# EFFECTS OF WAREHOUSE MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF LOGISTICAL FIRMS IN MOMBASA, KENYA

BY

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## DECLARATION

**Declaration by Candidate**

This research thesis is my original work and has not been presented for a degree in any other university.

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# DEDICATION

I dedicate this project to my late father Mr. Joshua Omondi, my mother Mrs. Elizabeth Omondi, my brother Frank and my sister Caro. I also want to dedicate this study to my adorable son Joshua not forgetting the Almighty God our Father.

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# ABSTRACT

In the recent past, there has been an upsurge in voluminous trade at the East African Ports and more so the Mombasa port of Kenya. The voluminous trade eminent is due to the strategic repositioning of the Mombasa port as a gateway to other East and Central African Countries: Uganda, Rwanda, Burundi, Eastern Democratic Republic of Congo, South Sudan, Ethiopia and North Eastern Tanzania. The ability of Mombasa port of Kenya to handle cargo has been attributed to expansion of the warehousing area for its operations. The objective of the study was evaluation of warehouse management practices on organizational performance of logistical firms in Mombasa. The specific objectives for the study were; to investigate the effect of receiving process of goods on organizational performance, to determine the effect of tracking of goods to and from the warehouse on organizational performance, to investigate the effect of physical storage facilities on organizational performance and to determine the effect of order processing on organizational performance. The theories encompassed in the study included channel coordination theory, theory of constraints and revealed preference theory which relates to logistical management in organizational performance. The study adopted a descriptive research design and collected data using a structured questionnaire from 219 (96.1%) out of a sample 228 respondents. The sample was drawn using stratified random sampling from the management personnel of firms involved in logistics operations in the port Mombasa. The data collected was analyzed using both descriptive and inferential statistics. Descriptive analysis was conducted using frequencies, percentages, mean and standard deviation to summarize the results for the various variables of the study and the results will be presented in tables and figures. Inferential analysis was conducted using Pearson correlation and multiple regression model to test the relationship between the independent variables and the dependent variable at the level of significance of alpha=0.05. Descriptive results indicated that the respondents agreed that receiving process of goods, tracking of goods, physical storage facilities and order processing had improved the organizational performance of logistical firms in Mombasa. Pearson's correlation results indicated that tracking of goods ($r = .715$, $p < .01$), physical storage facilities ($r = .741$, $p < .01$) and order processing ($r = .829$, $p < .01$) had a significant and high positive correlation with organizational performance. The results also indicate that receiving process of goods ($r = .638$, $p < .01$) had a significant and moderate positive correlation with organizational performance. Additionally, multiple regression results indicated that receiving process of orders ($\beta = .519$, $p < .01$), tracking of goods ($\beta = .618$, $p < .01$), physical storage facilities ($\beta = .741$, $p < .01$) and order processing ($\beta = .820$, $p < .01$) had significant and positive influence on organizational performance of logistical firms in Mombasa. The study concluded that receiving process of goods, tracking of goods, physical storage facilities and order processing had statistically significant and positive effect on organizational performance of logistical firms in Mombasa. The study recommends that the management of logistical firms in Mombasa should consider enhancing their warehouse management practices by improving on receiving process of goods, tracking of goods, physical storage facilities and order processing in order to improve on the organizational performance. The study also recommends that the National Government through the Ministry of Industry, Trade and Co-operatives and the Kenya Ports Authority should improve on the existing policy and regulatory framework to ensure effective warehouse management practices among logistical firms in the country in order to improve logistical processes and activities in the country. Finally, the study suggests that further studies should be conducted focusing on other factors influencing organizational performance of logistical firms.

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## ABBREVIATIONS AND ACRONMYMS

**EDI:**      Electronic Data Interchange

**EPOS:**      Electronic Point of Sale

**ERP:**      Enterprise Resource Planning

**FM:**      Facilities Management

**GMRG:**      Global Manufacturing Research Group

**ICT:**      Information Communication Technology

**JIT:**      Just -in -Time

**KPA:**      Kenya Ports Authority

**MRP:**      Materials Requirements Planning Systems

**OP:**      Operational Performance

**PSA:**      Product and Service Agreements

**ROA:**      Return on Assets

**TOC**:      Theory of Constraints

**VMI:**      Vendor Managed Inventory

## OPERATIONAL DEFINITION OF TERMS

**Channel of Distribution**    The path or route which goods move from producers or manufacturer to ultimate consumer or industrial consumer.

**Channel Strategy**    This refers to the principle through which the firm seeks to achieve distribution objectives in terms of how, when and where to have his products made available to its target consumers.

**Distribution Channels**    Set of dependent organizations involved in the process of making products or services available for use or the consumption by the consumer or business users.

**Distribution Intensity**    This refers to the number of intermediaries through which a manufacturer distributes its products.

**Exclusive Distribution**    This is where the manufacturer restricts the sale of his products to small number of carefully chosen intermediaries.

**Intensive Distribution**    Is where the manufacturers aim to distribute his products through many outlets as possible to maximize their availability to consumers.

**Physical Distribution**    Is the efficient movement of goods and or services through

**Retailer**    Merchant who is engaging primarily in selling to ultimate consumers.

**Warehouse Management**    Is an operational movement that allows eventual movement of goods into and out of the warehouse.

**Organization Performance**    Is how an organization achieving the actual outputs as compared to intended outputs.

**CHAPTER ONE**

**INTRODUCTION**

**1.0 Overview**

This chapter presents the background of study, statement of problem, study objectives, study hypotheses, the significance of study, scope of study and study limitation.

**1.1 Background of the Study**

A warehouse is a planned storage and handling facility of goods and material, a focal point for product and information flow between sources of supply and the end users (Butcher, 2008). Globally warehousing has gained popularity over the last decade as a business preposition and strategic tool for ensuring that the stock in place is delivered on time. The warehouses for a long time have been operated by skilled staffs that in turn are entitled to coordinate all the activities and deliverables. The emergence of information systems which are computer based has eased the operational process in the warehouse management. The use of sophisticated software in warehousing and its management has had an impact in organizational performance. The operating situation is relatively stable and management attention is more focused on the efficient and cost-effective running of the warehouse operations (Butcher, 2008).

The essence of storage in warehousing involves proper arrangement and preserving goods from the time of their production or purchase till the actual use. When storage is done on a large scale and in a specified manner it is called warehousing (Sewe, 2010). Warehousing refers to the activities involving storage of goods on a large-scale in a systematic and orderly manner and making them available conveniently when needed. In other words, warehousing means holding or preserving goods in huge quantities from the time of their purchase or production till their actual use or sale. Warehousing is one of the important auxiliaries to trade. It creates time utility by bridging the time gap

between production and consumption of goods. The effective and efficient management of any organization requires that all its constituent elements operate effectively and efficiently as individual SBUs / facilities and together as an integrated whole corporate (Frank *et al*. 2014).

It has been established that the role of inventory management is to ensure that stock is available to meet the needs of the beneficiaries as and when required. Inventory represents a large cost to the humanitarian supply chain. This is made up of the cost of the inventory itself, plus the cost of transporting the goods, cost of managing the goods and keeping the goods in warehouses. The inventory manager's job is to make inventory available at the lowest possible cost. The inventory manager ensures a balance between supply and demand by establishing minimum holding stocks to cover lead-times. To achieve this, the inventory manager must constantly liaise with the programs to keep abreast of changing needs and priorities for both the organization and the clients. The warehouse must always have sufficient stocks to cover the lead-time for replacement stocks to avoid stock-outs (Rushton, 2010).

In addition to the work methods, equipment and space requirements are indeed essential for a warehouse to be adequately resourced. This is done by planning or estimating the requirements for people and equipment in order to operate the warehouse facility. There is a trade-off to be made between the people and handling equipment requirements for any given workload. In global warehouse operations, which are run like commercial operations, the focus is on minimizing the cost of running the operation. In such situations, it is often better to invest in handling equipment and reduce the dependence on people resources. However, in field operations, many logistical related organizations prefer to hire local labor which provides employment instead of relying on handling equipment (Olsen, 2013).

Logistics management is the part of supply chain management that plans, implements, and controls the efficient, effective forward, and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer's requirements. The complexity of logistics can be modeled, analyzed, visualized, and optimized by dedicated simulation software. The minimization of the use of resources is a common motivation in all logistics fields. A professional working in the field of logistics management is called a logistician (Hult, 2010).

This distinction is more useful for modeling purposes, but it relates also to a tactical decision regarding safety stocks: considering a two level network, if safety inventory is kept only in peripheral warehouses then it is called a dependent system (from suppliers), if safety inventory is distributed among central and peripheral warehouses it is called an independent system (from suppliers). Transportation from producer to the second level is called primary transportation, from the second level to consumer is called secondary transportation. Although configuring a distribution network from zero is possible, logisticians usually have to deal with restructuring existing networks due to presence of an array of factors: changing demand, product or process innovation, opportunities for outsourcing, change of government policy toward trade barriers, innovation in transportation means (both vehicles or thoroughfares), introduction of regulations (notably those regarding pollution) and availability of ICT supporting systems (Ketchen, 2006).

Logistics is generally the detailed organization and implementation of a complex operation. In a general business sense, logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations. The resources managed in logistics can include physical

items such as food, materials, animals, equipment, and liquids; as well as abstract items, such as time and information. The logistics of physical items usually involves the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing and often security (Scanell, 2010).

Warehousing and warehouse management are part of a logistics management system, which is itself a component in supply chain management. Although viewed by some as simply a place to store finished goods, inbound functions that prepare items for storage and outbound functions that consolidate, pack and ship orders provide important economic and service benefits to both the business and its customers (Lohrey, 2008). A warehouse provides a central location for receiving, storing and distributing products. As each inbound shipment arrives, responsibility for the goods transfers to warehouse personnel; products are identified, sorted and dispatched to their temporary storage location. Storage isn't a static "thing" but rather a process that includes security measures and maintaining an environment that preserves the integrity and usefulness of the items. Once it's time to move items, each order is retrieved, grouped, packaged and checked for completeness before being dispatched to their new destination.

The objective of a logistics system is to reduce cycle times and overall inventories, lower costs and most importantly, improve customer service. Warehousing increases the utility value of goods by providing a means to have the right products available at the right place in the right time. Operations such as order consolidation, order assembly, product mixing and cross-docking that take place within the warehouse structure also add value to the overall logistics system (Lohrey, 2008).

