to available facilities. To meet a standard output, a goal tends towards minimizing operating costs and improving the service levels requiring a balance between efficiency and effectiveness Tongzon, J. and W. Heng (2015). For both these dimensions, they measured efficiency in terms of how well the resources are utilized, while the effectiveness has been measured if a goal or a strategy has been accomplished.

Port Performance Measurements Ports' managers, planners, and authorities need a reliable performance measurement system to assess the efficiency and effectiveness of their actions. For this reason, optimization of facilities and operations is the common goal in most current measurement systems. Analytical methods such as queuing models, stochastic frontier, data envelopment analysis, and simulation models have been the most common measurement approaches used at measuring port performance. Dongjin KIM (2012) evaluated port efficiencies with four productivity criteria (TEUs/year/crane, TEUs/year/length, TEUs/year/area, and TEUs/year/hour) and ranked nineteen European container ports using PROMETHEE methodology.

2.1.5. Logistics Management

This study provided a model that allowed the organization to see which logistics activities were most important to them, and then how much value the organization was gaining from these activities relative to their costs, growth, and customer satisfaction. It intended to identify the major aspects of logistics activities since due to the enormity of logistics operations, not all aspects were being covered in this research, but rather those that were determined to be of the most importance and significance to organization success. Frazelle (2011) and Kent (2010) states that logistics is comprised of four interdependent activities; these are customer response, inventory management, transportation, and warehousing.

One important management practice that can be applied in organizations today is Logistics management. Logistics management provides business organizations with the entire operations costs and increases the efficiency of the organization's business activities. Cooperation among all the supply chain players coupled with a responsive approach can enhance organizational competitiveness through reduced lead-time facilitated by smooth flow of material from upstream towards the downstream end of supply chain. This approach will ensure end customers get value for their money and also reduce the level of uncertainty in the industry (Waiganjo & Gatobu, 2014)

Logistics consists all of the information and material flows throughout an organization. It includes everything from the movement of a product or from service that needs to be rendered, through to the management of inbounding/out bounding raw materials, production, the storing of finished goods, its delivery to the customer and after sales service (Ittmenn and King, 2010).

2.1.6. Transportation Management

Transportation was defined as the activities involved in shipping any goods or finished products from suppliers to a facility or to warehouses and sales locations (Kenyon and Meixell, 2011). Transportation was required in the whole production procedures, from manufacturing to delivery to the final consumers and returns. Only good coordination between each component would bring the benefits to a maximum (Laird, 2012). As the flow of goods was a part of the definition, transportation seemed a natural piece of logistics and therefore a vital factoring influencing organizational performance.

Transport system is the most important economic activity among the components of business logistics systems. It provides the physical link through the movement and storage of materials for production, and outbound logistic through the movement and storage of finished goods to the customer (Sabry, 2015).

Transportation is a key process in the logistics chain, which is involved at every stage, right from the manufacturing of the product, to its final delivery at the required location. By moving goods from locations where they are sourced to locations where they are demanded, transportation provides the essential service of linking a company to its suppliers and customers (Reddy and Jayam, 2016).

Transportation is an essential and a major sub-function of logistics that creates time and place utility in goods. In fact, the backbone of the entire supply chain is the transportation management that makes it possible to achieve the well-known seven Rs- the right product in the right quantity and the right condition, at the right place, at the right time, for the right customer at the right cost (Kumar and Shirisha, 2014). Transportation plays a connective role among the several steps that result in the conversion of resources into useful goods in the name of the ultimate consumer. It is the planning of all these functions and sub-functions into a system of goods movement in order to minimize cost maximize service to the customers that constitutes the concept of business logistics (Tseng et al., 2005).

Transportation management deals with transportation mode, fleet size, route selection, and vehicle scheduling and freight consolidation. All four areas are economically interrelated and should be planned in an integrated manner to achieve maximum benefit (Reddy and Jayam, 2016). In shipping goods to its warehouses, dealers and customers, the company can choose among five transportation modes: road, rail, water, pipeline and air (Kotler et al., 2005).

Road -Trucks are highly flexible in their routing and time schedules. They are efficient for short hauls of high-value merchandise. Also, there is increasingly greater freedom for international hauliers to transport goods between destinations within one country, resulting in greater efficiency in the use of trucks.

Rail - Railroads are one of the most cost-effective modes for shipping large amounts of bulk products – coal, sand, minerals, farm and forest products over long distances.

Water -In countries favorably served by coastal and inland waterways, a large amount of goods can be moved by ships and barges. Although the cost of water transportation is very low for shipping bulky, low-value, non-perishable products such as sand, coal, grain, oil and metallic ores, water transportation is the slowest mode and is affected by the weather.

Pipeline -Pipelines are a specialized means of shipping raw commodities such as petroleum, natural gas and chemicals from sources to markets. Most pipelines are used by their owners to ship their own products.

Air-Although the use of air carriers tends to be restricted to low-bulk goods, they are becoming more important as a transportation mode. Air-freight rates are much higher than rail or truck rates, but air freight is ideal when speed is needed or distant markets have to be reached. Among the most frequently air-freighted products are perishables (fresh fish, cut flowers) and high-value, low-bulk items (technical instruments, jewelry). Air freight is advantageous as it reduces inventory levels, packaging costs and the number of warehouses needed.

In choosing a transportation mode for a product, shippers must balance many considerations: speed, dependability, availability, cost, capability and others. Thus, if a shipper needs speed, air and truck are the prime choices. If the goal is low cost, then water or pipeline might be best. In practice, firms may rely on a combination of transportation methods which would best enable them to meet logistics objectives cost-effectively (Kotler et al., 2005).

2.1.7. Inventory Management.

Inventory is the storage of any item or resource used in an organization. An inventory system is the set of policies and controls that monitors levels of inventory and determines what levels should be maintained, when stock should be replenished, and how large orders should be (Augustine and Agu, 2013).

According to Arogundade and Babaunde (2008), inventories are the soul of any companies that provides goods and services. They refer to the stock of items used within production system such as basic raw materials, supplies of components or work in process (WIP) and finished goods. Proper

coordination of production activities based up on the expected demand, available inventory profile, lead time, given capacity and other related variables is of utmost importance (Bagshaw, 2017).

Inventory is critical to supply chain management because it directly impacts both cost and service. A certain amount of inventory is inevitably required somewhere in the chain to provide adequate service to the end customer as demand is mostly uncertain, and it takes time to produce and transport product. On the other hand, the need to reduce costs as against improving service becomes the key issue, and the role played by successful inventory management is becoming more apparent. The inventories are resources of some kind having some economic value, awaiting conversion or use in the future.

Inventory is a key determinant of profitability; Inventory velocity turns assets into profits. The faster inventory turns, the greater profitability. Inventory is the key issue to supply chain management success. Logistics strategy focuses on low costs to make stock holdings as efficient as possible. Stocks have a clear strategic effect on an organization influencing long-term options. But the strategic effect on stocks has a clear effect on the organization's profit, margins, return on assets, and other financial measures of performance, such as lead time, availability, and reliability (Waters, 2009).

Inventory management involves trading off the levels of inventory held to achieve high customer service levels with the cost of holding inventory, including capital tied up in inventory, variable storage costs, and obsolescence. The study by Sahay and Ramneesh (2011) found that some of the major reasons for holding inventories by Indian organizations include: improving customer service; hedging against price changes and contingencies; achieving production, purchase, and transportation economies; protecting against demand and lead time uncertainties; balancing supply and demand.

2.1.8. Warehouse management

Warehousing is an integral part of every logistics activities. Warehouse management has been defined as the combination of planning, decision-making, storage and controlling inbound and outbound flows of products. The performance of the warehouse is often judged by its productivity and its cost performance. Warehouses or distribution centres are usually equipped with loading docks to load and unload trucks, and they have cranes and forklifts for moving goods, and they are

placed on standard pallets loaded into pallet racks. Warehousing is a support function for logistics and plays an important role in attaining the overall objectives of an organization's supply chain system.

Warehouses are usually large plain buildings used for commercial purposes for the storage of goods and are commonly used by exporters, importers, wholesalers, manufacturers, etc. A warehouse is a place where inventory is stored. It is an area of interface for production, market, customers as well as suppliers. The warehouse, being a critical link in the supply chain, serves as the source of order status information for the customers, provides inventory visibility for the supply chain partners and the enterprise as a whole. Warehouses that operate in more turbulent markets are likely to have to continually modify their products and services to satisfy customers' changing preferences (Faber 2013).

2.1.9. Customer Response

Customer service has been defined as a customer-oriented philosophy that integrates and manages all elements of the customer interface which is determined by the optimum cost-service mix. Good customer service supports customer satisfaction. The organization should manage customer satisfaction and customer response properly; if the organizations want to assure the continuity of business. Industry and customer; defective or broken merchandise can be exchanged only with a receipt and within a specified time frame. It is out of a logistics system that involves delivering the right product, to the right customer, at the right place, at the right condition, at the right time, and at the right lowest cost (Lambert, et al., 2010).

2.2. Empirical Literature Review

2.2.1. Logistics Practices

Assessment made about Logistics practice in Ethiopia, in his finding, logistics are a key component of dry ports and their operation has a direct effect on relevant economic variables such as export competitiveness and final import prices (Fekadu, 2013). A dry port provides service for the handling, storage of containers, and transportation. The idea of a dry port is emerging in the country to tackle the constraints related to ports and for cost-effective use of the transport infrastructure. Dry ports and freight stations, and warehouses are important elements of the logistics system. A strong logistics activity like inventory control can support organization agility. The way goods are

managed in warehousing, tools used for inventory management and control have an important impact on organizational performance.

2.2.2. Logistical Factors Influencing Port Performance

Ruto and Datche's (2015) study on logistical factors influencing port performance taking Kenya port Authority as a case study. The study uses a survey research design and employs descriptive statistics analysis and summaries the causes of poor performance. The Impact of logistics on organization performance: a case study on USA manufacturing firm Zhang, and Lim (2013). This study was done through a survey of 273 manufacturing firms in the USA, and the results indicated that logistics flexibility had a significant, positive, and direct impact on customer satisfaction. This confirmed that firms could achieve customer satisfaction by developing logistics flexibility which enabled quick replenishment of incoming materials and rapid delivery of finished products to customers.

2.2.3. Dry Port Performance Management Practices

Abdureazak (2016) conducted an empirical study on the assessment of customer's perceived factors that determines the performance of Modjo dry port. Dry ports have similar characteristics to seaports, which adopt important characteristics from seaport researches. Seven key determinants of port performance are proposed based on the existing literature. They are cargo handling equipment, port infrastructure, and customs operation, size of dry port, quality of logistics service, port staff, and reliability of port operations. These are factors which are identified as selection criterion by port users indirectly considered as indicators variable that influence dry ports performance

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Previous studies and researches in the area explained results they found from different perspectives/dimensions, some of the researches finding related to logistics management are summarized as follows.

