WAREHOUSE MANAGEMENT PRACTICES AND PERFORMANCE OF LOGISTICS FIRMS IN MOMBASA COUNTY

BY

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DECLARATION

Declaration by the Student:

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This work is dedicated to my loved ones who always stood by me, provided various forms of support and encouragements all through the journey of the proposal completion.

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ABSTRACT

Organizational performance of logistics firms in Mombasa County has been greatly affected by inefficient and ineffective warehouse management practices. As a result, these firms have recorded poor performance in terms of return on investment and customer satisfaction. Lack of an automated system within the warehouse has led to inaccuracies in inventory management, as well as inefficiencies that have slowed down operations and increased costs. Poor layout of the warehouse has also resulted to slow loading process which has ended up creating a backlog in labour allocation and dock-door scheduling. The general objective of this study therefore was to evaluate the warehouse management practices and performance of logistics firms in Mombasa County. The specific objectives of the study were: to determine the effect of order processing on organizational performance, to determine the effect of tracking of goods on organizational performance, to investigate the effect of receiving process of goods on organizational performance and to investigate the effect of physical storage facilities on organizational performance. The theories encompassed in the study included Channel Coordination Theory, Theory of Constraints and Revealed Preference Theory. The study adopted an explanatory research design. The sample was drawn using stratified random sampling. Primary data was collected using a structured questionnaire from a sample of 228 firms out of a target population of 532 comprising of clearing and forwarding firms, shipping agents and transport companies. The data collected was analyzed using both descriptive and inferential statistics. Descriptive analysis was conducted using frequencies, percentages, mean and standard deviation. Inferential analysis was conducted using multiple regression model to test the relationship between order processing, tracking of goods, receiving process of goods and physical storage facilities and organizational performance of logistics firms. Descriptive results indicated that the respondents agreed that warehouse management practices affected organizational performance. This was supported by Pearson's correlation results which indicated that order processing, tracking of goods, receiving process of goods and physical storage facilities had significant associations with organizational performance. Regression analysis was done to estimate the relationship between warehouse management practices and organizational performance. The results of the regression indicated that the predictor variables could only explain 19.2% of organizational performance (adjusted R squared=.192, $p<0.05$). It was further found out that order processing had significant and positive effect on organizational performance ($\beta = .041$, $p<0.05$) as was tracking of goods ($\beta = .210$, $p<0.05$) as was receiving process of goods ($\beta = .245$, $p<0.05$) as was physical storage facilities ($\beta = .113$, $p<0.05$). The study concluded that order processing, tracking of goods, receiving process of goods and physical storage facilities had statistical significant and positive effect on organizational performance. The study recommended that the management of logistics firms should improve on order processing, tracking of goods, receiving process of goods and physical storage facilities in order to improve the organizational performance of their firms. Also, the national government should review the existing policy and regulatory framework to ensure effective warehouse management practices among logistics firms in order to improve logistics processes in the country.

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ACRONYMS & ABBREVIATIONS

EDI:	Electronic Data Interchange
EPOS:	Electronic Point of Sale
ERP:	Enterprise Resource Planning
ICT:	Information Communication Technology
JIT:	Just -In –Time
KPA:	Kenya Ports Authority
WMS:	Warehouse Management System
TOC:	Theory of Constraints
SGR:	Standard Gauge Railway
LAPSSET:	Lamu Port-South Sudan-Ethiopia Transport
3PL:	Third Party Logistics
KSAA:	Kenya Ships Agent Association
KTA:	Kenya Transport Association
KIFWA:	Kenya International Freight and Warehousing Association
SCM:	Supply Chain Management

DEFINITION OF TERMS

Order Processing   The activities involved in picking, packing and delivery of items ordered by a customer (Thomas *et al,* 2015).

Organizational Performance Is the actual results or output of an organization as measured against that organization's intended output (Tomal & Jones, 2015).

Physical Distribution   Is the efficient movement of goods and or services (Thomas *et al,* 2015).