Warehouses provide economies of scale through efficient operations, storage capacity and a central location. Economic benefits are realized, for example, through consolidation and accumulation operations. Consolidation operations cut outbound

delivery costs for both the business and its customers. Instead of shipping items individually from multiple sources, items are delivered to a central warehouse, packaged together and shipped back out as a complete order. Accumulation operations allow a warehouse to act as a buffer, balancing supply and demand for seasonal and long-term storage. This can be vital to business profitability when demand for a product is year-round but the product may only be available at certain times of the year. Warehouses can serve as part of a contingency plan to ensure outbound orders are filled in full and on time. A practice called safety stocking allows businesses to maintain a predetermined number of inventory items at its warehouse. On the inbound side, safety stocking means that an emergency such as a transportation delay or a shipment containing defective or damaged goods won't delay filling and shipping customers order. On the outbound side, safety stocking is insurance against out-of-stock items (Jackie, 2008).

Across the supply chains, warehousing is an important element of activity in the distribution of goods, from raw materials and work in progress through to finished products. It is integral part to the supply chain network within which it operates and as such its roles and objectives should synchronize with the objectives of the supply chain (Natalie *et al*., 2011). It is not a 'Stand-alone' element of activity and it must not be a weak link in the whole supply chain network. Warehousing is costly in terms of human resources and of the facilities and equipment required, and its performance will affect directly on overall supply chain performance. Inadequate design or managing of warehouse systems will jeopardize the achievement of required customer service levels and the maintenance of stock integrity, and result in unnecessarily high costs.

The recent trends and pressures on supply chain / logistics forever increasing customer service levels, inventory optimization, time compression and cost minimization have

inevitably changed the structure of supply chains and the location and working of warehouses within the supply chains network (Zineldin, 2010). Certainly, the old concept of warehouses as go downs to store goods has been outdated. Warehouses perhaps better referred to as distribution centers; exist primarily to facilitate the movement of materials to the end customer. There are exceptions such as Strategic stock-holding, but in all commercial applications; effective and more efficient movement of materials to the customer is the key, even if some inventory has to be held to achieve this. Warehouses are built in all shapes and sizes, form facilities of a few thousand square meters handling modest throughputs, to despite the previous comments' large capital-intensive installations with storage capacities in the 1,000,000-pallet-plus range, and very high-hundreds of pallets per hour–throughputs (Mullins, 2011).

In Kenya, the port operations are spear headed by the KPA is a commercial entity that operates and manages the Mombasa port. The authority is also responsible for other social infrastructure seaports of Funzi, Kilifi, Kiunga, Lamu, Malindi, Mtwapa, Shimoni and Vanga, and it also has 3 Inland Container Depots (ICD's) in Nairobi, Kisumu, Eldoret as well as liaison office in Kampala which caters for all transit countries. The authority has in addition established transit desks at the headquarters to serve the hinterlands through targeted services for Uganda, Rwanda, and Burundi, DRC, Southern Sudan and Northern Tanzania markets. It's through the association with KPA that the logistical companies are able to operate their warehouses with sufficiency.

## 1.2 Problem Statement

In the last six years from 2011 to 2016, there has been an upsurge in voluminous trade at the East African Ports and more so the Mombasa port of Kenya. The voluminous trade eminent is due to the strategic repositioning of the Mombasa port as a gateway to

other East and Central African Countries: Uganda, Rwanda, Burundi, Eastern DRC, South Sudan, Ethiopia and North Eastern Tanzania. The ability of Mombasa port of Kenya to handle cargo has been attributed to expansion of the warehousing area for its operations.

To keep the Mombasa port of Kenya abreast with its peers, which has not been on maximum capacity, there is great need for effective restructuring in warehousing operations. Without an automated system, companies often don't know what they have in stock, causing inaccuracies. Lack of inventory oversight can cause a buildup of inefficiencies within the warehouse that slows operations and increases costs. Without adequate insight into location, pickers take longer to find the items to ship, which slows the loading process and creates a backup in labor allocation and dock-door scheduling.

With an annual increase in cargo throughput seen recently at Port of Mombasa, there is great need for increased efficiency in system process apart from the ongoing infrastructural development like ICD and SGR. There is need to optimize storage systems, racking and pallet patterns, the amount of space necessary for house inventory. It's common for warehouse workers to pass a pick ticket or other documentation through multiple hands. The picker passes it to the checker, who then passes it to the stager, who passes it to the loader, and so on. Barcode technology, which is frequently found in today's automated warehouse systems, eliminates multiple touches (Dean, 2008).

This study appreciates the efforts undertaken by the study of Anteneh (2011), in non-governmental organization level, Belayhun, (2016) in Ethiopian defense, Daniel (2017) in banking sector, and Tewodros (2016) in Ethiopian trading enterprise which examined the assessment of warehouse management and challenges correspondingly. Though several studies have been conducted on warehouse management within the public sector and non-

governmental organizations, little academic emphasis has been given to the workings of logistics companies. It was in this regard, that the researcher sought to evaluate the effects of warehouse management practices on organizational performance of logistical firms in Mombasa, Kenya.

## 1.3 Research Objectives

## 1.3.1 General Objective:

The main objective of this study was to evaluate the effects of warehouse management practices on organizational performance of logistical firms in Mombasa, Kenya.

## 1.3.2 Specific Objectives:

i. To investigate the effect of receiving process of goods on organizational performance.

ii. To determine the effect of tracking of goods to and from the warehouse on organizational performance.

iii. To investigate the effect of physical storage facilities on organizational performance.

iv. To determine the effect of order processing on organizational performance. Kenya.

## 1.4 Research Hypothesis

The researcher sought to measure the objectives of the study and came up with the following hypotheses:

$Ho_1$: The receiving process of goods has no significance influence on organizational performance of logistical firms.

$Ho_2$: Tracking of goods to and from warehouse has no significance influence on organizational performance of logistical firms.

**Ho$_3$**: Physical storage facilities have no significant influence on organizational performance of logistical firms.

**Ho$_4$**: Order processing has no significant influence on organizational performance of logistical firms.

## 1.5 Significance of the Study

Effective warehouse management has been a challenge to most governments and organizations of developing countries. In an effort to sort this challenge, most governments and organizations empower the parastatal, institutions or government departments to take the lead in the governance and management inventories. Unfortunately, due to unnecessary expenses, operational cost and supply chain mismanagement, the institutions are unable to track success and failures of their own work.

The study forms a resource material for the Government of Kenya. The concerns raised in the study are also expected to act as a reference point to the port so as to ensure it is on the right track concerning warehouse management and subsequent legislation. Further legislation can be instituted to improve organizational performance in the warehousing division like the Inland Container Depot and the Standard Gauge Railway.

The study is a reference point to logistical firms which will play a pivotal role in comprehension of the warehouse management in logistics process at the Port and its effectiveness in making the port to achieve its mission. This study will help staff of the logistical firms in the improvement of the general organizational performance and more so the warehousing division.

The study is a source of literature to academic and research scholars. The concerns raised in the study will aid research scholars in reference aspect of warehousing management to enrich further scholarly work in organizational performance.

**1.**6 Scope of the Study

The thesis was carried out at the port of Mombasa in Kenya. It focused on the effects of warehouse management logistics on organizational performance. The study used staff from logistical firms who included senior staff, supervisors and other operational categories. The thesis took a period of four years from 2017-2021.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

This chapter looked into detail the effects of warehouse management logistics on organizational performance; the specific objectives mentioned were; standard receiving process, tracking of goods, physical storage facilities and order processing. Theoretical and conceptual framework of the research project was also discussed in this section.

## 2.1 Organizational Performance of Logistical Firms

According to Sethi (1975), a structural framework to facilitate analysis of logistics process on performance of an organization should have at least the following two properties: First, categories for classifying logistics process activities should be stable over time, which makes historical comparisons possible. Second, the definitions of various categories should be applicable across firms, industries, or even social systems, making comparative analysis possible. Nordberg (2008) contends that corporate governance is a logistical process debate where directors decide on the allocation of resources to competing demands. This brings to the fore the fact that allocation of resources to pursue logistics programmes is a deliberate decision aimed at propelling an organization in the direction of its strategic intent.

Bowen (1993) holds that logistics process refers to obligations to pursue those policies to make decisions or to follow those lines of actions that are desirable in terms of objectives and values of society. In the same breath, Davis (1967) observes that huge corporations possess the power to control and influence the quality of life of employees, customers, shareholders, and residents of local communities in which they operate. In a bid to trace the origin of logistics process, Cannon (1994) looks at logistics process on performance as being a result of the internal regulation of the business in compliance

with the obligations placed on the firm by legislation, ownership and control. Carroll (1996) identifies four components that need to be present in order for business to claim it is socially responsible: These are economic, legal, ethical and philanthropic responsibilities. The perception of social responsibility as providing a major means of achieving long-term economic success is favoured by a number of scholars. Sillanpaa (1998) argues that existing methodologies do not assess whether an organization is socially sustainable, or if its actions have contributed to socially sustainable development, because of the absence of agreed criteria defining socially sustainable outcomes.

## 2.2 Receiving Process of Goods and Organizational Performance of Logistical Firms

Product delivered to the warehouse are visually inspected and verified according to the bill of lading. Any visual discrepancies are rejected. Once delivered, the shipment is compared to the packing slip, invoice, or bill of lading. The quantity of items is verified and the condition of the product is inspected for any visual defects. If defects are found, they should be documented immediately using a bill of lading and Non-Conformance Log. All discrepancies should be noted while the delivery driver is still at the warehouse. The delivery driver should initial any discrepancies before leaving the warehouse dock (Gill, 2008).

All materials received into the warehouse should be stored in its proper place so that isles are kept clear to avoid accidents, and to prevent damage. If the item is to be shipped to another location or school, the location name and purchase order number is written on the outside of the package and it is placed in the proper staging area. Once the product has been received in the warehouse, the paper work should be given to the supply inventory clerk or other crossed trained personnel to enter into McAleer. When

receiving non-stock items, a receiving ticket is run per PUR-W001, Purchase Order Receipt Process. The receiving ticket is to be placed in the appropriate delivery basket according to the school or department's delivery day.

All supplier invoices are to be forwarded directly to the Department of Financial and Administrative Services unless prior arrangements have been made with the Director of Financial and Administrative Services, and not to the ordering department. This is required in order to expedite payment to the supplier in as effective and efficient a manner as possible. Where only part orders are received, receiving on FPARCVD is completed for the items received.

In all instances, it is the responsibility of the employee in charge of purchasing to ensure that the policy regarding incoming shipments and damaged shipments are complied with to guard against losses. The receiving report should clearly indicate short shipments or damaged shipments. All shipments are delivered to the department to which they are consigned. It is the responsibility of the individual in each department assigned to receive shipments to take note of visible exterior damage in the form of broken cartons, or markings which indicate that the shipment may have received rough treatment in transit with consequent damage to the contents. Water damage could also harm the contents and should be looked for.