According to Nyaberi and Mwangangi (2014), a logistics management practice contributes to an increase in profit, sales volume, service delivery, production levels, and quality of the product. This, therefore, shows that the importance of logistics management in any organization cannot be underrated. It should be the core business of the business to formulate and design order processing logistics practices to enhance performance. According to them, Inventory control logistics management assists to reduce costs of maintenance of stock, maintain the quality of the product, improving production flow, and reducing the cost of breakages. This in turn leads to customer goodwill and a high volume of sales, hence the improvement in the overall performance of the business.

A study was done by Muslimin et al., (2015) shows that logistics operation has a significant impact on financial performance. According to them, logistics cost and service quality have a positive impact on financial performance. According to the study conducted by Tilokavichai et al., (2012) about the Analysis of linkages between logistics Information Systems and Logistics Performance Management under uncertainty, can achieve more efficient and higher performance if they systematically plan their logistics management strategy. In their study of logistics in the hospital: a methodology for measuring performance, Serrou and Abouabdellah (2016) have shown the importance of logistics costs in health institutions, as well as performance analysis via the cost, safety, and quality.

Kuswantoro and Rosli (2012) in their study logistics efficiency and firm performance: evidence from Indonesian Small and Medium Enterprises showed the significant impact of logistics innovations in information sharing and transportation coordination on firm performance is sufficient to explain the variation in performance. In addition, the finding of this study showed that the application of information technology, such as the internet enables firms to improve their market knowledge and relationship with clients and suppliers within the same value chain. This would improve logistics efficiency in terms of costs and delivery time and, finally, performance. In addition, innovative transportation coordination was found to improve logistics efficiency, which directly influenced performance.

Ruto and Datche,(2015) study on logistical factors influencing port performance taking Kenya port Authority as a case study. The study use survey research design and employs descriptive statistics analysis and summaries the causes of poor performance in the port of Mombasa according to these findings: lengthy customs clearing procedures, the rapid growth of container trade, frequent break down of Kenya Revenue Authority and Kenya Ports Authority, IT Systems, slow gate out process and slow container off-take to Container Freight and other Logistics activities.

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In the global economy, logistics received more attention as a major cost driver when the revolution of information technology to better monitor transaction activities such as the ordering, movement, and storage of goods is possible combined with the availability of computerized quantitative models. Ethiopia as a developing country recognized the significance of trade logistics a decade after experiencing a bottleneck when importing heavy types of machinery to fulfil the demand of the industry and service sector. Similarly, the export market began to demand instant delivery and cost-efficiency. Since the Ethiopian economy is largely dependent on exportable agricultural products mainly coffee and oilseeds, logistical efficiency is very crucial. As a result, the Ethiopian government practiced many reforms in response to changes in the economy. Specifically, the country issued proclamations, deregulated the transport sector, merged logistics enterprises, restructured customs Authority and established dry ports connected by railway, which are the major move in the country that gave recognition to trade logistics (The Global Competitiveness Report, 2010).

2.3. Conceptual Framework

Various methods for measurement of performance of logistics activities on organizational performances will be proposed and recognized in previous literature. It is difficult to find and use

one single dimension of logistics performance, there is no general measurement or model to measure port/ terminal performance. The early era of the logistics performance studies will be used different measurements to investigate port/terminal performance and for internal and external studies. This study will base on the ideas and concepts reviewed in the literature and developed hybrid indicators of dry port performance measurement. Accordingly, organizational performance is dependent on variables, and logistics activities like transport management, inventory management, Warehouse management, and customer response are the independent variable.

Here the below figure denoted the independent variables and dependent variables (Organizational performance) which are more related with the nature of Modjo dry port organizational work environment feature.

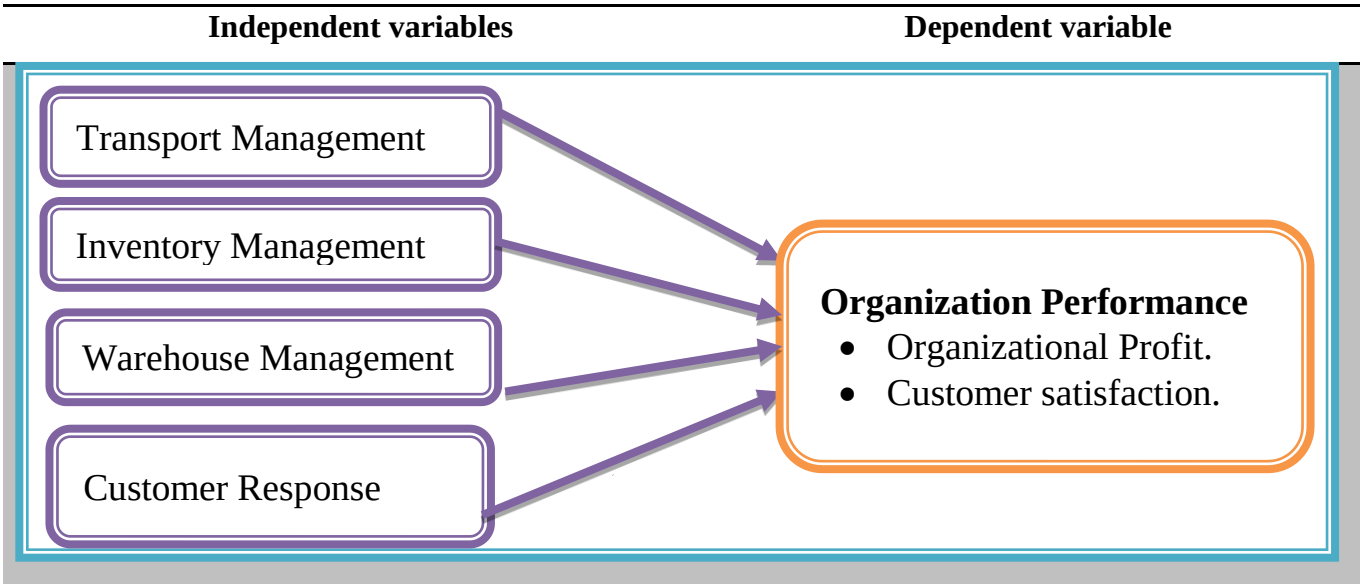

Figure 2.1 Adopted from Mwangangi (2016) with modification

CHAPTER THREE:

3. RESEARCH DESIGN & METHODOLOGY

This chapter shows the research design and methods that would be used to achieve the objective of the research. It includes design, approach, and target population, sampling technique, data types, and sources, sample size determination, data collection procedures, data analysis, models of specification, Ethical Consideration, validity, and reliability.

3.1. Research Design

The researcher employed an explanatory and descriptive type of research design for the realization of intended objectives. The researcher used descriptive research because it is applicable to describe a situation, problem, phenomenon, service, or activities in a systematic manner related to logistics activities on organization performance.

The researcher employed an Explanatory research design to identify the relationship and effects between independent and dependent variables, as (Kothari, 2011) mentions; the explanatory research method is very important to explain the cause and effect relationships of a phenomenon. Therefore the researcher employed both descriptive and explanatory types of research to examine the effects of logistics activities on the organizational performance of Modjo Dry Port.

3.2. Research Approach

The research approach used for the study was a mixed research approach. A mixed methods research approach is a procedure for collecting, analysing, and "mixing" both quantitative and qualitative methods in a single study or a series of studies to understand a research problem. The basic assumption is that the uses of both quantitative and qualitative methods, in combination, provide a better understanding of the research problem and question than either method by itself (Creswell, 2011). Mainly, data were collected using a questionnaire (Primary data), hence the nature of data obtained through this method is quantitative. This is going to be used in supporting and giving full meaning to data obtained by questionnaires.

3.3. Data Types and Sources

The researcher used both primary and secondary data. The primary data was collected from the section of the selected group (i.e. Employees who work in the organization in each department). Questionnaires were provided in closed-ended and open-ended way. As well as, the researcher used secondary data (Organizational annual reports, past data that had been previously collected and Journals and Internet). It is used to extract any sort of essential information to strengthen the study findings.

3.4. Target Population

The population of the study was a total group of people from which the researcher may obtain information to meet the research objectives (McDaniel, 2010). For this study, the target population of the study was employees of the Modjo dry port those who work in the logistics activity department (i.e Transportation, Warehousing, Inventory management, and Customer response department) and those who have a direct relationship with the study areas of logistics management. Because of this departments are more faced with logistics activities and have more effect on dry port performance. The total population of the study was 199 workings under a targeted department (transportation, inventory, Warehouse and customer response).

3.5. Sampling Technique and sample size determination

The researcher used the probability sampling technique of stratified simple random sampling. The reason for using stratified simple random sampling is to consider all employees proportional or have an equal chance to be selected from their department. Where population embraces many distinct categories, the frame can be organized into separate "strata." Each stratum is then sampled as an independent sub-population, out of which individual elements were selected by using a simple random sampling technique. The respondents were stratified based on their departments (i.e. Transportation, Warehousing, Inventory management, and Customer response department). While the study was conducted; stratification shows their representation.

3.5.1 Sample Size Determination

Sampling is the process of choosing a smaller and more manageable number of study units from a defined study of population. The total population of employees of are 199 who work in Modjo Dry port and the number of respondents (employees) from transportation department is 70, from

inventory department is 44 from warehousing department is 39 and from a customer, response department is 35. To determine the sample size for each product will be used the formula given by Yamane (1967).

$$\boldsymbol{n} = \frac{\boldsymbol{N}}{\mathbf{1}+\boldsymbol{N}(\boldsymbol{e})^{\mathbf{2}}} = \frac{199}{1+199\ (0.05)^2} = 133$$

Where : **n** is sample size

N is Total population

e is error term (0.05)

To get the sample size of each target department the researcher used the next formula with its explanation of each latter represented.

$$ni = \frac{Ni * n}{N}$$

Hence, In order to get the sample size of transportation department**;** **ni = $\frac{\mathbf{70*133}}{\mathbf{199}}$ = 47**

Where; ***ni***= is sample from the department/strata, ***Ni***= Total number of each target department, ***n***= Sample size of all target department, and ***N***= Total population of all target department.

Table 3.1: Sample size taken for the study.

No.	Logistics Activities/department	Sub-population/strata	Sample
1	Transportation department	70	47
2	Inventory department	44	29
3	Warehousing department	49	34
4	Customer response	35	23
	Total	**199**	**133**

Source = own computation.

3.6 Data collection procedures

To achieve the objectives of this research, the researcher used both primary and secondary data sources. For the sake of collecting primary data, the researcher used the method of questionnaires were provided in closed-ended and open-ended way. Primary data, directly related to the purpose, collected through an empirical study. To obtain relevant and adequate information, the researcher used it as an instrument of data collection. The questionnaire consists of both close-ended and open-ended questionnaires that generate precise answers to develop the study.

3.7. Data analysis

To ensure consistency of data, editing was carried out by the researcher. Descriptive statistics and inferential statistics with the aid of SPSS software were used for the analysis of the study of the researcher. Descriptive statistical is the analysis like frequency and frequency distribution, cumulative percentage, and comparison of the mean. In addition, tabular explanations will be used to present the result. Finally, the analysis part will be presented in the form of tables and figures to ensure an easy understanding of the analysis. In inferential statistical analysis, multiple linear regression methods and correlation was utilized.