Physical Storage Facilities These are storage units, in or on which goods are stored, such as pallets, cartons, boxes, etc., and storage system that contains numerous sub-systems in which various products are stored (Masudin *et al*., 2020).

Receiving of Goods   Receiving is the process of checking and verifying goods that have been received in the warehouse for stocking or onward delivery to the customer (Masudin *et al*., 2020).

Tracking of Goods   Tracking is a system of collecting and managing information on a product to make it easier for consumers to find their goods (Shamsuzzoha *et al*., 2013).

Warehouse Management   Is an operational movement that allows eventual movement of goods into and out of the warehouse (Lohrey, 2008).

CHAPTER ONE

INTRODUCTION

1.0 Introduction

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

1.1 Background of the Study

According to Horga (2012), achieving success in the performance of an organization requires economic efficiency, customer satisfaction and employee satisfaction. He asserts that with the limited or available resources, the organization is able to achieve its objectives. This will be possible if there is proper leadership in setting up effective and efficient structures within the different departments in the organization and empowering the employees to deliver on their roles with proper guidance from top management. A conducive environment in which the employees feel well guided by their leaders gives them the morale to perform exceedingly as per the set objectives. In the long run, the organizational performance is enhanced and therefore the needs of the customers are met accordingly. Organizations have an important role in our daily lives and therefore continuous performance is the focus. Successful organizations represent a key ingredient for developing nations. Continuous performance is the focus of any organization because only through performance organizations are able to grow and progress. Thus, organizational performance is one of the most important variables in the management research and arguably the most important indicator of the organizational performance (Mutai, 2017).

According to the 2020 Global Logistics Guide, the global logistics sector was badly hit by COVID19 pandemic. The world stood still as economies were grappling with

this virus. Systems were shut down, producers and consumers stayed at home with no one not knowing what to expect next. With passage of time, however, life had to go on. People had to get their lives back on track. Economies started recovering with industries being reopened slowly but surely. The logistics players had to come up with ways on how to get everything moving again. In 2020 through 2021, new systems had to be developed to support the operation of logistics while keeping in mind that the virus was part of everyday life. There was heavy investment in the sub-components of the logistics operations so as to facilitate movement of products. Manufacturing of sophisticated machinery had become the norm. Warehousing was enhanced so as to ensure that products were readily available and easily distributable.

According to a January 2020 report by Ken Research, a market research consultancy, there was heavy investment of KES 181 billion in road infrastructure in Kenya that was expected to propel growth of the logistics sector. The research studied road, railway, sea, pipeline, air freight forwarding, international and domestic freight, and integrated and 3PL freight. It noted that there was additional KES 56 billion that was earmarked for the completion of phase 2A of the SGR, KES 11 billion for the Lapsset project and KES 7 billion for the development of Port of Mombasa and KES 3 billion for the development of Port of Kisumu. It further alluded that Kenya was facilitating global investors to acquire land for setting up special economic zones (SEZs) in Mombasa, Kisumu and Lamu. This move was expected to stimulate the growth of the logistics sector in the country. Technology was also cited to be very critical in the operations of logistics. Development of such systems as fuel management system, cargo management system and communication and information systems (e.g. EDI) had played a major role in reducing paperwork and minimizing time taken for compliance procedures. Kenya's logistics market had grown over the past few years.

For instance, in 2018, Kenya was ranked 61 in the Ease of Doing Business Index and 68 in the Logistics Performance Index. The report further noted that the logistics industry was growing steadily in terms of technology, efficiency, service portfolio and pricing. With these new developments and widened market reach within the African continent, Kenya's logistics industry was expected to grow at a double-digit by the year 2023. One significant element in the business of logistics is warehousing. This is central in the operations of a logistics firm and therefore everything has to be done properly here for the organization to achieve its objectives.

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).

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 is 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 finished products. It is an integral part of 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, from facilities of a few thousand square meters handling modest throughputs, to 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).