It is the responsibility of the receiver to note on the carrier's delivery record the existence of any apparent damage. The receiver is expected to open parcels or cartons without delay to determine whether damage to the contents has in fact occurred. If damage is discovered, advise the carrier and arrange for an inspector to come and examine the damage. It is important that the wrappings, cartons, boxes or other containers be retained so that the inspector will be able to determine how the damage

occurred. For this reason, the procedures for identifying exterior damage are very important (Johnson, 2009).

Warehouse operations are an integral part of a company's business strategy. Efficient warehouse operations can ensure that a company ships and receives vital stock in time for replenishment on store shelves or in manufacturing facilities. Efficient warehouse operations do not happen by accident, but through adherence to a series of best practices initiatives. The receiving dock is the first place a company can begin to ensure an efficient warehouse. A receiving clerk should be in charge of receiving and securing all inventories and should also collect all shipping documents from the carrier at the time of delivery. A receiving log should be maintained to ensure that all inventory expected for the day has been received. The receiving log can be a useful source of information for other departments within the company, such as purchasing and accounting. All inventory received by the shipping clerk should be moved from the receiving dock to its appropriate place in the warehouse to prevent damage and deter theft (Justin, 2009).

The movement of inventory throughout the warehouse should be done by experienced materials handlers with certifications or licenses to operate forklifts and boom lifts. These materials handlers should be able to move from one section of the warehouse to another with ease due to aisles that are not full of stored inventory. Inventory that has not been placed in its proper bin or warehouse location can cause problems with inventory systems, especially under a FIFO, or First in, First Out, inventory system. A FIFO system ensures that the inventory that was received yesterday is moved to the shipping dock before the inventory that was received today. This inventory system reduces the chance of obsolete inventory sitting in warehouse bins (Johnson, 2009).

A company should ensure that the inventory being shipped out of the warehouse facility is secured until it is loaded onto the carrier's truck. The warehousing manager should

consider a risk-based approach to shipping dock procedures, put more security on items that are of higher value or are easier to steal. A more intense effort to secure inventory should be made on shipping docks where the risk of theft or spoilage is highest. Only authorized personnel should be permitted to access the shipping dock. Companies can enforce this through the use of identification and swipe cards to access certain areas of the warehouse and shipping docks to ensure that inventory is secured until time for shipment. As with the receiving period, all documentation received from the carrier should be collected and the shipments should be recorded in a shipping log (Justin, 2009).

A warehouse management system (WMS) is a key part of the supply chain and primarily aims to control the movement and storage of materials within a warehouse and process the associated transactions, including shipping, receiving, put away and picking. The systems also direct and optimize stock put away based on real-time information about the status of bin utilization. A WMS monitors the progress of products through the warehouse (Johnson, 2006). It involves the physical warehouse infrastructure, tracking systems and communication between product stations.

Warehouse management systems often utilize automatic identification and data capture technology, such as barcode scanners, mobile computers, wireless LANs and potentially radio-frequency identification (RFID) to efficiently monitor the flow of products. Once data has been collected, there is either batch synchronization with, or a real-time wireless transmission to a central database. The database can then provide useful reports about the status of goods in the warehouse.

Warehouse management systems can be standalone systems, or supply chain execution suite, modules of an ERP system such as Odoo. Depending on the size and sophistication of the organization, the system can be as simple as a handwritten list that

are updated when required, spreadsheets using software such as Microsoft Excel or Access or purpose-built software programs. In its simplest form, the WMS can track product's data during the production process and act as an interpreter and message buffer between existing ERP and WMS systems (Donovan, 2006).

## 2.3 Tracking of Goods and Organizational Performance of Logistical Firms

Inventory tracking and control is a key element of operating a successful business. Carrying too much inventory ties up capital that otherwise could be used to invest in your business or to pay bills. Too little inventory can mean you do not have enough products to sell and you lose revenue. In order to keep just the right amount of inventory on hand, you need a system that will let you track your inventory. In a bar code, or Universal Product Code (UPC) system, every item carries a label that gives information about the item, such as what it is, where it is located and what price it sells for. The code can be scanned with a hand-held bar code reader. Items are scanned at the cash register, as they are sold, and also in the warehouse. Computer programs then analyze the scans and tell you exactly how many items you have sold and how many you still have in the warehouse. This allows you to keep track of sales as well as the number of items you have on hand (Magloff, 2010).

Small businesses often use a stock book, or log book, to keep track of inventory. The number of inventory items is listed in one column in the book, and sales are written in another column. This allows managers to keep track of how many items have been sold. This can also be done on computer. This system may work well when the business involves only one person, or when there are only a few different types of items to sell, but as the business grows, the stock book method can become sloppy. If employees get busy and forget to note items that were sold, you could suddenly find yourself with very

low inventory. This method also does not allow you to analyze sales patterns and forecast when you will need to order new items.

Radio frequency identification (RFID) tags each inventory item with a plastic bag containing a programmable microchip and a small antenna. The tags can contain a great deal of information about each item and can be read by hand-held readers. While radio tags are more expensive than bar codes, they also have several advantages over bar code systems. The tags can be read remotely, an entire pallet of tagged goods can be read at once and the information on the tags can be updated as the items are moved from one area to another. The tags can also be set to trigger an alarm when the item leaves the store preventing theft of tagged goods (Donovan, 2010).

*Kanban* is a Japanese word meaning "billboard" or "sign." This system for inventory tracking is most commonly used by stores, such as grocery stores, where items for sale are placed on a display shelf in the store. When a customer or sales person removes the final item on the shelf, a card is uncovered. This card gives the location in the storeroom where more items can be found. When the items in the storeroom are down to a certain point, such as 10 items left, another card is uncovered indicating how to order more goods from the supplier. This is a simple system, but it may not be useful for analyzing sales patterns and works best when there is stable and even demand from customers (Magloff, 2010).

## 2.4 Physical Storage Facilities and Organizational Performance of Logistical Firms

A warehouse is a commercial building for storage of goods. Warehouses are used by manufacturers, importers, exporters, wholesalers, transport businesses, customs, etc. They are usually large plain buildings in industrial areas of cities, towns and villages.

They usually have loading docks to load and unload goods from trucks. Sometimes warehouses are designed for the loading and unloading of goods directly from railways, airports, or seaports. They often have cranes and forklifts for moving goods, which are usually placed on ISO standard pallets loaded into pallet racks. Stored goods can include any raw materials, packing materials, spare parts, components, or finished goods associated with agriculture, manufacturing and production (Michaels, 2007).

Historically warehouses were a dominant part of the urban landscape from the start of the Industrial Revolution through the 19th century and into the twentieth century. The buildings remained when their original usage had changed. There are four identifiable types of warehouses (Johnson, 2006). The cotton industry rose with the development of the warehouse, and all five types were represented in Manchester in the United Kingdom. Warehouses of that period in Manchester were often lavishly decorated, but modern warehouses are more functional.

Warehouse allow transport optimization along the supply chain, and allow companies to work with an optimal inventory (economic order quantity) regarding service quality. For example, at the terminal point of a transport system it is necessary to stockpile produce until a full load can be transported. Warehouses can also be used to store the unloaded goods from the vessel. In industries whose goods require a period of maturation between production and retail, such as viniculture and cheese making, warehouses can be used to store the goods in large quantities.

A "piece pick" is a type of order selection process where product is picked and handled in individual units and placed in an outer carton, tote or other container before shipping. Catalog companies and internet retailers are examples of predominantly piece-pick operations. Their customers rarely order in pallet or case quantities; instead, they typically order just one or two pieces of one or two items. Several elements make up

the piece-pick system. They include the order, the picker, and the pick module, the pick area, handling equipment, the container, the pick method used and the information technology used. Every movement inside a warehouse must be accompanied by a work order. Warehouse operation can fail when workers move goods without work orders, or when a storage position is left unregistered in the system. Material direction and tracking in a warehouse can be coordinated by a Warehouse Management System (WMS), a database driven computer program. Logistics personnel use the WMS to improve warehouse efficiency by directing pathways and to maintain accurate inventory by recording warehouse transactions (Carrick, 2007).

Starting a small business begins with an idea for a service or product that consumers are willing to buy. One of the most abstract things that people need is space, which storage facilities provide for a charge. But starting a storage facility business isn't without its challenges, even if it does meet a universal need that never goes out of style. A small-business storage facility can take a number of different forms. Some facilities offer public storage in relatively small lockers where customers store personal goods, they don't have room for at home. Other facilities resemble warehouses and offer oversized storage areas for businesses and private individuals with large items to store, such as merchandise inventories, industrial machinery, boats and cars. Another type of storage facility offers specialized storage. For example, facilities may store medical specimens, archival documents and artifacts (Hartman, 2009).

One of the key requirements for a storage facility is acquiring a large space to house storage units or construct a new facility. Building a new storage facility is costly, especially if your business intends to offer special security features or climate-controlled storage. This likely means borrowing money until you can attract clients and begin collecting storage fees. Personnel requirements for a storage facility business are

relatively minor; workers include customer service representatives, a marketing staff, and maintenance and security personnel to keep the facility clean and safe. A storage facility's business plan depends, in large part, on the type of clients it seeks to attract and the specialized services it offers. For example, a public storage facility may need to advertise to new area residents and local renters an apartment search website or real estate magazine would be ideal venues. Meanwhile, a facility that specializes in climate-controlled storage can market itself to local universities, historical societies and museums. The number of potential clients in the area should determine the size of a storage facility investment. Owners also need to determine whether they'll offer shipping or insurance services (Hartman, 2009).

Business for storage facilities tends to shift with other factors in the economy. For example, cash-strapped museums may sell off or lend artifacts to other organizations when they can't afford to exhibit or store them, reducing the demand for specialty storage facilities. In the case of public storage, the housing market is an accurate predictor. When people are building new homes and moving into larger homes due to low mortgage interest rates, they have less need for storage facilities. However, when people move to smaller homes or abandon homeownership for renting, as may happen during a recession, storage facilities see higher occupancy rates. These trends guide storage facility owners as they plan expansion and marketing efforts.

## 2.5 Order Processing and Organizational Performance of Logistical Firms

The costs to fulfill customer orders include order taking and customer service, storing and maintaining inventory, shipping and product tracking to ensure delivery. Understanding how a company manages and processes orders and the cost to do so, allows business owners to create budgets, monitor employees and determine where cuts can be made to simplify the process to save time and money (Jessica, 2012).