3.8. Model Specification

Multiple regression analyses refer to finding a relationship between variables and forming a model. The regression model overall fit was examined with the help of Analysis of variance (ANOVA). Correlation is used to describe the strength and direction of the relationship between two variables. Since all variables are measured at an interval level, Pearson product-moment correlation was used. The model for this study was developed using logistics activities or predictors which affect organizational performance.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y is the dependent variable,

X_1 is Transportation management

X_2 is Inventory management

X_3 is Warehousing management,

X_4 is Customers responses,

β_0 is coefficient,

$\beta_1 \cdots \beta_n$ is slop of regression,

ε-error term

In the model, β0 = Constant, β1 to β4=Regression coefficients represent the mean change in the dependent variable for one unit of change in the independent variable while holding other independent variables in the model constant and ϵ=Error term which capture the unexplained variable in the model.

3.9. Ethical Consideration

The consideration of these ethical issues would be necessary for ensuring the privacy as well as the safety of the participants. To secure the consent of the selected participants, the researcher was communicated all important details of the study, including its aim and purpose. The confidentiality of the participants was also be ensured by not disclosing their names or personal information in the research question and interview. Only relevant details that helped in answering the research questions were included. Generally, this study avoided full of harm on the organization and kept confidential.

3.10. Validity and reliability

3.10.1. Validity

Validity is the extent to which a test measures what it claims to measure (Lakshmi and Mohideen, 2013). A measure is validity if it measures what it is supposed to measure. According to Kindy et al.(2016), content validity is the extent to which the items in an instrument covers the entire range of the significant aspects of the area being investigated. It is the degree to which the measurement device, in this case, the measuring questionnaire, provides sufficient coverage of the research investigative questions. To maintain the validity of the instruments, most of the questionnaires were adopted from previous researches. Some of the questionnaires were adopted based on careful review of literatures. In addition, Pilot testing of questionnaires was conducted to obtain a feedback from the respondent on validity and responses were collected and questionnaires were adjusted subsequently.

3.10.2. Reliability

Reliability is the extent to which measurements are repeatable when different persons perform the measurements on different occasions under different conditions with supposedly alternative instruments which measure the same thing (Drost, 2011). Reliability is consistence in which basically the same results should be obtained. Regarding the validity, the questionnaires will be

submitted to other researchers and academicians for their contributions and check. The questions were formulated in simple language for clarity and ease of understanding. Clear instructions were given to the subjects and the researcher was complete the questionnaires for those subjects who could not read. Therefore, the researcher believes that the data collection tools were measured what is planned to measure.

To measure the reliability of the data collection instruments, an internal consistency technique using Cronbach's alpha was applied. Cronbach's alpha is a coefficient of reliability that gives an unbiased estimate of data generalization (Zinbarg, 2005). Regarding reliability, the researcher tests the reliability by Cronbach's alpha measurement. Cronbach's alpha result of (0.7) is acceptable.

Table 3.2 Reliability test

Construct	No of Items	Cronbach's Alpha	Remark
Transportation Management	7	.732	Acceptable
Inventory Management	6	.738	Acceptable.
Warehouse Management	8	.717	Acceptable.
Customer Response	5	.843	Good
Organizational Performance	5	.772	Acceptable.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1. Introduction

This chapter contracts with presentation, analysis and interpretation of the data obtained through survey questionnaire and secondary source of data together and interview. To collect primary data the researcher distributed 133 questionnaires, out of which 122 questionnaires were successfully completed and returned a total of 122 questionnaires were effectively used for analysis that shows response rate of 91.73 percent (%) which were resulted to arrive the overall of Modjo dry port performance management practices. The result of the responsiveness of the respondents is calculated as the number of returned questionnaires divided by the total sample who sent the survey initially Mitchell (1989). Applying this formula, the result of the response rate was presented as below table 4.1. Respondents were returned the questionnaire filling properly. Therefore, the result obtained from the response rate implies the rate is a best representative of the sample size.

Table 4.1 Overall Response Rate

Population	Number	Percent
Numbers of questionnaire distributed	133	100
Unreturned questionnaires	11	8.27
Returned and usable questionnaires	122	91.73

Source: Own Survey, 2021

4.2 Respondents' Demographic Information

The demographic profile of the sample respondents are presented and analysed below.

Table.4.2: General Information/Respondents Profile

Variables	Category	Frequency	Perceant	Valid Percept
Gender	Male	70	57.4	57.4
	Female	52	42.6	100
	Total	122	100	
Age	20-30	39	32.0	32.0
	31-40	68	55.7	87.7
	41-60	15	12.3	100
	Total	122	100	
Education level	Certificate	12	9.8	9.8
	First degree	71	58.2	68
	Diploma	28	23.0	91
	Second degree	11	9.0	100
	Total	122	100	
Work Experience	1-5 years	48	39.3	39.3
	6-10years	43	35.2	74.5
	11-20 years	18	14.8	89.3
	Beyond 21 years	13	10.7	100
	Total	122	100	
Departments	Transportation Management	48	39.3	39.3
	Warehouse Management	32	26.2	65.5
	Inventory Management	21	17.2	82.7
	Customer response	21	17.2	100
	Total	122	100	

Source: Own Survey, 202

As its depicted on the above table 4.2 from the total respondents 70 (57.4%) of them are male and 52 (42.6%) are female respondents. From this analysis the researcher recognize that the number of male workers were greater than number of female workers.

Based on the above table 4.2 item 2 revealed that as the age of the respondents from the total number of respondents 68 (55.7%) of them age are lies between 31-40 years, 39 (32% of the respondents age are lies between 20-30 years, 15 (12.3%) of the respondents age are lies between the 41-60 years. Therefore this indicates that the majority of the employees of the organization are those whose age lies between 31 and 40 years. This shows that there were productive and energetic employees exist as Modjo dry port organization.

According to Daniel (2012) study, an individual will be more productive depending on the level of their education. The more education the individual worker received, the more productive of the worker. Based on the above table 4.2 regarding to the academic qualification 28(23%) respondents are diploma holder, 71(58.2%) respondents are first degree holder, 12(9.8%) respondents are certificate, and 11(9%) masters holders. This shows that the majority of respondents for the study are first degree holders.

The above table 4.2 the number of respondents 48(39.3%) of the employees have between 1-5 year of work experience, 43(35.2%) of the employees have between 6-10 years of work experience, 18(14.8%) of the employees have between 11-20 years of work experience, and 13(10.7%) of the respondents are those who has below 21 years of work experience. Therefore this express that the majority of employees of the organization have relatively low years of work experience so, they have motivation for work because of they are relatively between one and five year of experience in the organization.

As it's indicated on the above 4.2 table the total number of the respondents on their department classification for the study 48(39.3%) of the employees are from transportation management, 32(26.2%) of the respondents are from warehouse management, 21(17.2%) of them are from inventory management, and 21(17.2%) are from customer response. So, the majority of respondents are from transportation management department taken for the study.

4.3. Descriptive statistics of Independent variables (transportation, warehouse, inventory and customer response management).

The descriptive statistics of the variables included in the study was presented by using measures of central tendency (mean) and measure of dispersion (Standard Deviation). According to Zedatol (2008), cited by Oumar (2012), mean score 3.80 is high, 3.40-3.79 is moderate and below 3.39 is low. Logistics management of the organization is presented and discussed for each parameter/ with respective tables through mean and standard deviation.

4.3.1 Transportation management

Table 4.3 Descriptive statistics of transportation management

Transportation management	Mean	Std. Deviation
Transport management has a role in achieving faster delivery service	4.09	0.76
Lead time Djibouti to Modjo (save time in Hr.)	3.35	0.21
Transport management ensures customer satisfaction.	4.09	0.78
Cost reduction & loading capacity for railway & truck	3.87	0.27
In your organization, transport management plays an effective role to achieve the organization's objectives.	4.01	0.91
Transport has a position in maximizing profit.	4.24	0.70
Transportation management is sometimes used as storage to utilize warehouse cost.	3.93	0.75
Grand mean	3.94	0.63

Source: Own Survey, 2021

As indicated on the above table 4.3, the statistics suggested the mean value for the questions asked for transportation management of the organization shows a mean value between (M=3.35 and M=4.24) with standard deviations between 0.21 and 0.91 with the high grand mean of (M=3.94). The responses with mean value of 4.09 and standard deviation of 0.76 indicated that the transportation has a high role in achieving faster delivery service in the organization. The mean value of (M=4.09) with standard deviation of 0.78 show that transportation ensure the customer satisfaction in case of the organization. Transportation plays an effective role to achieve the organization's objectives register mean value of (M=4.01) and (S.D=0.91). Transportation has a

position in maximizing profit with highest value, and Transportation used as storage to utilize warehouse cost in the organization register high mean value of (M=4.24, S.D=0.70), and (M=3.93, S.D=0.75) respectively. So, the grand mean of transportation management in the organization shows that the transportation contributes high role for the effectiveness, and the accomplishments of the objectives of the organization and for increments of customer satisfaction in the organization.

4.3.2 Inventory Management

Table 4.4: Descriptive Statistics of inventory management

Inventory Management	Mean	Std. Deviation
Inventory Management is very vital to the success and growth of organizations.	4.11	0.736
Proper management of inventory contributes for profitability of the Organization.	3.71	0.876
Inventory management has a significant role on organizational productivity.	4.19	0.827
Inventory management has significantly enhanced customer service.	4.02	0.668
Your organization checks the inventory annually, quarterly, and monthly	3.78	0.895
Your organization uses inventory codification in terms of numerical and alphabetical.	3.81	0.885
Grand Mean	3.93	0.81

Source; Own survey, 2021

As shown from above table 4.4, an overall grand mean of (M=3.90), was recorded indicating that inventory management was particularly performed. As revealed from the table, the statement that Inventory has a significant role on organizational productivity (M=4.19, SD=0.829) indicating that inventory management has high contribution for the productivity of the port. Inventory Management is very vital to the success and growth of organizations, inventory management has significantly enhanced customer service, the organization uses inventory codification in terms of numerical and alphabetical register high mean value of (M=4.11, high Standard deviation

SD=0.736), (M=4.02, SD=0.668), and (M=3.81, SD=0.885), respectively and the organization checks the inventory annually, quarterly, and monthly registered average mean value of (M=3.93, SD=0.81). Therefore the grand mean of inventory management on the above table shows that inventory management a crucial role in the organization in terms of success and growth of the organization, improve customer service, contribution of the organizational productivity and profitability, and for the codification of items either in numerical and alphabetical ways. The finding from the above table are agreed with the study of Thogori and Gathenya (2014) who concluded that companies are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately ensure customer satisfaction.