Regardless of whether an order is filled by mail, phone or online, customer service representatives play an important role in order fulfillment. Customer service employees verify the order to ensure that all necessary information, such as names, addresses, product numbers and description codes, appears on the order form. Customer service representatives contact customers to verify or obtain missing information. Representatives are also on hand to answer questions customers may have once they receive the products. After receiving an order, the shipping department must locate the item within current inventory. Most manufacturers store inventory in large warehouse spaces. Employees find the item and bring it the shipping area. The cost to maintain warehouse space varies based on size and location. The number of employees needed to manage a warehouse depends on inventory size and order fulfillment demands. Employees may include inventory pickers, packers, managers, quality assurance, maintenance and janitorial staff (Jones, 2012).

Shipping a product involves verifying the order, packing the product to keep it safe during shipping and transporting the product using company vehicles or by hiring third-party package delivery services. Most products ship securely in boxes containing plastic foam pieces or foam molds. The cost to ship a product depends on its weight. To make tracking a product through the order fulfillment process easier, many businesses rely on product tracking software. Each order receives an individual number used to track it through the customer service, warehouse and shipping processes. Employees use product scanners to input information by scanning bar codes on the product and the order form. Products may be scanned during each process to determine the location of the product. Some companies allow customers to track their orders by allowing them to view the process from their computers (Jessica, 2012).

Order processing is a key element of order fulfillment. Order processing operations or facilities are commonly called "distribution centers". Order processing systems, in one form or another, have been a part of doing business for ages, and have developed alongside technology to provide powerful means of capturing, tracking and shipping customers' orders. Advanced order processing systems can span multiple continents to track and facilitate international orders, shipments and returns for a wide range of product lines and consumer segments (Kagawa, 2008).

An order processing system captures order data from customer service employees or from customers directly, stores the data in a central database and sends order information to the accounting and shipping departments, if applicable. Order processing systems provide tracking data on orders and inventory for every step of the way. Customer satisfaction is key to long-term success in business, and fulfilling customer orders reliably and accurately is key to customer satisfaction. Order processing systems help ensure that all of your customers' orders are filled on time, since automated systems can reduce errors in order processing. This can enhance the customer experience and maximize your company's profitability.

Traditional order processing systems are fully manual, utilizing hand-written notes with manual filing systems and reminders. In a one-person shoe repair company, for example, the proprietor may write orders by hand, in person, on an order log sheet. He may take the sheet home with him to make the orders, and then bring it back to the shop with the completed order to keep track of who the customer was. Modern order processing systems are largely technological in nature. A designer hat boutique with outlets in multiple countries, for example, is likely to accept orders online, where they are captured by a specialized order processing software package and sent automatically to a third-party manufacturer in another country. The manufacturer may then attach the

order sheet to the product when shipping it to the hat shop or it may ship the hat directly to the customer using shipping information from the system (Kagawa, 2008).

## 2.6 Theoretical Framework

For the purpose of this study, three theories on effects of warehouse management practices were reviewed to form its conceptual basis. They included; channel coordination theory, theory of constraints, and revealed preference theory as explained in the proceeding sub-section.

### 2.6.1 Channel Coordination Theory

The channel Coordination theory as parcel of operation research was formulated in the year 1989 by Coughlan and Wernerfelt. This theory emphasizes the importance of value chain existing between two or more firms. The channel structure for coordination in supply chain can be monopolytic or multi staged (Ingene & Parry, 1995). Channel coordination investigates the influence of channel structures and channel coordination on the supplier, the retailer, and the entire supply chain in the context of two single-channel and two dual-channel supply chains. The extensively studied are two Pareto concepts: channel-adding Pareto zone and contract-implementing Pareto zone. In the channel-adding Pareto zone, both the supplier and the retailer benefit from adding a new channel to the traditional single-channel supply chain. In the contract-implementing Pareto zone, it is mutually beneficial for the supplier and the retailer to utilize the proposed contract coordination policy. The analysis suggests the preference lists of the supplier and the retailer over channel structures with and without coordination are different, and depend on parameters like channel base demand, channel operational costs, and channel substitutability.

Ho and Zhang (2008) hypothetically stated that channel coordination theory could exhibit either behavioural biases or perfectly rational biases. While majority of the firms are geared towards profit maximization, the theory states the firms prefer simplified forms of contracting to ease the coordination of goods from one stage to another (Cui et al. 2007). The study objectives depicted by this theory is the effect of order processing and receiving of goods in the supply chain process. The order processing to be much effective, there is great need to encompass the use of technology (Katok & Wu 2008). A commonly used technology is WDM which is software based and pegs so much on the existence of stations through which goods pass through well instituted mechanism in the coordination of goods movement eventually leads to self-sufficiency (Singh *et al* 2009).

The relevance of channel coordination theory best describes the order processing as an objective of the study. There is need to use technology so as to improve the order processing channel in warehousing management. There exist some limitations to it. First and foremost, the continuous coordination requires an upgrade of the software used in the logistical channel. In as much as management has a preference for simplified system process, there is need to have a more complex process for greater accountability and effective monitoring process of the goods in the supply chain (Andrade *et al*, 2008).

## 2.6.2 Theory of Constraints

The theory of constraints (TOC), proposed by Eliyahu M. Goldratt, suggests that the resolve of every business entity is to generate money and maximize its earnings but this goal is often hindered by various constraints (Goldrat, 1984). This theory is concerned with constraints, in what manner to detect them, and how to eradicate or raise them. The most common constraints are capacity constraints (physical constraints e.g. slow processes), and policy constraints (constraints as a result of counteractive or ineffective

policies). The primary notion in TOC is that every commercial entity must have at least one constraint. If this was not the case, then the entity would generate an unlimited amount of income (Rose, 2005).

The TOC posits that the constraint determines the effectiveness of the entire system. The system's ability to perform depends on the constraint and thus enhancing the capacity of the constraint will guarantee improved ability of the entire system. Enhancing the capability of the subsystems and not the constraint would not warrant enhanced system performance; mostly it would only increase inventory and costs without improving the production output. Based on the TOC theory, a company can be assessed and regulated by three measures: production output, inventory and operating costs. This theory can be used by the procurement managers in managing operating expenses in inventory handling especially when loading and offloading of materials is done in the warehouse.

The TOC also postulates that non-constraints generally do not require additional material buffer to the existing capacity buffer. To increase inventory to a non-constraint station increases costs, by increasing replenishment time and work-in-progress inventory, while generating minimal real benefit. Thus, TOC suggests that increase in inventory is wasteful, if that increase is intended for a non-constraint station. Therefore, regarding warehouse management, TOC is an important theory behind tracking of inventory, physical storage of goods and order processing. It improves decision making in the short-run, prevents accumulation of inventory and enhances communication among functional units.

### 2.6.3 Revealed Preference Theory

The Revealed preference theory was put forward by Paul Samuelson (1938). This theory states that in course of management, inferences are usually made from preferences made by individuals in the organization. Little (1950) added to this theory that human preferences were philosophical and pegged on motivation. The most striking study objective related to this theory is the ordering process. In 1994, Binmore used a leaf from Samuelson and Little. He modified the Revealed Preference Theory to be called Hypothetical Preference Theory. The Hypothetical revealed preference Theory used two types of agents denoted by x and y respectively.  In Binmores view, an agent when faced with choices would choose y from any set of alternatives including x.

This consumer-based theory depends on the existence of preferences which are materialized in utility functions. These utility functions are maximized by consumers subject to a budget constraint, (Samuelson, 1948). The revealed preference theory analyzes choices and do determine preferences that influence the choices customers make. This theory can be used to forecast consumer's preferences and taste that will help source for adequate product and put in place effective inventory controls and measures to carter for all their needs thus increase customer trust and loyalty.

There are various limitations of the Revealed Preference Theory. First and foremost, the theory created a choice for either x and y. in business reality, there can be a situation whereby there is only one choice and no preferences for agents in the supply chain to choose from. The second limitation of the theory is that the preferences made by agents in the supply chain are to a large extent influenced by beliefs and perceptions.

## 2.7 Summary of Literature and Research Gaps

Without an automated system, companies often don't know what they have in stock, causing inaccuracies. Inadequate visibility can lead to excess/obsolete inventory buildup or unexpected shortages. Excess inventory can decrease cash flow, create warehouse space issues, increase expenses to house extra materials and ultimately lead to deficient customer service. However, inventory shortage tends to be the greater problem as it can lead to unfulfilled orders and unhappy customers. Lack of inventory oversight can cause a buildup of inefficiencies within the warehouse that slows operations and increases costs. Without adequate insight into location, pickers take longer to find the items to ship, which slows the loading process and creates a backup in labor allocation and dock-door scheduling (Collins, 2008).

A study by Mutai (2017) carried out study on the influence of warehouse management on productivity of state-run corporations in Kenya with a case study of Kenya Electricity generating company limited. The study entailed use of 117 questionnaires both qualitatively and quantitatively. The study noted that an increase in stock control in the organization led to increased productivity in state run corporation in Kenya. However, there was unmet need for training in stock control. There was also a gap for need to establish harmonized rules and regulation in regards to stock control across all state-run corporation as element of warehousing management.

Wangari (2015) carried out a study on influence of inventory management practices on organization competitiveness with a case study of Safaricom Company in Kenya. The study established three components of inventory management: inventory shrinkage, inventory investment and inventory turnover had impact on competitiveness of companies. In order to curb risks and losses there is need for management to carry out accurate forecasting models. The study raised the knowledge gap in relation to vendor

managed inventory. There was unmet need for the study in the vendor managed inventory so that there is less incidences accuracy in course of warehousing and inventory management.

A study by Oballah (2015) on warehousing management practices on performance of public health institution in Kenya with a focus on Kenyatta National Hospital. The study findings were that investment in inventory record accuracy has positive impact on performance of public health institution in Kenya. It was also noted that inventory shrinkage also impacted negatively on the performance of public health institutions. There was need for carrying out more study on inventory shrinkage and losses accrued to it as a warehousing component.

## 2.8 Conceptual Framework

The conceptual framework expresses the component of conceptualized relationship between the dependent variable and independent variable. The study dependent variable is the performance of organization in regards to warehouse management. The independent variables for the study are: receiving process of goods, tracking of goods, physical storage facilities and order processing. This is depicted in the diagram below;

**Independent Variables**                                    **Dependent Variable**

**Receiving Process of Goods**

- Improvement of Receiving Process
- Achievement of Receiving Process Targets
- Increase in Logistical Management Process

**Tracking of Goods**

- Achievement of Tracking of Goods Process
- Efficient Warehouse Storage
- Staff Participation in Tracking of Goods

**Organizational Performance**

- Productivity
- Profitability
- Efficiency and Effectiveness
- Customer Satisfaction

**Physical Storage Facilities**

- Organization of Storage Facilities at Port
- Managerial Knowledge on Warehousing Management
- Records and Documentation

**Order Processing**

- Organization Order processing
- Port Adequacy in Order Processing
- Procedural Flow of Order Processing

**Figure 2.1: Conceptual Framework**

**Source: (Researcher, 2021)**

Based on the literature reviewed, a conceptual framework showing how receiving process of goods, tracking of goods, physical storage facilities and order processing interacted with organizational performance was displayed in figure 2.1 above.

## CHAPTER THREE

## RESEARCH METHODOLOGY

### 3.0 Introduction

This chapter outlined the methodology used in carrying out the study. It included research design, target population, sampling techniques, data collection instruments and procedures, data analysis techniques, data presentation and research ethics.

### 3.1 Research Design

The study adopted descriptive research design. Research design is a blue print that is followed in completing research study, it is an arrangement of conditions of collecting and analyzing data in a manner that combines relevance to the research purpose and the economy in procedure. Importance of research design include the following; it provides structure or framework for managing particular research problem in the most economical and visible manner, it serves as a systematic plan for conducting a research project by specifying the sources and types of information relevant to research study (Greener, 2008).

### 3.2 Target Population

A population is described as all members of any well-defined class of people, events or objects about which a generalization is made (Saunders, Lewis & Thornhill, 2009). The research targeted 532 registered companies involved in logistical operations in Mombasa port and based in Mombasa County. This target population comprised of senior management personnel for the logistical firms in Mombasa as shown in table 3.2 below;

**Table 3.1: Study Population**

| Designation | Population Size | Percentage |
|---|---|---|
| Shipping Agents | 89 | 16.73 |
| Clearing and Forwarding | 236 | 44.36 |
| Transporters | 207 | 38.91 |
| **Total** | **532** | **100.00** |

## 3.3 Sampling Design

The sample was selected using stratified random sampling. Kothari and Gaurav (2014) describe stratified sampling as a method of collecting representative data from a heterogeneous group of subjects. Application of stratified sampling ensured that sample group represented certain characteristics of the population chosen by the researcher. The study adopted this sampling method to ensure that employees from the various designated logistical firms were adequately represented in the sample of the study. The researcher allocated the sample to the different stratum in proportion to their sizes using a proportional allocation method; (Sample Size/Population Size) x Subgroup Size. Simple random sampling method was then used to select the employees who were included in the study.

The sample of the study consisted of 228 respondents drawn from the senior management personnel for the logistical firms in Mombasa as shown in Table 3.2. The study adopted Yamane (1967) formula in determining the sample size at 0.05 level of precision.

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

$$= \frac{532}{1 + 532(0.05)^2}$$

$$\cong 228$$

Where;

n = Sample Size;

N = Population (532 employees); and

e = Level of Significance

**Table 3.2: Sample Size**

| Category | Population Size | Proportion (%) | Sample Size |
|---|---|---|---|
| Shipping Agents | 89 | 16.73 | 38 |
| Clearing and Forwarding | 236 | 44.36 | 101 |
| Transporters | 207 | 38.91 | 89 |
| **Total** | **532** | **100.00** | **228** |

**3.4 Data Collect Instruments and Procedure**

**3.4.1 Data Collection Instruments**

Data was collected using questionnaires administered to the participants who were the senior management personnel for logistical firms in Mombasa. A questionnaire is essentially a structured technique for collecting primary data. It is generally a series of written questions for which the respondents have to provide the answers (Greener, 2008).

The research study used structured questionnaires to collect the primary data. The questionnaire was preferred in this study because it is economical in terms of time,

energy and finances (Greener, 2008). Additionally, they are free from bias of the interviewer as the answers are in respondents' own words. The structured questionnaire enabled the researcher to collect quantitative data which were in form of Likert type items (Creswell, 2007).

### 3.4.2 Data Collection Procedures

Primary data was collected using self-administered questionnaires. The researcher with the help of 2 trained research assistants administered the questionnaires to all the 228 participants under study. A letter from NACOSTI requesting for authorization to carry out research was distributed prior to visiting the respective organizations for data collection. The questionnaire was accompanied by an informed consent note assuring the participants of the confidentiality of their responses.

### 3.5 Pilot Test

The research instrument was pilot tested in 10 organizations not included in the sample to establish if the targeted respondents would answer questions without difficulty. This was done before collection of the actual data to validate the questions, remove errors of omission and commission, rectify mistakes and check the general structure of the questionnaire. Pretesting the research instrument helped in pointing out ambiguous questions and the feedback obtained was used to clear the ambiguities.

### 3.6 Validity and Reliability of Research Instruments

Validity measures the degree to which a study succeeds in measuring intended values and the extent to which differences found reflects true differences among the respondents (Cooper & Schindler, 2008). Types of validity evaluated include content validity that looks at the extent of the instrument to provide sufficient cover of the

investigative questions that guide the research. Content validity was determined by the expert judgment of the supervisors.

The degree to which data collection procedures and analysis yield consistent results is what is referred to as reliability (Mugenda, 2009). It aims at establishing if the methods used would give similar results on different occasions or if different researchers would reach at the same conclusions using the same raw data. This study used Cronbach's coefficient alpha to determine the internal consistency of the data measurement instrument. Hair, Black and Tatham (2006) consider a test as reliable when its scale or question consistently measures a concept. Alpha values lie between zero and one with zero being no internal consistency and one being complete internal consistency. Thus, the higher the coefficient, the more reliable is the measure, with a value of 0.70 be sufficient (Hair *et al*., 2006). Based on the results of the pilot study the questionnaire yielded a Cronbach's reliability index of 0.781 indicating that the instrument was reliable.

### 3.7 Measurement of Variables

Table 3.3 shows the operationalization of variables indicating the variables and how they were measured in the study.

**Table 3.3: Operationalization of Study Variables**

| Variables | Variable Type | Operationalization | Scale | Effect |
|---|---|---|---|---|
| Receiving process of goods | Independent | • Improvement of receiving process<br>• Achievement of receiving process targets<br>• Increase in logistical management process | Ordinal | Positive |
| Tracking of goods | Independent | • Achievement of tracking of goods process<br>• Efficient warehouse storage<br>• Staff participation in tracking of goods | Ordinal | Positive |
| Physical storage facilities | Independent | • Organization of storage facilities at port<br>• Managerial knowledge on warehousing management<br>• Records and documentation | Ordinal | Positive |
| Order processing | Independent | • Organization order processing<br>• Port adequacy in order processing<br>• Procedural flow of order processing | Ordinal | Positive |
| Organizational Performance | Dependent | • Productivity<br>• Profitability<br>• Efficiency and effectiveness<br>• Customer satisfaction | Ordinal | Depends |

**3.8 Data Analysis and Presentation**

Data analysis is the process where collected data is reduced to a more controllable and convenient size, and where the researcher can start to identify trends or patterns, apply statistical techniques and summarize the data (Creswell, 2007). Quantitative data was analyzed by use of both descriptive statistics and inferential statistics and with the aid of statistical package for social sciences (SPSS) version 23.

Descriptive statistics is used to paint a summary picture of the sample or population in terms of the variables of interest (Creswell, 2007). Descriptive analysis was presented in percentages, frequencies, mean and standard deviation. Descriptive variables that were analyzed included socio-demographic characteristics, receiving process of goods, tracking of goods, physical storage facilities, order processing and organizational performance.

Inferential statistics including Pearson correlation test and multiple regression analysis were used to establish the relationship between the independent variables (receiving process of goods, tracking of goods, physical storage facilities and order processing) and the dependent variable (Organizational performance). Regression is a statistical technique to determine the linear relationship between two or more variables. Regression is primarily used for prediction and causal inference (Hair *et al*., 2006). It is the determination of statistical relationship between two or more variables (Brooks, 2012). The regression model was as shown below;

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

Where: $Y$ = Organizational Performance; $\beta_0$ = constant; $\beta_1 \beta_2 \beta_3 \beta_4$ = regression coefficients; $X_1$ = Receiving Process of goods; $X_2$ = Tracking of Goods; $X_3$ = Physical Storage Facilities; $X_4$ = Order processing; $\varepsilon$ = error term.

### 3.8.1 Hypotheses Testing

The hypotheses were tested using the results of regression model at the level of significance of alpha=0.05 as shown in Table 3.4;

**Table 3.4: Hypotheses Testing**

| Hypothesis Statement | Hypothesis Test | Decision Criteria/Rule |
|---|---|---|
| **H$_{01}$:** The receiving process of goods has no significance influence on organizational performance of logistical firms. | Linear Regression Coefficient $H_{01}: \beta_1 = 0$ $H_{A1}: \beta_1 \neq 0$ F-test will be used to test the significance of the regression model | When p<0.05 reject H$_{01}$ and accept H$_{A1}$ that receiving process of goods has a significance influence on organizational performance of logistical firms. |
| **H$_{02}$:** Tracking of goods to and from warehouse has no significance influence on organizational performance of logistical firms. | Linear Regression Coefficient $H_{02}: \beta_2 = 0$ $H_{A2}: \beta_2 \neq 0$ F-test will be used to test the significance of the regression model | When p<0.05 reject H$_{02}$ and accept H$_{A2}$ that tracking of goods to and from warehouse has a significance influence on organizational performance of logistical firms. |
| **H$_{03}$:** Physical storage facilities have no significant influence on organizational performance of logistical firms. | Linear Regression Coefficient $H_{03}: \beta_3 = 0$ $H_{A3}: \beta_3 \neq 0$ F-test will be used to test the significance of the regression model | When p<0.05 reject H$_{03}$ and accept H$_{A3}$ that physical storage facilities have a significant influence on organizational performance of logistical firms. |
| **H$_{04}$:** Order processing has no significant influence on organizational performance of logistical firms. | Linear Regression Coefficient $H_{04}: \beta_4 = 0$ $H_{A4}: \beta_4 \neq 0$ F-test will be used to test the significance of the regression model | When p<0.05 reject H$_{04}$ and accept H$_{A4}$ that order processing has a significant influence on organizational performance of logistical firms. |

## 3.9 Ethical Considerations

The researcher sought permission to carry out the study from the relevant authorization bodies as required. A covering letter will be sought from the Moi University, Scientific Ethical Review Committee as well as authorization from National Commission for Science Technology & Innovation (NACOSTI). The researcher also sought permission from the management of the respective logistical companies to conduct the study in their firms. During data collection, the managers' informed consent was sought before collecting information from them. It was made clear to the managers that their participation in the study was voluntary and those who agreed to participate, were required to sign an informed consent note. Confidentiality of the information shared and anonymity of the respondents was maintained.