4.3.3 Warehouse Management

Table 4.5: Descriptive Statistics of Warehouse Management

Warehouse Management	Mean	Std Deviation
The warehouse affects reducing the operational cost of the organization.	3.93	.701
Warehouse management plays a major role in customer satisfaction.	4.05	.737
Accurate identification of all storage locations.	3.95	.780
Storing goods according to recommended guidelines.	3.97	.760
Most of the time there is storage space utilization in MDP.	3.80	.789
Modjo dry port uses main warehousing activity, i.e., receiving, storage, put away, order picking, and shipping/dispatching.	4.00	.793
Your organization uses an automated warehousing system.	3.69	.891
Your organization measures the performance of the warehouse in terms of quality, response time, productivity, financial/cost, and employee satisfaction.	3.79	.874
Grand Mean	3.47	0.79

Source; Own survey, 2021

As shown from the above table 4.5, an overall grand mean and standard deviation of (M=3.47, SD= 0.79) was recorded indicating that warehouse management was moderate/average in the organization. As revealed from the table 4.5, the statement that Warehouse management plays a major role in customer satisfaction (M= 4.05, S.D= 0.737) indicating that it was warehouse is highly practiced in the port. The organization uses main warehousing activity, i.e., receiving, storage, put away, order picking, and shipping/dispatching, Storing goods according to recommended guidelines, Accurate identification of storage locations, and the organization used the storage space utilization register high mean value of (M= 4.00, SD= .793), (M= 3.97, SD=0.760), (M=3.95, SD= 0.780), and (M=3.80,SD=0.789) respectively. The organization measures the performance of the warehouse in terms of quality, response time, productivity, financial/cost, and employee satisfaction, and the organization uses an automated warehousing system was register moderate mean value of (M=3.79, SD=0.874), and (M=3.69, SD=0.891) respectively. The grand mean of warehouse implies that the warehouse in the organization is moderately or averagely performed in terms of the operational cost optimization, satisfying customer, identification of storage location for each items in the storage, storing a good based on their procedures, utilizing the space utilization, applying the warehousing activity, and using automated warehousing system as WMS (Warehouse Management System) and ERP (Enterprise Resource Planning).

4.3.4 Customer Response

Table 4.6: Descriptive Statistics of Customer Response

Customer Response	Mean	Std. Deviation
Your organization responds quickly to the customers' needs.	3.79	.795
Your organization Sharing information timely with customers to reduce the information distortion	3.66	.831
Modjo dry port has a long-term relationship with a loyal customer	3.85	.664
Measuring and evaluating customer satisfaction level	3.73	.772
Modjo dry port wisely Accepting the feedback from the customer to improve the service delivery	3.84	.927
Grand Mean	3.78	0.798

Source: Own survey, 2021

On the above table 4.6 an overall grand mean of customer response is moderate mean value of (M=3.78) with (SD=0.798) was recorded indicating that customer service was reasonably practiced. As revealed from the table 4.6, Modjo dry port has a long-term relationship with a loyal customer, and followed by port wisely accepting the feedback from the customer to improve the service delivery register high mean of (M= 3.85, SD= .664), and (M= 3.84, SD= .927) respectively. The r organization responds quickly to the customers' needs, the organization measure and evaluate customer satisfaction level properly, and the organization Sharing information timely with customers to reduce the information distortion registered moderate mean value of (M= 3.79, SD= 0.795), (M=3.73, SD=0.772), and (M= 3.66, SD=0 .831) respectively. Therefore; the grand mean of the customer response on the above table 4.6 shows that customer response is moderately the base for the organization through quickly responding the customers need timely, sharing the information with the customer to eliminate the bullwhip effect, creating the relationship with the loyal customer to attract the new one, measuring and evaluating the level of customer satisfaction and through accepting the comments and the feedbacks from their customers to change or to modify the existing one based on their customer requirements.

These results are agreed with Bowersox et al., (2002), the primary value of logistics is to accommodate customer requirements in a cost-effective manner. In basic customer service programs, the focus is typically on the operational aspects of logistics and ensuring that the organization is capable of the seven rights to its customer: the right amount of the right product at the right time at the right place in the right condition at the right price with the right information.

4.4 Descriptive statistics of Dependent variable (Organizational Performance)

Table 4.7: Descriptive Statistics of Organizational Performance

Organizational Performance	Mean	Std. Deviation
Profitability growth	3.80	.667
Return on investment	3.65	.679
Return on asset growth	3.61	.624
Provision of prompt service to customers	3.52	.730
Decrease customer complaints	3.30	.712
Grand Mean	3.57	0.68

Source: Own Survey, 2021

As it's clearly stated on the above table 4.7 the organizational performance have a moderate grand mean value of (M=3.57) and the mean value lies between (M=3.30) and (M=3.8) and with S.D=0.624 and S.D=0.730. The profitability growth of the organization performance registered high mean value. Return on investment, Return on asset growth, and prompt service to customers of the organizational performance registered moderate mean value of (M=3.65, S.D=0.679), (M=3.1, S.D=0.624), and (M=3.52, S.D=0.730) respectively, and Decrease customer complaints of organizational performance register low mean value of (M=3.30, S.D=0.712). So, the overall grand mean of organizational performance shows that moderately profitability growth, return on investment, return on asset, prompt customer service, and decrease customer complaints for the organizations performances.

4.5. Inferential Analysis.

4.5.1 Correlation Analysis of Variables

According to Wajahat (2010), before the start of regression analysis it is important to check the correlation test between dependent variable and independent variables. The Pearson correlation scale ranges from -1 to +1, any value greater than zero indicates a positive direct relationship between the two variables, which implies that every increase in the independent variable will lead to the increase independent variable, while any value less than zero indicates a negative indirect relationship between two variables, that means that every increase in the independent variable will lead to the decrease on the dependent variable (Hafiz, 2007).

Table 4.8: Correlations analysis

		Transportation Management	Inventory Management	Warehouse Management	Customer Response	Organizational Performance
Transportation Management	**Pearson Correlation** **Sig. (2-tailed)** **N**	**1**				
Inventory Management	**Pearson Correlation** **Sig. (2-tailed)** **N**	**.564**** **.000** **122**	**1**			
Warehouse Management	**Pearson Correlation** **Sig. (2-tailed)** **N**	**.419**** **.000** **122**	**.513**** **.000** **122**	**1**		
Customer Response	**Pearson Correlation** **Sig. (2-tailed)** **N**	**.240**** **.008** **122**	**.350**** **.000** **122**	**.629**** **.000** **122**	**1**	
Organizational Performance	**Pearson Correlation** **Sig. (2-tailed)** **N**	**.104** **.253** **122**	**.089** **.328** **122**	**.322**** **.000** **122**	**.375**** **.000** **122**	**1**

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

Source: Own Survey, 2021

From the above table 4.8 result, it can observed that, customer response is the most correlated variable with organization performance (with the **r** value of 0.375) and it was followed by warehouse management (with the r value of 0.322), inventory management (with the r value of 0.104), and transportation management (with the r value of 0.089) respectively. Furthermore, According to Andy, (2006) the measure of correlation value from 0.1 to 0.29 small or weak correlations, from 0.3 to 0.49 medium or moderate correlations, the value > 0.5 is large or strong correlation & the value which zero indicated there is no correlation between variables. Based on this Logistics management of Modjo dry port; organizational performance is moderately correlated with the customer response and warehouse management; and weakly correlated with transportation management and inventory management.

4.5.2 Multiple linear regression assumptions

Before running regression analysis, it is essential to test assumptions of multiple linear regression analysis Model (Keith, 2006; Pallant, 2005). Therefore, each assumption result was discussed in the following sub topics;

4.5.2.1 Normality test

The normality assumption is about the mean of the residuals is zero. Moreover, Normality tests are used to determine whether a data set is well-modelled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed (Gujarati, 2009). Therefore, the researcher was used Histogram methods of testing the normality of the data. According to Fidell (2001), if the residuals are normally distributed around it's mean of zero, the histogram should be a bell-shaped and regression standardized residual plotted between 3.3 58 and –3.3. So that, from figure 4.1 below, it can be noted that the data conforms to the normality assumption (Stevens, 2009).

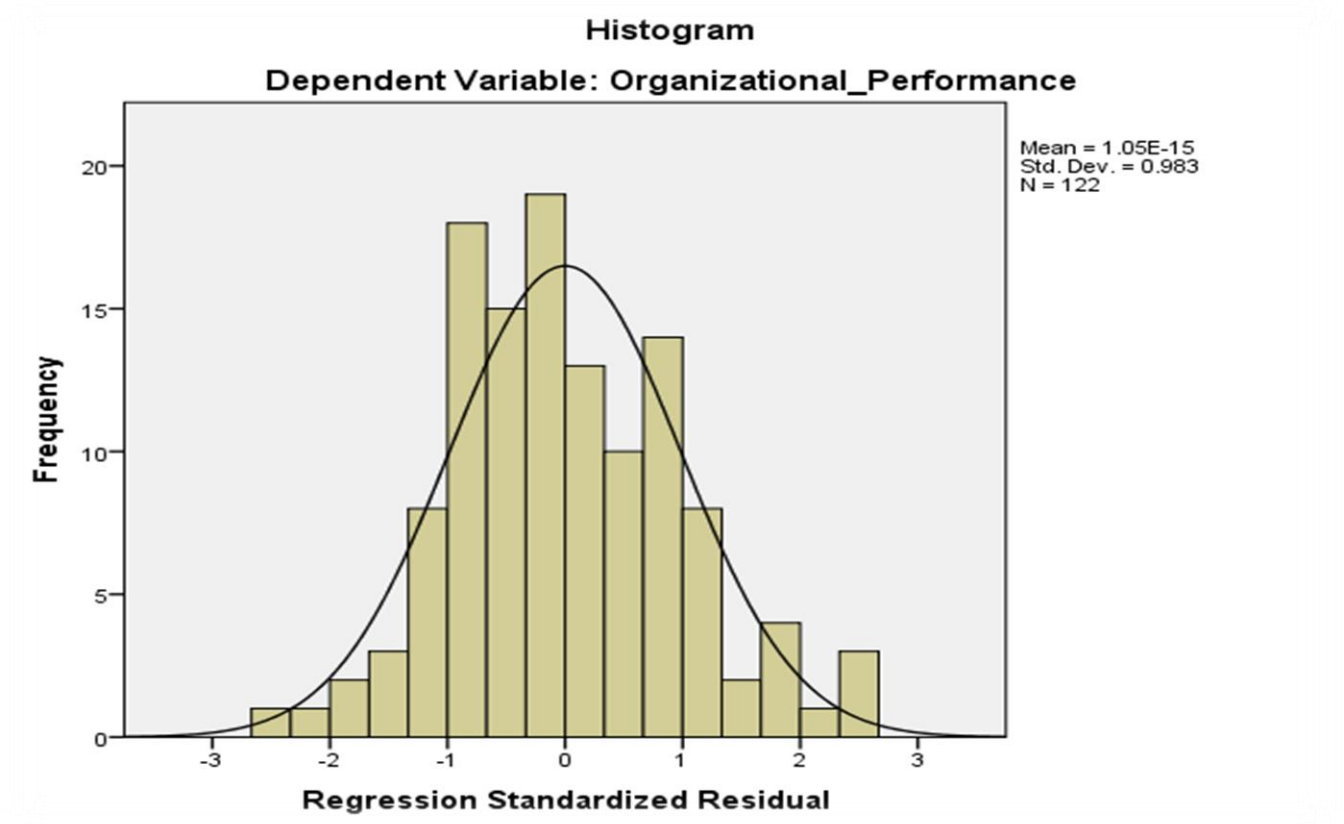

Figure 4.1: Normal distribution Histogram results.