**CHAPTER FOUR**

**DATA ANALYSIS, INTERPRETATION AND PRESENTATION**

**4.1 Overview**

This chapter presents the data analysis results, interpretation and presentation on the effects of warehouse management practices on organizational performance of logistical firms in Mombasa. The chapter covers the results on demographic characteristics (frequencies and percentages) of respondents, descriptive analysis (frequencies, percentages, mean and standard deviation) summarizing results on the individual variables, and inferential analysis (Pearson correlation and multiple regression) which determines the relationship between the variables. The research hypotheses are then tested based on the findings.

**4.2 Response Rate**

The study attained a response rate of 96.1% which represents a return of 219 out of 228 questionnaires that were distributed. Mugenda and Mugenda (2003) prescribes that to represent the opinions of the sample, a response rate of 50 percent or more is suitable. Therefore, a response rate of 96.1% was deemed satisfactory.

**4.3 Demographic Characteristics**

The study collected socio-demographic information in order to establish the distribution of respondents across categories of gender, age, membership duration, levels of education and income levels. The results indicate that 163 (74%) of the respondents were male, almost half 98 (44.7%) were between 41-50 years, 107 (48.9%) had worked in their respective organizations for a duration of 5-10 years, and 95 (43.4%) of the organizations had been in operation for a period of 6-10 years.

**Table 4.1: Socio-Demographic Results**

| Characteristic | | n | % |
|---|---|---|---|
| Gender | Male | 163 | 74.4% |
| | Female | 56 | 25.6% |
| | | | |
| Age (years) | Under 30 | 17 | 7.8% |
| | 31 – 40 | 83 | 37.9% |
| | 41 – 50 | 98 | 44.7% |
| | Over 50 | 21 | 9.6% |
| | | | |
| Duration of Service (years) | Less than 5 | 73 | 33.3% |
| | 5 – 10 | 107 | 48.9% |
| | Over 10 | 39 | 17.8% |
| | | | |
| Years of Operation | Under 5 | 31 | 14.2% |
| | 6 – 10 | 95 | 43.4% |
| | 11 – 15 | 77 | 35.2% |
| | Above 15 | 16 | 7.3% |

In addition, 215 (98.2%) of the organizations were offering receiving process of goods services, 191 (87.2%) offered tracking of goods services, 188 985.8%) offered physical storage facilities services, 206 (94.1%) offered order processing services, while 179 (81.7%) offered warehouse management logistic services. Figure 4.1 presents results respondents' opinions on the services offered by their organizations.

**Figure 4.1: Services Offered by the Logistic Organizations in Mombasa**

## 4.4 Descriptive Results

The study conducted descriptive analysis to summarize the views of the respondents regarding the warehouse management practices (receiving process of goods, tracking of goods, physical storage facilities and order processing) and the organizational performance of the logistic organizations in Mombasa. The respondents were required to indicate their level of agreement or disagreement with a number of statements which were rated using a five-point Likert scale (1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree). The responses were aggregated, frequencies and percentages determined, and mean and standard deviation calculated to rate the combined views. The width of every point in the scale is 0.8 [(5-1) ÷ 5], therefore, 1 to 1.8 depicted strongly disagree, 1.81 to 2.6 disagree, 2.61 to 3.4 neither agree nor disagree, 3.41 to 4.2 agree, and 4.21 to 5 strongly agree.

### 4.4.1 Receiving Process of Goods

The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which performance of their organization had been improved by using receiving process of goods practice. The results ($\bar{X} = 3.48, SD = 1.18$) indicate that the respondents agreed with the different statements suggesting that the performance of their organization had been improved by using receiving process of goods practice. This is supported by mean scores of between 3.46 and 3.50 for all the statements. Table 4.2 presents the response results on receiving process of goods practice.

**Table 4.2: Receiving Process of Goods**

| Receiving Process | SD | D | UD | A | SA | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| Standard Receiving has improved | 17 (8%) | 31 (14%) | 45 (21%) | 87 (40%) | 39 (18%) | 3.46 | 1.16 |
| Standard Process has been achieved | 21 (10%) | 27 (12%) | 38 (17%) | 92 (42%) | 41 (19%) | 3.48 | 1.20 |
| Receiving Process have increased logistics management | 15 (7%) | 33 (15%) | 42 (19%) | 85 (39%) | 44 (20%) | 3.50 | 1.17 |
| **Average** | | | | | | **3.48** | **1.18** |

### 4.4.2 Tracking of Goods

The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which tracking of goods practice had improved their organizational performance. The results ($\bar{X} = 3.62, SD = 1.11$) indicate that the respondents agreed with the different statements suggesting that tracking of goods practice had improved their organizational

performance. This is supported by mean scores of between 3.47 and 3.75 for all the

statements. Table 4.3 presents the response results on tracking of goods practice;

**Table 4.3: Tracking of Goods**

| Tracking of Goods | SD | D | UD | A | SA | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| Tracking of goods have been achieved by the organization | 17 (8%) | 26 (12%) | 31 (14%) | 101 (46%) | 44 (20%) | 3.59 | 1.16 |
| Proper tracking of goods has been undertaken by staff | 21 (10%) | 27 (12%) | 36 (16%) | 98 (45%) | 37 (17%) | 3.47 | 1.19 |
| Storage of items at the port in the warehouse is efficient | 12 (5%) | 23 (11%) | 34 (16%) | 107 (49%) | 43 (20%) | 3.67 | 1.07 |
| Tracking of goods practices is on point | 8 (5%) | 21 (10%) | 33 (15%) | 112 (51%) | 45 (21%) | 3.75 | 1.00 |
| **Average** | | | | | | **3.62** | **1.11** |

## 4.4.3 Physical Storage Facilities

The respondents were required to respond to a series of statements which sought to

bring out their level of agreement or disagreement on the extent to which physical

storage facilities had improved their organizational performance. The results $(\overline{X} =$

$3.78, SD = 0.96)$ indicate that the respondents agreed with the different statements

suggesting that physical storage facilities had improved their organizational

performance. This is supported by mean scores of between 3.74 and 3.84 for all the

statements. Table 4.4 presents the response results on physical storage facilities;

**Table 4.4: Physical Storage Facilities**

| Physical Storage Facilities | SD | D | UD | A | SA | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| Physical storage facilities in the port is organized | 6 (3%) | 11 (5%) | 35 (16%) | 128 (58%) | 39 (18%) | 3.84 | 0.87 |
| The Warehouse manager knows about the facilities he is handling | 9 (4%) | 17 (8%) | 37 (17%) | 114 (52%) | 42 (19%) | 3.74 | 0.99 |
| Storage facilities are on record for reference | 8 (4%) | 19 (9%) | 29 (13%) | 125 (57%) | 38 (17%) | 3.76 | 0.96 |
| Physical Storage facilities are also based on organizational performance | 9 (4%) | 21 (10%) | 25 (11%) | 117 (53%) | 47 (21%) | 3.79 | 1.02 |
| **Average** | | | | | | **3.78** | **0.96** |

## 4.4.4 Order Processing

The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which order processing had improved their organizational performance. The results ($\overline{X} = 3.86, SD = 0.97$) indicate that the respondents agreed with the different statements suggesting that order processing had improved their organizational performance. This is supported by mean scores of between 3.74 and 3.84 for all the statements. Table 4.5 presents the response results on order processing;

**Table 4.5: Order Processing**

| Order Processing | SD | D | UD | A | SA | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| Proper order processing practices | 6 (3%) | 26 (12%) | 34 (16%) | 95 (43%) | 58 (26%) | 3.79 | 1.05 |
| Order processing at the port is adequate | 8 (4%) | 19 (9%) | 27 (12%) | 112 (51%) | 53 (24%) | 3.84 | 1.01 |
| Order processing follows the correct protocol | 3 (1%) | 15 (7%) | 23 (11%) | 129 (59%) | 49 (22%) | 3.94 | 0.85 |
| **Average** | | | | | | **3.86** | **0.97** |

## 4.4.5 Organizational Performance

The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which order processing Warehouse Management Logistics practices affect organizational performance. The results ($\overline{X} = 3.86, SD = 0.97$) indicate that the respondents agreed with the different statements suggesting that Warehouse Management Logistics practices had improved organizational performance. This is supported by mean scores of between 3.86 and 3.93 for all the statements. Table 4.6 presents the response results on organizational performance.

**Table 4.6: Organizational Performance**

| Organizational Performance | SD | D | UD | A | SA | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| Warehouse Management Logistics leads to organizational effectiveness | 8 (4%) | 15 (7%) | 23 (11%) | 116 (53%) | 57 (26%) | 3.91 | 0.98 |
| Warehouse Management Logistics results to increased productivity | 6 (3%) | 13 (6%) | 26 (12%) | 121 (55%) | 53 (24%) | 3.92 | 0.92 |
| The port profits increased as a result of warehouse management logistics | 4 (2%) | 16 (7%) | 20 (9%) | 131 (60%) | 48 (22%) | 3.93 | 0.87 |
| Order Processing practices leads to improved quality | 9 (4%) | 18 (8%) | 23 (11%) | 107 (49%) | 62 (28%) | 3.89 | 1.04 |
| Warehouse Management Logistics results to continuous improvement (services being provided and innovations being performed during the service production process) | 10 (5%) | 11 (8%) | 29 (13%) | 118 (54%) | 51 (23%) | 3.86 | 0.98 |
| The quality of work life (motivational level of personnel) is affected by warehouse management logistics | 5 (2%) | 17 (8%) | 31 (14%) | 111 (51%) | 55 (25%) | 3.89 | 0.95 |
| **Average** | | | | | | **3.90** | **0.96** |

## 4.5 Pearson's Product Moment Correlation Analysis

The study conducted Pearson's correlation test at a level of significance of alpha = .05 to determine the significance and nature of relationship between the organizational performance of logistic firms in Mombasa and warehouse management practices including receiving process of orders, tracking of goods, physical storage facilities and order processing. The results show that tracking of goods ($r = .715$, $p < .01$), physical storage facilities ($r = .741$, $p < .01$) and order processing ($r = .829$, $p < .01$) had a

significant and high positive correlation with organizational performance. The results also indicate that receiving process of goods (r = .638, p < .01) had a significant and moderate positive correlation with organizational performance. This results indicate that all the independent variables had significant associations with the organizational performance (p < 0.05) and were therefore included in the multiple regression model. Table 4.7 presents the correlation test results.

**Table 4.7: Correlation Matrix**

|  |  | Organizational Performance | Receiving Process of Goods | Tracking of Goods | Physical Storage Facilities | Order Processing |
|---|---|---|---|---|---|---|
| Organizational Performance | r | 1 |  |  |  |  |
|  | Sig. |  |  |  |  |  |
|  | N | 219 |  |  |  |  |
| Receiving Process of Goods | r | .638 | 1 |  |  |  |
|  | Sig. | .000 |  |  |  |  |
|  | N | 219 | 137 |  |  |  |
| Tracking of Goods | r | .715 | .107 | 1 |  |  |
|  | Sig. | .000 | .114 |  |  |  |
|  | N | 219 | 219 | 219 |  |  |
| Physical Storage Facilities | r | .741 | .119 | .131 | 1 |  |
|  | Sig. | .000 | .079 | .053 |  |  |
|  | N | 219 | 219 | 219 | 219 |  |
| Order Processing | r | .829 | .126 | .092 | .106 | 1 |
|  | Sig. | .000 | .063 | .175 | .118 |  |
|  | N | 219 | 219 | 219 | 219 | 219 |

**NB: Correlation is significant at 0.05 (2 tailed)**

## 4.6 Multiple Regression Analysis

The researcher conducted multiple regression analysis to determine the variability in organizational performance of logistic firms in Mombasa that would be explained by warehouse management practices including receiving process of orders, tracking of goods, physical storage facilities and order processing.

### 4.6.1 Model Summary

The results ($R^2 = .649$) suggests that approximately 64.9% of the variability in organizational performance of logistical firms in Mombasa was explained by the warehouse management practices members including receiving process of orders, tracking of goods, physical storage facilities and order processing. Table 4.8 presents the model summary;

**Table 4.8: Regression Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-----|----------|-------------------|----------------------------|
| 1 | .805[a] | 0.649 | 0.642 | 2.68111 |

a. Predictors: (Constant), Receiving process of orders, Tracking of goods, Physical storage facilities, Order processing
b. Dependent Variable: Organizational performance

### 4.6.2 Analysis of Variance

The significance of the regression model was tested using F-test. The results indicate that at a significance level of alpha = .05, the regression model, with the four predictor variables (receiving process of orders, tracking of goods, physical storage facilities, order processing), was significant (F [4, 214] = 98.836, p < .01) in predicting the variability in organizational performance of logistic firms in Mombasa. Table 4.9 presents the ANOVA results;

**Table 4.9: Analysis of Variance**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Regression | 1752.927 | 4 | 438.232 | 98.836 | .000[b] |
| 1 | Residual | 948.861 | 214 | 4.434 | | |
| | Total | 2701.788 | 218 | | | |

a. Dependent Variable: Organizational performance

b. Predictors: (Constant), Receiving process of orders, Tracking of goods, Physical storage facilities, Order processing

## 4.6.3 Regression Coefficients

The results indicate that receiving process of orders ($\beta = .519$, $p < .01$), tracking of goods ($\beta = .618$, $p < .01$), physical storage facilities ($\beta = .741$, $p < .01$) and order processing ($\beta = .820$, $p < .01$) had a significant and positive influence on organizational performance of logistical firms in Mombasa. The results suggest that for one-unit increase in receiving process of orders, tracking of goods, physical storage facilities, order processing, there would be a corresponding 0.519 units, 0.618 units, 0.741 units and 0.820 units increase respectively in organizational performance of logistical firms in Mombasa. Table 4.10 presents the regression coefficient results;

**Table 4.10: Regression Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | -6.113 | .967 | | -6.320 | .000 |
| | Receiving process of orders | .519 | .114 | .422 | 4.552 | .000 |
| 1 | Tracking of goods | .618 | .121 | .657 | 5.101 | .000 |
| | Physical storage facilities | .741 | .140 | .857 | 5.287 | .000 |
| | Order processing | .820 | .139 | .812 | 5.914 | .000 |

a. Dependent Variable: Organizational performance

Therefore, the organizational performance of logistical firms in Mombasa could be predicted using the following regression equation.

Financial growth $= 0.0.519X_1 + 0.618X_2 + 0.741X_3 + 0.820X_4 - 6.113$

Where: $X_1 =$ receiving process of orders; $X_2 =$ tracking of goods; $X_3 =$ physical storage facilities; and $X_4 =$ order processing.

## 4.7 Hypotheses Testing

The hypotheses of the study were tested based on the results of the regression model. Table 4.11 presents the hypotheses test results;

**Table 4.11: Hypotheses Testing**

| Hypothesis Statement | B | t | Sig. | Decision |
|---|---|---|---|---|
| **H$_{01}$:** The receiving process of goods has no significance influence on organizational performance of logistical firms. | 0.519 | 4.552 | 0.000 | Reject H$_{01}$ |
| **H$_{02}$:** Tracking of goods to and from warehouse has no significance influence on organizational performance of logistical firms. | 0.618 | 5.101 | 0.000 | Reject H$_{02}$ |
| **H$_{03}$:** Physical storage facilities have no significant influence on organizational performance of logistical firms. | 0.741 | 5.287 | 0.000 | Reject H$_{03}$ |
| **H$_{04}$:** Order processing has no significant influence on organizational performance of logistical firms. | 0.820 | 5.914 | 0.000 | Reject H$_{04}$ |

**CHAPTER FIVE**

**SUMMARY OF FINDNINGS, CONCLUSIONS AND RECOMMENDATIONS**

**5.1 Introduction**

This chapter offers a summary of findings, conclusions drawn, recommendations, and areas for further research.

**5.2 Summary of Findings**

The general objective of this study was to evaluate the effects of warehouse management practices on organizational performance of logistical firms in Mombasa. The summary findings are outlined according to the study objectives as stipulated in the following sections;

**5.2.1 Organizational Performance of Logistical Firms in Mombasa**

The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which order processing warehouse management logistical practices affect organizational performance. Descriptive results indicated that the respondents agreed with the different statements suggesting that warehouse management logistical practices had improved organizational performance of logistical firms in Mombasa. This is supported by Pearson's correlation results which indicated that all the independent variables (receiving process of goods, tracking of goods, physical storage facilities and order processing) had significant associations with the organizational performance. In addition, regression results indicated that approximately 64.9% of the variability in organizational performance of the logistical firms in Mombasa was explained by the independent variables.

**5.2.2 Receiving Process of Goods**

The first objective of the study was to investigate the effect of receiving process of goods on organizational performance of logistical firms in Mombasa. The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which performance of their organization had been improved by using receiving process of goods practice. The results indicated that the respondents agreed with the different statements suggesting that receiving process of goods had improved the organizational performance of the firms. Pearson's correlation test at a level of significance of alpha = .05 indicated that receiving process of goods had a statistically significant and strong positive correlation with organizational performance of the logistical firms in Mombasa. In addition, regression results indicated that receiving process of goods had a statistically significant and positive influence on organizational performance of the firms. The results suggest that improving the receiving process of goods would lead to a corresponding improvement on organizational performance of the logistical firms in Mombasa.

**5.2.3 Tracking of Goods**

The second objective of the study was to determine the effect tracking of goods to and from the warehouse on organizational performance of logistical firms in Mombasa. The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which tracking of goods practice had improved their organizational performance. The results indicated that the respondents agreed with the different statements suggesting that tracking of goods had improved the organizational performance of the firms. Pearson's correlation test at a level of significance of alpha = .05 indicated that tracking of goods had a statistically significant and strong positive correlation with organizational performance of the

logistical firms in Mombasa. In addition, regression results indicated that tracking of goods had a statistically significant and positive influence on organizational performance of the firms. The results suggest that improving the tracking of goods would lead to a corresponding improvement on organizational performance of the logistical firms in Mombasa.

### 5.2.4 Physical Storage Facilities

The third objective of the study was to investigate the effect of physical storage facilities on organizational performance of logistical firms in Mombasa. The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which physical storage facilities had improved their organizational performance. The results indicated that the respondents agreed with the different statements suggesting that physical storage facilities had improved the organizational performance of the firms. Pearson's correlation test at a level of significance of alpha = .05 indicated that physical storage facilities had a statistically significant and strong positive correlation with organizational performance of the logistical firms in Mombasa. Additionally, regression results indicated that physical storage facilities had a statistically significant and positive influence on organizational performance of the firms. The results suggest that improving the physical storage facilities would lead to a corresponding improvement on organizational performance of the logistical firms in Mombasa.

### 5.2.5 Order Processing

The fourth objective of the study was to determine the effect of order processing on organizational performance of logistical firms in Mombasa. The respondents were required to respond to a series of statements which sought to bring out their level of agreement or disagreement on the extent to which order processing had improved the

organizational performance of the firms. Descriptive results indicate that the respondents agreed with the different statements suggesting that order processing had improved their organizational performance. Pearson's correlation test at a level of significance of alpha = .05 indicated that order processing had a statistically significant and strong positive correlation with organizational performance of the logistical firms in Mombasa. In addition, regression results indicated that order processing had a statistically significant and positive influence on organizational performance of the firms. The results suggest that improving the order processing would lead to a corresponding improvement on organizational performance of the logistical firms in Mombasa.

## 5.3 Conclusions

### 5.3.1 Receiving Process of Goods

The study concludes that receiving process of goods had statistically significant and positive effect on organizational performance of logistical firms in Mombasa.

### 5.3.2 Tracking of Goods

The study concludes that tracking of goods had statistically significant and positive effect on organizational performance of logistical firms in Mombasa.

### 5.3.3 Physical Storage Facilities

The study concludes that physical storage facilities had statistically significant and positive effect on organizational performance of logistical firms in Mombasa.

### 5.3.4 Order Processing

The study concludes that order processing had statistically significant and positive effect on organizational performance of logistical firms in Mombasa.

**5.4 Recommendations**

The study recommends that the management of logistical firms in Mombasa should consider enhancing their warehouse management practices by improving on receiving process of goods, tracking of goods, physical storage facilities and order processing in order to improve the organizational performance of their firms.

The study also recommends that the National Government through the Ministry of Industry, Trade and Co-operatives and the Kenya Ports Authority should improve on the existing policy and regulatory framework to ensure effective warehouse management practices among logistical firms in the country in order to improve logistical processes and activities in the country. This would ensure that the logistical firms are strengthened in order to continue playing a crucial role in the supply chain management and contributing to the economic development of the country.

**5.5 Suggestions for Further Studies**

The findings have revealed that receiving process of goods, tracking of goods, physical storage facilities and order processing did not exhaustively explain the variability in organizational performance of logistical firms in Mombasa. Therefore, the study suggests that further studies should be conducted focusing on other factors influencing organizational performance of logistical firms.