Source: Own Survey, 2021

4.5.2.2. Linearity test

Multiple regressions can accurately estimate the relationship between dependent and independent variables, when their relationship is linear in nature (Keith, 2006). If linearity is violated, all the estimates of the regression including regression coefficients, standard errors, and tests of statistical significance may be biased (Keith, 2006). This can be best checked by pp-plot residual as shown in figure 4.2 below. When, p-p residual look at straight line, the relationship between the dependent and independent variables is linear. Therefore, there is no linearity problem on the data used for this study.

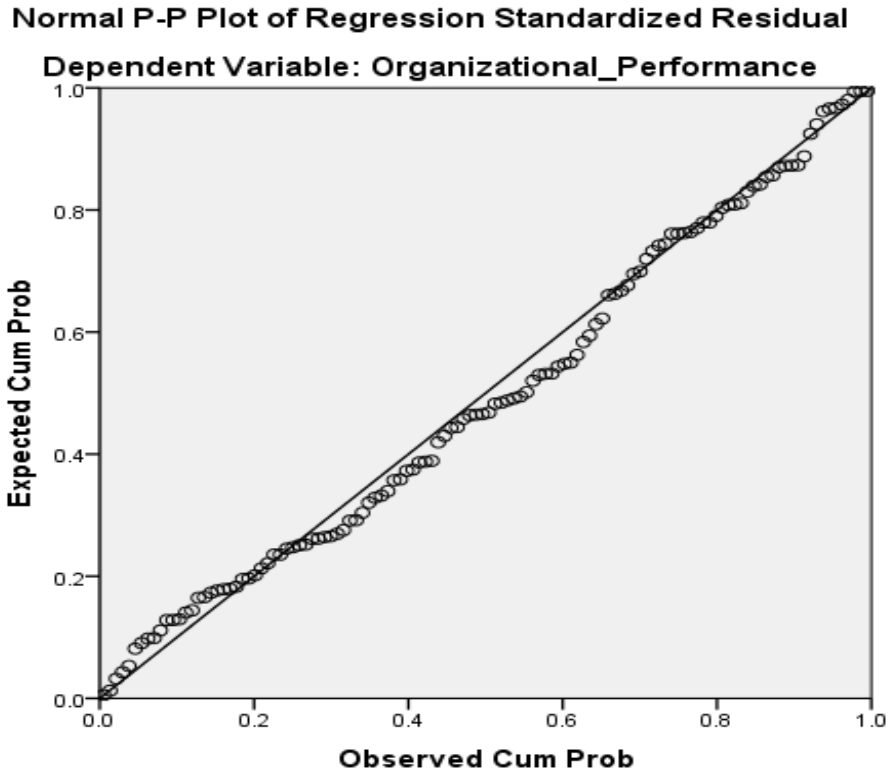

Figure 4.2: P-P plot; linearity test results

Source: Own Survey, 2021

4.5.2.3 Multicollinearity test between independent variables

According to Gujarati (2003), multicollinearity test helps to identify the correlation between explanatory variables and to avoid double effect of independent variable from the model. When independent variables are multicollinearity, there is overlap or sharing of predictive power. This may lead to the paradoxical effect, whereby the regression model fits the data well, but none of the

explanatory variables (individually) has a significant impact in predicting the dependent variable. For this purpose, variance inflation factor (VIF) and tolerance test were employed to check whether or not multicollinearity problem exists in explanatory variables. If the value of VIF is less than 10, there is no Multicollinearity between the explanatory variables and on the other hand VIF greater or equal to 10 is an indicator of a serious Multicollinearity problem. In addition, Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model and is calculated using the formula for each variable. If this value is very small (less than .10), it 60 indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity (Keith, 2006; Shieh, 2010).

Table 4.9: Multicollinearity Test

Independant svariables	**Collinearity Statistics**	
	Tolerance	Variance inflation factor (VIF)
Transportation Management	.657	1.522
Inventory Management	.587.	1.705
Warehouse Management	.490	2.042
Customer Response	.601	1.663

Source: Own Survey, 2021

As shown in collinearity Statistics table 4.12 above, the value of VIF of all independent variables was found to be smaller than ten and as well as tolerance test result is greater than 0.1. These values indicated that there is no Multicollinearity problem on this research explanatory variable.

4.5.2.4 Heteroscedasticity Test

The variance of the residuals for every set of values for the independent variable should be equal and violation is called heteroscedasticity. This means that researchers assume that errors are spread out consistently between the variables.

Scatterplot of more than 3.3 or less than -3.3 indicates a heteroscedasticity problem (Tabachnick & Fidell, 2007). Therefore, as shown in figure 4.3 below the data did not violate heteroscedasticity assumption and instead it was homoscedastic.

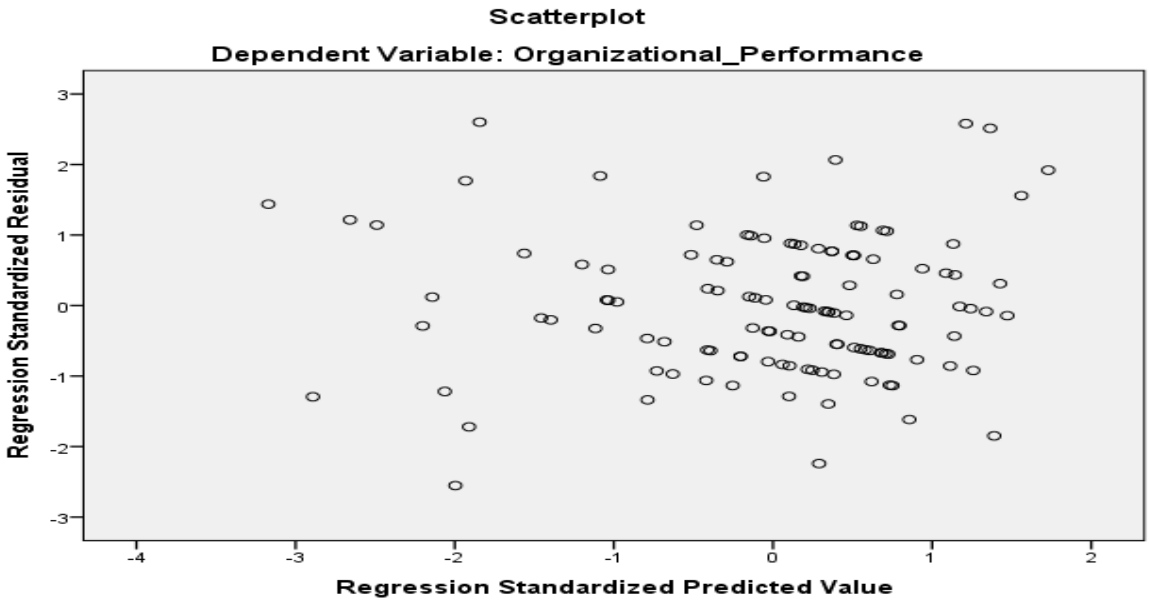

Figure 4.3 scatter plot Heteroscedasticity test results
Source: Own Survey, 2021

4.5.2.5 Sample size test

With a small sample, one can obtain a result that does not generalize other target population. If results do not generalize to other samples, then it is little scientific value. To test sample size researcher uses a formula given by (Pallant, 2005, p. 142). This formula used to test sample size problem by taking into account the number of independent variables as follow:

$N > 50+8m$ = $N > 50+8(4)$ = $122 > 82$

Where; m = number of independent variables, N- valid sample size.

Therefore, based on the above equation result, valid sample size 122 is greater than 82 and this result showed that the data conforms to the sample size assumption.

4.5.2. Model summary

In the model summary table 4.9 the multiple correlation coefficients R, indicate strong correlation of .736 between Logistics Activities and Organizational performance. The R^2 Value of .683(68.3%) Implies relative contribution of Logistics activities in interpreting the organizational performance, the remaining 31.7% of the change can be attributed to other factors. The adjusted R Square is .626, which implies that logistics activities can account for 62.6% of the variation in organizational performance. Although there might be many factors that can explain the variable on organizational

performance, nearly 62.6% of it is explained by Logistics activities. This means that those dimensions of logistics activities cannot explain the remaining 37.4% of the variation in Organizational Performance.

Table 4.10: Model summary

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate
1	.736[a]	.683	.626	.254

a. Predictors: (Constant), Customer Response, Inventory management, Warehouse management, Transportation management.

4.5.3. ANOVA Model Fit

The ANOVA output was examined to check whether the proposed model was viable. Results shown in Table 4.10 reveal that the F-statistic was highly significant (F=5.705 (P<0.001) and it can be said that there is a relationship between Logistics activities and Organizational performance. Thus, the model was significant leading to rejection of the null hypotheses.

Table 4.11: ANOVA Result

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	120.558	4	30.139	5.705	.000[b]
Residual	618.073	117	5.283		
Total	738.631	121			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Customer Response, Transportation, Management, Inventory, Management, Warehouse, Management.

Source: Own Survey, 2021

ANOVA is presented in above table 4.10. This analysis is used to identify the effect of Logistics management on organizational performance which is general objective of the study. In addition, this analysis is used to identify appropriateness of the model in estimating the effect of logistics management on organizational performance. F-statistic value of the model is 5.705 and it is significant at 0.000 indicating that the model used is appropriate to explain effect of logistics management on organizational performance. This implies that logistics management significantly affects organizational performance of Modjo dry port.

Table 4.12: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.454	.423		5.79	.000
Transportation Management	.252	.054	.307	0.62	.005
Inventory Management	.145	.105	.309	1.33	.001
Warehouse Management	.225	.124	.300	1.81	.007
Customer Response	.163	.081	.292	2.682	.008

a. Dependent Variable: Organizational Performance.

The relationship of dependent variable Y to the independent variables X1, X2, X3 ….Xn can be expressed as: $Y=\beta0+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\beta5X5+e$. Here, β0 is constant and βn is the coefficient of independent variables (Satendra et al., 2011). The researcher used unstandardized coefficients to constructing a regression equation (Pallant and Julie, 2005). From the coefficient table 4.11, the substitution of the equation becomes:

Organizational performance = 2.454 + 0.252 transportation management + 0.145 inventory management + 0.225 warehouse management + 0.163 customer response.

4.5.4. Hypothesis test result

Four hypotheses have been tested to answer the research questions based on the research problem and objectives. The hypotheses address each logistic management dimension such as; Transportation management, inventory management, warehouse management, and customer response impacts on organizational performance. The hypothesis test results were presented as follows.

Hypothesis 1

H1: Transportation management has a positive and significant effect on organizational performance of Modjo dry port; at p value of ≤ 0.05 and β value 0.252. The value of $p \leq 0.05$ with contribution of β=.252 revealed that, Transportation has a significant effect on organizational performance. So that, alternative hypothesis was rejected. Although, beta value of 0.252 indicates that transportation has positive effect on organizational performance of Modjo dry port. Moreover, the beta value

implies that an increase in the effectiveness of transportation by one standard deviation leads to an increase in organizational performance level by 0.252%.

Hypothesis 2

H2: Inventory management has a positive and significant effect on organizational performance of Modjo dry port; at p value of ≤ 0.05 and β value 0.145 In the above coefficient table 4.11, the $p \leq 0.05$ with contribution of β=.145 showed that inventory has a significant effect on organizational performance. So, the alternative was rejected. Although, beta value of 0.145 indicates that inventory has positive effect on organizational performance of the organization. Moreover, the beta value implies that an increase in the effectiveness of inventory by one unit leads to an increase in organizational performance level by 0.145%

Hypothesis 3

H3: Warehouse management has a positive and significant effect on organizational performance of the organization; at p value of ≤ 0.05 and β value 0.225. Based on above coefficient Table 4.11; $p \leq 0.05$ with contribution of β=.225 revealed that Warehouse has a significant effect on organizational performance. Therefore, the alternative hypothesis was rejected. Also, beta value of .225 indicates that warehouse has positive effect on organizational performance of Modjo dry port. Moreover, the beta value of 0.225 implies that an increase in the effectiveness of warehouse by one unit leads to an increase in organizational performance by 0.225%.

Hypothesis 4

H4: Customer response has a positive and significant effect on organizational performance of Modjo dry port; at p value of ≤ 0.05 and β value 0.163. Based on above coefficient table 4.11; p value of ≤ 0.05 with contribution of β=.163 revealed that customer response has a significant effect on organizational performance. So that, alternative hypothesis was rejected. Also, beta value of 0.163 indicates customer response has a significant effect on organizational performance of Modjo dry port. Moreover, the beta value of 0.163 implies that an increase in the effectiveness of customer response by one digit (unit) leads to an increase in organizational performance by 16.3%

The Standardized Beta values for each of the different variables have been converted to the same scale; so that, it is better compete them (Pallant and Julie, 2005). Therefore, researcher was used the standardized Beta coefficients, to compare or prioritize the effects of independent variables

(Transportation management, inventory management, warehouse management, and customer response) on dependent variable(organizational performance) of Modjo dry port. So that, based on table 4.11 above, Inventory management had a relatively strong and direct effect on organizational performance at β value of .309 and followed by transportation management at β value of .307, warehouse management at β value of .300, and customer response at β value of .292 respectively.

4.6. Discussion

This study demonstrated the interrelationships and effect of logistics management and organizational performance of Modjo dry port. According to the results, researcher found from the analysed data the descriptive analysis and inferential level such as mean, correlation analysis and multiple regression analysis that the results of the study confirm that there is a interrelationships and positive effects among logistics management dimensions (transport management, inventory management, warehouse management and customer response) and organizational performance of Modjo dry port.

The findings of the study that organizational performance of Modjo dry port has been positively influenced by logistics management replicates the findings of the study on Kenyan manufacturing firms by (Mwangangi 2016). Certainly, differences in the specific criteria used to define transport management. Since Modjo dry port has their own transportation vehicles for their inbound and outbound goods the study used to define this as the service from their own. Its supported by the findings of Tseng et al. (2005) that transport management was the most important economic activity among the components of business logistics system and do influence firm performance.

The results of the study also show that inventory management positively affects the organizational performance of Modjo dry port, i.e. an increase in standard deviation of inventory management increases the performance of the organization by a positive unit standard deviation. Prior research had provided same empirical support that inventory management was important to business and vital to logistics success (Bowersox et al., 2010).

The findings of the study also indicate that there is a positive relationship between transport management and organizational performance of Modjo dry port. As the output of the regression shows that transport management significantly predicts the organizational performance. These findings are in agreement with the Bowersox at el. (2012) that, logistics capabilities of a firm could

only be as good as its transportation competency hence creation of the organizational performance, and it is the principal functions for a firm as it creates flow of goods from out and in of the firms.

In summary, from analysis result of this study, it can be conclude that Modjo dry port is adequate but its not enough to fulfilling the customer expectation with all logistics management dimensions such as; transport management, inventory management, warehouse management, and customer response. On the other hand, Pearson's correlation and regression test results showed that all logistics management dimensions had positive and significant effects on organizational performance. For instance, inventory management was the most important factor to have positive and significant effect on organizational performance, followed by transport management, warehouse management, and customer response. Therefore, the organization should improve those dimensions to increase organizational performance of Modjo dry port.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

The study sough to establish the effect of logistics management on the organizational performance of Modjo dry port, the four objectives of the study were to assess the logistics management of Modjo dry port, to examine the relationship between logistics management and organizational performance in Modjo dry port. This chapter provides the summary of findings with respect to the study objectives, conclusions and recommendations of the study as well as limitations and direction for further studies.

5.2. Summary of Findings

This study is conducted with an objective of to examine the effect of logistics management on organizational performance at Modjo dry port. Based on different literatures and implementations in the organization, to measure logistics management; transportation, inventory, warehouse, and customer response are used as dimensions of logistics management. Data regarding to logistics Management and its effect on organizational performance were gathered through questionnaire that consists of both close-ended and open-ended questionnaires. The Logistics management of the organization was identified by using mean of agreement of respondents and the effect on organizational performance is identified by correlating and regressing on organizational performance with the assumption of linear relationship.

The descriptive statistics illustrated in terms of mean and standard deviation states there is a moderate performance in most of the indicator questions discussed to measure the variables under consideration. Higher mean value was registered transportation has a role of achieving faster delivery service in the organization with (M=4.09, S.D=0.76), transportation maximizing the organization profit, Transportation ensures customer satisfaction with the mean of (M=4.24, S.D=0.70), and (M=4.09, S.D=0.78) respectively. Under inventory management higher mean value

was registered which show the inventory management has a significant role on organizational productivity with the mean of (M=4.19, S.D=0.827), Inventory Management is very crucial to the success and growth of organizations (M=4.11, S.D=0.736), and inventory management enhance the customer service efficiently with the mean value of (M=4.02, S.D=0.668).

The Modjo dry port regarding to warehouse management the organization highly applying the main warehouse activities of receiving, storage, put away, order picking, and shipping/dispatching with higher mean value of (M=4.00, S.D=0.793), and warehouse has a critical role in satisfaction of the customer of the organization with the highest mean of (M=4.05, S.D=0.737). In relation to customer response of the organization; the organization has highly along term relationship with loyal customer of the organization with the mean of (M=3.85, S.D=0.831), and the organization wisely accepting the customers feedback to improve the service delivery with the highest mean value of (M=3.84, S.D=0.927).

The correlation result showed that, the four logistics management dimensions (transportation management, inventory management, warehouse management, and customer response) were positively correlated related to organizational performance.

Moreover, in terms of the stated research hypotheses the following findings emerged from the multiple linier regression analysis investigation: The four logistics management dimensions transportation management, inventory management, warehouse management, and customer response have a positive and significant effect on organizational performance of the organization. Regression finding further show that, inventory management had relatively strong and direct relationship with organizational performance at β value .309 and followed by transportation management at β value .307, warehouse management at β value .300, and customer response at β value .292 respectively.

Thus, findings are very important and enable Modjo dry port to have a better understanding of their logistics management that helps them to be competitive in local and global market by satisfying their customers.

5.3. Conclusions

Based on the findings of this study, the effect of Logistics Management on organizational Performance, the researcher draws the following conclusions.

Based on the results of the study and the summary of findings, the roles of logistics are to provide the movements of material, information, and money from point of origin to point of destination. The study reveals that the prime reason for the establishment of logistics management in the organization is to plan, implement and control of the efficient, effective forward and reverses flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customer requirements.

However, it is difficult to generalize that the logistics management of the organization under the study was providing services to the customer efficiently and effectively. And poor information sharing. Finally, as per the multiple regression analysis, the main variables that could affect organizational performance include; transportation management, inventory management, warehouse management, and customer response.

Based on the regression analysis and the findings of the study concludes that there is a significant relationship between logistics management dimensions(i.e. transportation management, inventory management, warehouse management and Customer response) and organizational performance has positive and significant effect on organizational performance and has a crucial role for the organizational performance in each respect activities. Therefore, the organization is better to practice and scale up those supplements in addition to these independent variables which are listed above line.

5.4. Recommendations

Based on the findings of this research, the researcher gave the following recommendation that helps the Modjo dry port to improve their logistics management.

- The organization better to understand how well goods flow & choose appropriate storage methods of deep stacking, high rack storage & shelf stacking in order to have a sufficient storage space, and as much as possible add additional warehouse for items to protect the safety of in storage, to reduce the theft, and deterioration of materials in warehouse.
- The organization better to provide adequate service are; lack of skilled man power, existence of poor training for employees, lack of minimizing the cost of logistics activity, lack of following the customer order, lack of giving priority for the customers.
- In relating to transportation the organization is better to shift their trucks transportation to rail way transportation because of in todays' global market place and competitive arena, companies must decide on the best way to store, handle, and move their products and services so that they are available to customers in the right assortment, at the right time and in the right place. So, the organization needs to identify cost effective ways to deal with their customers and suppliers. In general the Modjo dry port needs to identify best ways to satisfy the need of their customers. Thus one activity by which the needs can be satisfied is through the transportation activities. Therefore, organization should design, plan, implement and control the physical flow of material, goods and services from the point of origin to the point of consumption to meet customer requirement.
- Transportation management in the organization influenced through the capacity for transportation, human resource like drive license, lack of linkage between the manager of transport with other department to import items properly and timely. So, the organization transportation is better to be supported and encouraged to build their capacity in terms of human resources, number and better age of their vehicle fleets, coordination of their services, and integration of their services with the services of warehouses and terminals. Warehouses and terminals are recommended to do value adding activities like consolidation, packaging, etc.
- Since Inventory management is a methods that are used for organizing, holding and replenishment of stock in the organization; the organization is better to keep the inventories

on optimal level, without stock outs and excesses, to have enough inventories to fulfil orders of outer and inner clients in a manner satisfying them. Or assure high level of customer service and this customer service level is measured as availability (fill rate), and to minimize inventory carrying costs. Also the organization better to have a strong mechanism of inventory control, have real time information of its inventory to analyse its previous sales performance of SKUs so that it will enable it forecast its future demand & avoid stock out situations.

- Since the customer response is significant effect on organizational performance of Modjo dry port the organization particularly the department is better to manage customer satisfaction and customer response through providing goods and services properly to assure the continuity of business.
- It is better to use railway mode of transportation rather than using truck because of time delivery, cost reduction (economic benefit) and bulk loading and for else it's preferable.
- In order to control cheating and fraud in the organization shifting working manually to computer controlling Technology Visual (CCTV).
- Ethiopian government, Particularly; stack holders (Modjo dry port manager, Ethiopian shipping and Logistics services Enterprise (ESLSE), Investors, Transistors and concerning one as the infrastructure provider, had better invest the limited resources prudently on road, railway, dry ports and terminal infrastructures in line with intermodal transport requirements. Like rail ways and cargos.

5.5. Limitation of the Study

The research got certain limitations that the researcher faced during study. The study was limited to the willingness and cooperation of the respondents to give available and current data during data collection processes; And also the limitations in this study which are left for future research; the study focused on four logistics management dimensions namely customer response, warehouse management, inventory management, and transportation management. But the study did not include all logistics management activity and hence it suggests conducting further studies considering several other types of logistics management activity like packaging, demand forecasting, information flow, and supply management.