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# APPENDICES

**Appendix I: Letter of Introduction**

<div align="right">

FREDDIE OBUOR

P.O. BOX 19654-80100,

MOMBASA.,

KENYA.

</div>

STORES & WAREHOUSE DEPARTMENT,

KENYA PORTS AUTHORITY

P.O BOX 86966-80100,

MOMBASA.

KENYA

Dear Sir/ Madam,

## RE: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH (DATA COLLECION)

I am a student at Moi University Coast Campus pursuing a Degree of Masters in Logistics & Supplies Management (MLS).

Pursuant to the pre-requisite course work, I would like to conduct a research on investigating the **Effects of Warehouse Management Practices on Organizational Performance of Logistical Firms in Mombasa, Kenya.** The focus of my research will be on logistical firms based in Mombasa County and this will involve use of questionnaires administered to staff members and the management team.

I kindly seek your permission to conduct the research at your company through questionnaires and use of relevant documents. Data collected shall be treated as confidential and strictly be used for academic pursposes.

Thanking you in advance as I look forward for your cooperation.

Yours faithfully,


**Freddie Obuor**

**Student, School of Business and Economics**

**Appendix II: Questionnaire**

Please give answers in the spaces provided and tick (√) in the box that matches your response to the question where applicable.

**Part A: Demographic and Respondents Profile**

1. Age of Respondent

    18-25 years            [   ]

    25-30 years            [   ]

    30-35 years            [   ]

    Over 35 years         [   ]


2. Gender of Respondent

    Male                  [   ]

    Female                [   ]


3. Length of continuous service with the company/firm

    Below 2 years         [   ]

    2-4 years              [   ]

    5-7 years              [   ]

    8-10 years            [   ]

    Above 11 years        [   ]


4. Level of Education of Respondent

    KCPE                 [   ]

    KCSE                 [   ]

    Certificate           [   ]

    Diploma              [   ]

    Degree               [   ]

    Postgraduate Degree    [   ]

**Part B: Warehouse Management Logistics at Kenya Ports Authority**

5. Please indicate whether your organization is practicing the following warehouse management logistics services. Tick where appropriate between on YES or NO

| Services | Yes | No |
|---|---|---|
| Receiving Process of Goods | | |
| Tracking of Goods | | |
| Physical Storage Facilities | | |
| Order Processing | | |

**Receiving Process of Goods**

This section seeks your opinion on the effect of receiving process of goods on organizational performance of logistical firms in Mombasa, Kenya. Kindly indicate your level of agreement or disagreement with the statements using the following 5-point Likert scale where; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1= Strongly Disagree.

| | Receiving Process of Goods | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|
| a. | Standard receiving of goods has improved. | | | | | |
| b. | Standard process of goods has been achieved. | | | | | |
| c. | Receiving process have increased logistics management. | | | | | |
| d. | Adoption of modern storage infrastructure i.e. cold rooms and racking system. | | | | | |
| e. | Use of modern material handling equipment when receiving goods to the warehouse. | | | | | |

**Tracking of Goods**

This section seeks your opinion on the effect of tracking of goods on organizational performance of logistical firms in Mombasa, Kenya. Kindly indicate your level of agreement or disagreement with the statements using the following 5-point Likert scale where; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1= Strongly Disagree.

|  | **Tracking of Goods** | **5** | **4** | **3** | **2** | **1** |
|---|---|---|---|---|---|---|
| a. | Tracking of goods have been achieved by the organization. |  |  |  |  |  |
| b. | Proper tracking of goods has been undertaken by staff. |  |  |  |  |  |
| c. | Storage of items at the port in the warehouse is efficient. |  |  |  |  |  |
| d. | Information technology has enhanced the receipt and dispersal of inventory entering or leaving warehouse. |  |  |  |  |  |
| e. | Information technology has enabled tracking movement of stock units in the warehouse/stores. |  |  |  |  |  |

What other methods do companies use in tracking of goods from the warehouse to its final destination?

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**Physical Storage Facilities**

This section seeks your opinion on the effect of physical storage facilities on organizational performance of logistical firms in Mombasa, Kenya. Kindly indicate your level of agreement or disagreement with the statements using the following 5-point Likert scale where; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1= Strongly Disagree.

|    | **Physical Storage Facilities** | 5 | 4 | 3 | 2 | 1 |
|----|----------------------------------|---|---|---|---|---|
| a. | Physical storage facilities in the port is organized. |   |   |   |   |   |
| b. | The warehouse manager knows about the facilities he is handling. |   |   |   |   |   |
| c. | Storage facilities are on record for reference. |   |   |   |   |   |
| d. | Physical storage facilities are also based on organizational performance. |   |   |   |   |   |
| e. | Repairs and maintenance of warehouse facilities and machines is done frequently. |   |   |   |   |   |

State other physical storage facilities used by logistical firms in Mombasa County.

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**Order Processing**

This section seeks your opinion on the effect of order processing on organizational performance of logistical firms in Mombasa, Kenya. Kindly indicate your level of agreement or disagreement with the statements using the following 5-point Likert scale where; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1= Strongly Disagree.

| | **Order Processing** | **5** | **4** | **3** | **2** | **1** |
|---|---|---|---|---|---|---|
| a. | Proper order processing practices are used by logistics firms using the port. | | | | | |
| b. | Order processing at the port is adequate in coordinating its activities. | | | | | |
| c. | Order processing follows the correct protocol from receiving to dispatching of goods. | | | | | |
| d. | Actual ordering of inventories is triggered by inventory dropping to a specified level. | | | | | |
| e. | The firm puts a fair amount of orders on items that hold an average amount of the company's funds. | | | | | |

State other order processing opinions used by logistical firms in Mombasa County.

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**Organizational Performance Aspects**

This section seeks your opinion on the effect of organizational performance of logistical firms in Mombasa, Kenya. Kindly indicate your level of agreement or disagreement with the statements using the following 5-point Likert scale where; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1= Strongly Disagree.

|  | **Organizational Performance Aspects** | **5** | **4** | **3** | **2** | **1** |
|---|---|---|---|---|---|---|
| a. | Warehouse management logistics leads to organizational effectiveness. |  |  |  |  |  |
| b. | Warehouse management logistics results to increased productivity. |  |  |  |  |  |
| c. | The port profits increased as a result of warehouse management logistics. |  |  |  |  |  |
| d. | Order processing practices leads to improved quality. |  |  |  |  |  |
| e. | Warehouse management logistics results to continuous improvement (services being provided and innovations being performed during the service production process). |  |  |  |  |  |
| f. | The quality of work life (motivational level of personnel) is affected by warehouse management logistics. |  |  |  |  |  |

State other ways that warehouse management practices have impacted organizational performance of logistical firms in Mombasa, Kenya.

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*Thank you for your Cooperation*

## Appendix III: Postgraduate Data Collection Letter

**SCHOOL OF BUSINESS AND ECONOMICS**
**DEAN'S OFFICE**

P.O. Box 3900
Ext.434
ELDORET

Tel./Fax    254-053-43153/43620

13th, January 2020

Attn; NACOSTI
PO Box
Nairobi

Dear Sir/Madam,

**RE: FREDDIE OBUOR OMONDI – LSM/008/15**

This is to confirm that the above named person is a postgraduate student in the School of Business & Economics where he is pursuing a Masters of Logistics & Supplies Management course. He is expected to collect research data in Kenya. His research thesis is titled: '**EFFECTS OF WAREHOUSE MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF LOGISTIC FIRMS IN MOMBASA, KENYA**'.
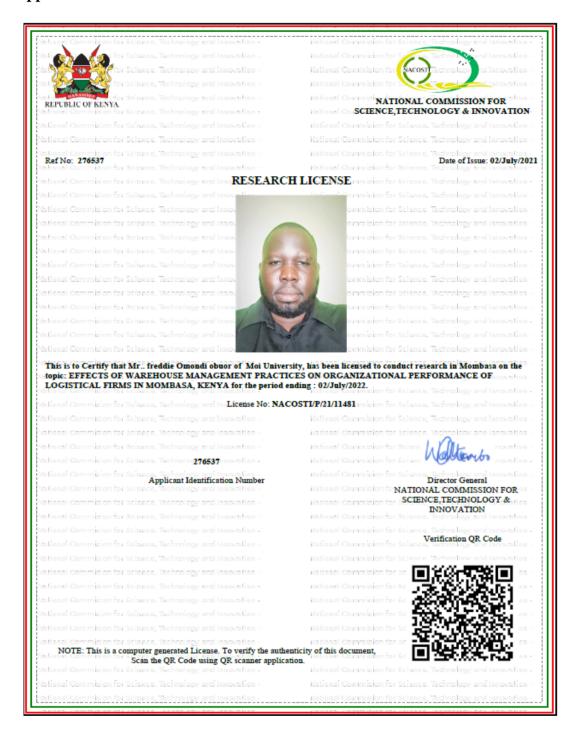
Any assistance accorded to him especialy on the issuance of research permit is highly appreciated.

Yours faithfully,

**DR. STANLEY KAVALE**
**POST GRADUATES COORDINATOR/ SBE COAST CAMPUS**

**Appendix IV: Research Permit - NACOSTI**



REPUBLIC OF KENYA

**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No:  276537

Date of Issue: 02/July/2021

**RESEARCH LICENSE**

This is to Certify that Mr.. freddie Omondi obuor of  Moi University, has been licensed to conduct research in Mombasa on the topic: EFFECTS OF WAREHOUSE MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF LOGISTICAL FIRMS IN MOMBASA, KENYA for the period ending : 02/July/2022.

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INNOVATION

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**Appendix V: Publication Acceptance Notification**



ISSN 2312-9492 (Online), ISSN 2414-8970 (Print)

REF: SJBCM/2021/8/2/045

June 21, 2021

Att: FREDDIE OBUOR OMONDI
Moi University,
Kenya.

<u>RE: PUBLICATION ACCEPTANCE NOTIFICATION</u>

This is to notify that the article you submitted has been successfully reviewed and accepted for publication in our Volume 8, Issue 2, 2021 of The Strategic Journals of Business & Change Management.

The article title is: "EFFECTS OF WAREHOUSE MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF LOGISTICAL FIRMS IN MOMBASA."

You are therefore advised to proceed and pay the Article Publication Processing Fee for the same.

Incase you need further confirmations, kindly do not hesitate to contact the chief editor: editor@strategicjournals.com.

Chief Editor,

<u>Strategic Journal of Business & Change Management</u>.

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