5.6 Direction for Further Studies

For future researchers, it’s better choose a longitudinal (time series or panel) research design to examine the cause and effect relationship as well as to analyse and compare changes in variables over time. Although, better to involve or including Order processing, Materials handling, Packaging other rest of dry port in our country level; because survey method may increase reliability of the research finding. Due to the scope of this research objective, the researcher did not investigate the impact of Logistics management in the performance of the organization. So, future research can further investigate the impacts of logistics activity on logistics performance. Moreover, the current study employed four elements as independent variables under logistics management dimensions and investigated their effects on organizational performance. This implies that other variables relating to logistics management dimensions were not considered. Hence, it is suggested that in future, other researchers should factor in other elements of logistics dimensions and assess their impact on organizational performance.

REFARANCE

Achahchah, M., 2018. *Lean Transportation Management: Using Logistics as a Strategic Differentiator*. CRC Press.

Afzal, H., Khan, M.A., ur Rehman, K., Ali, I. and Wajahat, S., 2010. Consumer's trust in the brand: Can it be built through brand reputation, brand competence and brand predictability. *International business research*, *3*(1), p.43.

Alarcón, R. and Antún, J.P., 2013. Territorial Logistics Competitiveness In The Regional Urban System In Central Mexico Mesoregion. In *Proceedings 13th World Congress On Transport Research*.

Anyanwu, E.G., Obikili, E.N. and Agu, A.U., 2014. The dissection room experience: A factor in the choice of organ and whole body donation—A Nigerian survey. *Anatomical sciences education*, *7*(1), pp.56-63.

Apel, W.D., Arteaga-Velazquez, J.C., Bekk, K., Bertaina, M., Blümer, J., Bozdog, H., Brancus, I.M., Buchholz, P., Cantoni, E., Chiavassa, A. and Cossavella, F., 2012. The Spectrum of high-energy cosmic rays measured with KASCADE-Grande. *Astroparticle Physics*, *36*(1), pp.183-194.

Awoyemi, M.O., Hammed, O.S., Falade, S.C., Arogundade, A.B., Ajama, O.D., Iwalehin, P.O. and Olurin, O.T., 2017. Geophysical investigation of the possible extension of Ifewara fault zone beyond Ilesa area, southwestern Nigeria. *Arabian Journal of Geosciences*, *10*(2), p.27.

Azeem, K., Khan, A., Naz, F., Ilyas, M., Azeem, I., Anwar, F. and Ahmad, W., 2018. The impact of different P fertilizer sources on growth, yield and yield component of maize varieties. *Agric. Res. Technol*, *13*(10), pp.1-4.

Becker, C., Fantini, M.C., Schramm, C., Lehr, H.A., Wirtz, S., Nikolaev, A., Burg, J., Strand, S., Kiesslich, R., Huber, S. and Ito, H., 2004. TGF-β suppresses tumor progression in colon cancer by inhibition of IL-6 trans-signaling. *Immunity*, *21*(4), pp.491-501.

Beyen, T.K., Dadi, A.F., Dachew, B.A., Muluneh, N.Y. and Bisetegn, T.A., 2017. More than eight in every nineteen inmates were living with depression at prisons of Northwest

Amhara Regional State, Ethiopia, a cross sectional study design. *BMC psychiatry*, *17*(1), pp.1-9.

Biddie, S.C., John, S., Sabo, P.J., Thurman, R.E., Johnson, T.A., Schiltz, R.L., Miranda, T.B., Sung, M.H., Trump, S., Lightman, S.L. and Vinson, C., 2011. Transcription factor AP1 potentiates chromatin accessibility and glucocorticoid receptor binding. *Molecular cell*, *43*(1), pp.145-155.

Cahn, A. and Donald, D.C., 2010. *Comparative company law: text and cases on the laws governing corporations in Germany, the UK and the USA*. Cambridge University Press.

Christopher, M. and Peck, H., 2012. *Marketing logistics*. Routledge.

Cui, L. and Hertz, S., 2011. Networks and capabilities as characteristics of logistics firms. *Industrial Marketing Management*, *40*(6), pp.1004-1011.

Creswell, J.W., Klassen, A.C., Plano Clark, V.L. and Smith, K.C., 2011. Best practices for mixed methods research in the health sciences. *Bethesda (Maryland): National Institutes of Health*, *2013*, pp.541-545.

Daba, G., Beyene, F., Fekadu, H. and Garoma, W., 2013. Assessment of knowledge of pregnant mothers on maternal nutrition and associated factors in Guto Gida Woreda, East Wollega Zone, Ethiopia. *Journal of Nutrition & Food Sciences*, *3*(6), p.1.

De Franco, G., Kothari, S.P. and Verdi, R.S., 2011. The benefits of financial statement comparability. *Journal of Accounting research*, *49*(4), pp.895-931.

Development (BOFED), Oromia Regional State, Ethiopia. *Researchers World*, *4*(1), p.115.

Disasa, K.N., Tura, F.S. and Fereda, M.E., 2019. Climate Change Downscaling Using Stochastic Weather Generator Model in Rift Valley Basins of Ethiopia. *American Journal of Climate Change*, *8*(04), p.561.

Drost, E.A., 2011. Validity and reliability in social science research. *Education Research and perspectives*, *38*(1), pp.105-123.

Eales, S., Dunne, L., Clements, D., Cooray, A., De Zotti, G., Dye, S., Ivison, R., Jarvis, M., Lagache, G., Maddox, S. and Negrello, M., 2010. The herschel atlas. *Publications of the Astronomical Society of the Pacific*, *122*(891), p.499.

Enz, M.G. and Lambert, D.M., 2012. Using cross-functional, cross-firm teams to co-create value: The role of financial measures. *Industrial Marketing Management*, *41*(3), pp.495-507.

Francis, G.H. and Waiganjo, E., 2014. Role of supply chain practices on customer satisfaction in

the printing industry in Kenya: A case study of Morven Kester East Africa limited. *International Journal of Academic Research in Business and Social Sciences*, *4*(10), p.128.

Fernandes Queiroz, M., Melo, K.R.T., Sabry, D.A., Sassaki, G.L. and Rocha, H.A.O., 2015. Does the use of chitosan contribute to oxalate kidney stone formation?. *Marine drugs*, *13*(1), pp.141-158.

Frazelle, M.R. and Munro, C.L., 2012. Toothbrush contamination: a review of the literature. *Nursing research and practice*, *2012*.

Geleta, D.A., Megerssa, Y.C., Gudeta, A.N., Akalu, G.T., Debele, M.T. and Tulu, K.D., 2015. pert MTB/RIF assay for diagnosis of pulmonary tuberculosis in sputum specimens in remote health care facility. *BMC microbiology*, *15*(1), pp.1-6.

Gujar, N., Yoo, S.S., Hu, P. and Walker, M.P., 2011. Sleep deprivation amplifies reactivity of brain reward networks, biasing the appraisal of positive emotional experiences. *Journal of Neuroscience*, *31*(12), pp.4466-4474.

Hafiz, M., Adamczyk, P. and Johnson, R.E., 2007. Organizing security patterns. *IEEE software*, *24*(4), pp.52-60.

Herbert, S., 2017. Digital development and the digital gender gap.

Hwang, J.S. and Tseng, Y.S., 2005. Design formulations for supplemental viscous dampers to highway bridges. *Earthquake engineering & structural dynamics*, *34*(13), pp.1627-1642.

Ittmann, H.W. and King, D., 2010. State of Logistics–an overview of logistics in South Africa.

Israel, G.D., 1992. Determining sample size.

Kenyon, G.N. and Meixell, M.J., 2011. Success factors and cost management strategies for logistics outsourcing. *Journal of Management and Marketing Research*, *7*, p.1.

Kumar, J.B., Reddy, G.J., Sridhar, M., Reddy, T.J., Reddy, P.J. and Rao, S.S., 2016. A finite element analysis of initial stresses and displacements in the tooth and the periodontium in periodontally compromised simulations: Labial versus lingual force application. *Journal of Dr. NTR University of Health Sciences*, *5*(1), p.34.

Kumar, G.S. and Shirisha, P., 2014. Transportation the key player in logistics management. *Journal of business management & social sciences research*, *3*(1), pp.14-20.

Krishnapillai, G., Hamid, A.B.A. and Rashid, S.Z.A., 2011. Perceived Barriers of Supply Chain

Management Practices: Empirical Study on Malaysian Tourism Firms. *Amity Global Business Review*, *6*(1).

Kumar, J.B., Reddy, G.J., Sridhar, M., Reddy, T.J., Reddy, P.J. and Rao, S.S., 2016. A finite element analysis of initial stresses and displacements in the tooth and the periodontium in periodontally compromised simulations: Labial versus lingual force application. *Journal of Dr. NTR University of Health Sciences*, *5*(1), p.34.

Kuswantoro, F., Rosli, M.M., Abdul, R. and Ghorbani, H., 2012. Impact of distribution channel innovation on the performance of small and medium enterprises. *International Business and Management*, *5*(1), pp.52-61.

Laird, J.E., 2019. *The Soar cognitive architecture*. MIT press.

Latin, R.M. and Bowersox, R.D., 2002. Temporal turbulent flow structure for supersonic rough-wall boundary layers. *AIAA journal*, *40*(5), pp.832-841.

Lambert, Y., 2011. Environmental and fishing limitations to the rebuilding of the northern Gulf of St. Lawrence cod stock (Gadus morhua). *Canadian Journal of Fisheries and Aquatic Sciences*, *68*(4), pp.618-631.

Lewis, M., Liu, Y., Goyal, N., Ghazvininejad, M., Mohamed, A., Levy, O., Stoyanov, V. and

Look, D.C., Leedy, K.D., Tomich, D.H. and Bayraktaroglu, B., 2010. Mobility analysis of highly conducting thin films: Application to ZnO. *Applied Physics Letters*, *96*(6), p.062102.

Magnesium in the Presence of Crystals?. *American Journal of Clinical Pathology*, *138*(suppl_1), pp.A141-A141.

Mazer, C.D., Whitlock, R.P., Fergusson, D.A., Hall, J., Belley-Cote, E., Connolly, K., Khanykin, B., Gregory, A.J., de Médicis, É., McGuinness, S. and Royse, A., 2017. Restrictive or liberal red-cell transfusion for cardiac surgery. *New England Journal of Medicine*, *377*(22), pp.2133-2144.

Mehta, P., Cron, R.Q., Hartwell, J., Manson, J.J. and Tattersall, R.S., 2020. Silencing the cytokine storm: the use of intravenous anakinra in haemophagocytic lymphohistiocytosis or macrophage activation syndrome. *The Lancet Rheumatology*

Miettinen, K., Pollier, J., Buyst, D., Arendt, P., Csuk, R., Sommerwerk, S., Moses, T., Mertens, J., Miller, G.H., Brigham-Grette, J., Alley, R.B., Anderson, L., Bauch, H.A., Douglas, M.S.V., Edwards, M.E., Elias, S.A., Finney, B.P., Fitzpatrick, J.J. and Funder, S.V., 2010. Temperature and precipitation history of the

Arctic. *Quaternary Science Reviews*, *29*(15-16), pp.1679-1715.

Mitchell, W., 1989. Whether and when? Probability and timing of incumbents' entry into emerging industrial subfields. *Administrative science quarterly*, pp.208-230.

Nyaberi, J.N. and Mwangangi, P., 2014. Effects of logistics management practices on organization performance in Kenya: A case of Rift Valley Bottlers Limited in Uasingishu County. *International Journal of Social Sciences and Entrepreneurship*, *1*(12), pp.458-473.

Park, J.W., Kim, Y., Lee, K.J. and Kim, D.J., 2012. Novel cyanine dyes with vinylsulfone group for labeling biomolecules. *Bioconjugate Chemistry*, *23*(3), pp.350-362.

Porcelli, P., Giromini, L., Parolin, L., Pineda, J.A. and Viglione, D.J., 2013. Mirroring activity in the brain and movement determinant in the Rorschach test. *Journal of personality assessment*, *95*(5), pp.444-456.

Pratumvinit, B., Wongkrajang, P., Klinbua, C., Dangneawnoi, W., Khejonnit, V. and Reesukumal, K., 2012. Is It Necessary to Acidify Urine Before the Analysis of Calcium, Phosphate, and

Qi, K., Selvaraj, R., Al Fahdi, T., Al-Kindy, S., Kim, Y., Wang, G.C., Tai, C.W. and Sillanpää, M., 2016. Enhanced photocatalytic activity of anatase-TiO2 nanoparticles by fullerene modification: A theoretical and experimental study. *Applied Surface Science*, *387*, pp.750-758.

Rhead, B., Karolchik, D., Kuhn, R.M., Hinrichs, A.S., Zweig, A.S., Fujita, P.A., Diekhans, M., Smith, K.E., Rosenbloom, K.R., Raney, B.J. and Pohl, A., 2010. The UCSC genome browser database: update 2010. *Nucleic acids research*, *38*(suppl_1), pp.D613-D619.

Roso, V. and Lumsden, K., 2010. A review of dry ports. *Maritime Economics & Logistics*, *12*(2), pp.196-213.

Ruto, W.K. and Datche, E., 2015. Logistical factors influencing port performance a case of kenya ports authority (KPA). *International Journal of Current Research and Review*, *7*(12), p.52.

Schwab, K., 2010, September. The global competitiveness report 2010-2011. Geneva: World Economic Forum.

Serrou, D. and Abouabdellah, A., 2016. Logistics in the hospital: Methodology for measuring

performance. *ARPN journal of engineering and applied sciences*, *11*(5), pp.2950-2956.

Setegn, D., Ensermu, M. and Moorthy, P.K., 2013. Assessing the effect of business process reengineering on organizational performance: A case study of Bureau of Finance and Economic.

Sink, H. and Whitington, P.M., 1991. Location and connectivity of abdominal motoneurons in the embryo and larva of Drosophila melanogaster. *Journal of neurobiology*, *22*(3), pp.298-311.

Sunyono, S., Leny, Y. and Muslimin, I., 2015. Supporting students in learning with multiple representation to improve student mental models on atomic structure concepts. *Science Education International*, *26*(2), pp.104-125.

Tadesse, A. and Yohannes, D., The Effect of Service Quality on Customer Satisfaction: A Study on Four Selected Insurance Companies in Hossana Town, Hadiya Zone, SNNPR, Ethiopia.

TAYE, K., 2017. *EFFECT OF EMPLOYEES'PERCEPTION OF PERFORMANCE APPRAISAL ON JOB SATISFACTION: THE CASE OF DASHEN BANK* (Doctoral dissertation, St. Mary's University).

Voepel, H., Ruddell, B., Schumer, R., Troch, P.A., Brooks, P.D., Neal, A., Durcik, M. and Sivapalan, M., 2011. Quantifying the role of climate and landscape characteristics on hydrologic partitioning and vegetation response. *Water Resources Research*, *47*(10).Tilokavichai, V., Sophatsathit, P. and Chandrachai, A., 2012. Innovative logistics management under uncertainty using Markov Model.

Vahedian-Azimi, A., Hajiesmaeili, M., Amirsavadkouhi, A., Jamaati, H., Izadi, M., Madani, S.J., Hashemian, S.M. and Miller, A.C., 2016. Effect of the Cardio First Angel™ device on CPR indices: a randomized controlled clinical trial. *Critical Care*, *20*(1), pp.1-8.

Waters, R.D., Burnett, E., Lamm, A. and Lucas, J., 2009. Engaging stakeholders through social networking: How non profit organizations are using Facebook. *Public relations review*, *35*(2), pp.102-106.

Waters, R.D., Burnett, E., Lamm, A. and Lucas, J., 2009. Engaging stakeholders through social networking: How nonprofit organizations are using Facebook. *Public relations review*, *35*(2), pp.102-106.

WEBESHET, H., 2019. *ASSESSMENT OF DRY PORT PERFORMANCE MANAGEMENT PRACTICES IN ETHIOPIA: A CASE STUDY OF MODJO DRY PPORT* (Doctoral dissertation, st. mary's University).

World Bank, 2018. *The World Bank Annual Report 2018*. The World Bank.

Zemach, A., McDaniel, I.E., Silva, P. and Zilberman, D., 2010. Genome-wide evolutionary analysis of eukaryotic DNA methylation. *Science*, *328*(5980), pp.916-919.

Zettlemoyer, L., 2019. Bart: Denoising sequence-to-sequence pre-training for natural language generation, translation, and comprehension. *arXiv preprint arXiv:1910.13461*.

Zhang, H.U.I., Jin, M., Xiong, Y., Lim, B. and Xia, Y., 2013. Shape-controlled synthesis of Pd nanocrystals and their catalytic applications. *Accounts of chemical research*, *46*(8), pp.1783-1794.

Zinbarg, R.E., Revelle, W., Yovel, I. and Li, W., 2005. Cronbach's α, Revelle's β, and McDonald's H: Their relations with each other and two alternative conceptualizations of reliability. *psychometrika*, *70*(1), pp.123-133.

APPENDIX I

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

MANAGEMENT DEPARTMENT

MA IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT (MA IN LSCM)

QUESTIONNAIRE

Questionnaire to be filled by employees of Modjo dry port

I am conducting a thesis entitled "***The effects of logistics Activities on organizational performance*** "for partial fulfilment of an M.A. in logistics and supply chain management (LSCM) at Jimma University.

This questionnaire has been designed to seek information for purely academic purposes and hence would not affect anyone in any case. The information collected through the questionnaire is kept confidential and only used for academic purposes, and thereby to come up with some workable solutions to overcome the known challenges and difficulties related to the effects of logistics management on organization performance. To this end, the outcome of this study will highly depend upon your response. Therefore, you are kindly requested to fill the questionnaire as per the instruction, carefully and responsibly. Your cooperation is a valuable input for the research finding. So, please provide your genuine responses.

INSTRUCTIONS

- You are not required to write your name.
- Please, answer all questions honestly and faithful
- Respond to all close-ended question items by putting the "✓" mark in the boxes
- For the open questions, write your answers in the space provided clearly and natively.

Thank you in Advance.

Adugna Gebissa

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Email: adugnagebissatulu@gmail.com

SECTION I : BACKGROUND OF RESPONDENTS/INFORMATION.

1. Gender:

   A Male ☐

   B Female ☐

2. Age

   A 20-30 years of age ☐

   B 31-40 years of age ☐

   C 41-60 years of age ☐

3. The educational level of respondents

   A Certificate ☐ C Diploma ☐

   B First Degree ☐ D Second Degree ☐

4. Your current position: _____

5. What year your experience in the current position.

   A 1-5 years ☐ C 11-20 years ☐

   B 6-10 years ☐ D Beyond 21 years ☐

SECTION II: QUESTIONNAIRES RELATED TO LOGISTICS ACTIVITIES

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

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

No,	**Variables**					
	Transportation	**1**	**2**	**3**	**4**	**5**
6. 1	Transport management has a role in achieving faster delivery service.					
6.2.	Railway is more faster than truck to delivery commudity Djibouti to Modjo (save time in Hr)					
6.3	Transport management ensures customer satisfaction.					
6.4	Interm of cost reduction & loading capacity railway is better than truck transportation.					
6.5	In MDP organization, transport management plays an effective role to achieve the organization's objectives.					
6.6	Transport has a position in maximizing profit through cost reduction					
6.7	Transportation management is sometimes used as storage to utilize warehouse cost.					
	Inventory management	**1**	**2**	**3**	**4**	**5**
6.8	Inventory Management is very vital to the success and growth of organizations.					
6.9	Proper inventory management improves customer service.					
6.10	Inventory management has a significant role on organizational productivity.					
6.11	Proper management of inventory contributes to the profitability of our organization.					

6.10	Inventory management has significantly enhanced customer service.					
6.11	Your organization checks the inventory annually, quarterly, and monthly.					
6.12	Your organization uses inventory codification in terms of numerical and alphabetical.					
	Warehouse management.	1	2	3	4	5
6.13	The warehouse affects reducing the operational cost of the organization.					
6.14	Warehouse management plays a major role in customer satisfaction.					
6.15	Accurate identification of all storage locations.					
6.16	Storing goods according to recommended guidelines.					
6.17	Most of the time there is storage space utilization in MDP.					
6.18	Modjo dry port uses main warehousing activity, i.e., receiving, storage, put away, order picking, and shipping/dispatching.					
6.19	Your organization uses an automated warehousing system.					
6.20	Your organization measures the performance of the warehouse in terms of quality, response time, productivity, financial/cost, and employee satisfaction.					
	Customer response	**1**	**2**	**3**	**4**	**5**
6.21	Your organization responds quickly to the customers' needs.					
6.22	Most of the time your organization give priority to the customer					
6.23	Your organization Sharing information timely with customers to reduce the information distortion					
6.24	Modjo dry port has a long-term relationship with a loyal customer					
6.25	Measuring and evaluating customer satisfaction level					
6.26	Modjo dry port wisely Accepting the feedback from the customer to improve the service delivery					

SECTION III: RELATED OPEN ENDED QUESTIONERS

- Please be kindly requested to write your response as much as possible to the following open-ended questions.

7. What do you think the effects of transportation are at your organizational skills performance?

   _____
   _____
   _____

8. What are the effects of the benefits of inventory management on your organization performance?

   _____
   _____
   _____

9. What the effects of the wide warehouse Modjo dry port have on Organizational performance?

   _____
   _____
   _____

10. What the effects of the customer response to Modjo dry port have on Organizational performance?

    _____
    _____
    _____

SECTION IV: REGARDING ORGANIZATIONAL PERFORMANCE

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

1 =Significant Decrease, 2 = Decrease, 3= same as before, 4=Increase, 5=Significant increase

Organizational performance	1	2	3	4	5
1. Profitability growth					
2. Return on investment					
3. Return on asset growth					
4. Provision of prompt service to customers					
5. Decrease customer complaints					

Please be kindly requested to write your response as much as possible to the following open-ended question. Do you think that the effects of logistics activities could restrict Modjo dry port organization's performance achievement?

_____
_____
_____

Thank you for your cooperation and honesty!.

YEAR 2021/2013

JIMMA UNIVERSITY

IN OROMIA, ETHIOPIA