According to Lin & Shaw (1998), the ordering process starts when an order is received from the customer and ends when the finished product is delivered to the customer. In this stage, the requirements of the customer are given to the supplier who then begins the production process of the goods. Any changes to the requirements are communicated in this stage.

Tracking, which is the ability to trace the history, application or location of an item by means of recorded identification, through the entire supply chain is a complex process and reliable data tracking is therefore very paramount (Bechini et al., 2007). Once an order has been produced, it is then moved to the warehouse and finally to the end customer. Anything could happen to this product while on its way to the end customer. So, it is very important that it is monitored to ensure its quality is maintained.

Receiving process usually involves physical unloading of the goods from a carrier, checking the arrived goods against purchase orders and recording the incoming goods into the system. It can also include packing and repacking into a more convenient size. Quality control checks may be carried out at this stage. (Rushton et al. 2017).

Storage is the activity of storing products at warehouses and logistics centers. Its role is to provide a steady supply of goods to the market to fill the temporal gap between producers and consumers. Frazelle et al. (2007) further alludes that storage is defined as a buffer of accumulated products to guarantee the quantities demanded in the shortest possible time. Physical storage facility is therefore the structure constructed to enhance storage of items. It is in this facility that all the activities aforementioned take place. It is better known as a warehouse.

A study by Huson & Nanda (1995) on the impact of JIT manufacturing on a firm's performance showed that the practice of JIT enhanced the income of firms as a result of efficient warehouse management practices. Another study by Ristovska, Kozuharov & Petrovski (2017) on the impact of warehouse management practices on a company's performance showed that proper storage, management and control of inventory reduces storage costs. They further alluded that with proper storage of stocks, the possibilities of reducing product lifespan and additional costs due to improper storage are easily avoidable.

Sila (2006) expressed that the main aim of inventory management is to meet customer demand. This, he added, enables a business to determine and maintain an optimum level of investment in inventory in order to achieve required operational performance.

According to Naliaka & Namusonge (2015), competitive advantage of manufacturing firms is affected by inventory management in the warehouse. They allude that the

firm is able to compete based on quality and delivery of customer orders on time. When quality requirements are met and on-time delivery is achieved, then the firm will be competitive enough and will be able to retain its customers.

In Kenya, the port operations are spearheaded by KPA which is a commercial entity that operates and manages the Port of Mombasa. The authority is also responsible for other social infrastructure seaports of Funzi, Kilifi, Kiunga, Lamu, Malindi, Mtwapa, Shimoni and Vanga, and it also has 4 ICDs in Nairobi, Naivasha, Kisumu, Eldoret as well as liaison office in Kampala which caters for all transit countries. The authority has in addition established transit desks at its headquarters to serve the hinterlands through targeted services for Uganda, Rwanda, Burundi, DRC, Southern Sudan and Northern Tanzania markets. It is through the association with KPA that the logistics companies are able to operate their warehouses with sufficiency. In 2016, there was concern about the slow pace of cargo clearance at the Port of Mombasa. This affected organizational performance of logistics firms and the targets given to KPA. The logistics firms reported that their expected performance had greatly been affected by the inefficiencies in the warehouse management within the Port of Mombasa. As a result, they experienced loss of revenue due to penalties in storage costs and consequently loss of business. As such, there was need for stakeholder intervention to mitigate the challenges. In March 2017, KPA conducted a workshop for all its stakeholders with a view to identify the bottlenecks experienced, and positively ensure efficient service delivery to increase customer satisfaction. During the workshop, it was noted that four main areas within the warehouse management needed a review so as to increase efficiency. These areas were: order processing, tracking of goods, receiving process of goods and physical storage facilities.

Previous studies have all been done when all clearing processes of consignments were carried out at the Port of Mombasa. This study is unique because it comes at a time when more imports and exports consignments are now moved by the SGR and more and more of import cargo is railed to and cleared at ICD in Nairobi and Naivasha. The logistics activities in Mombasa County have therefore been greatly affected by this. As such, the study will look in detail how the warehouse management practices influence the performance of logistics firms in Mombasa County especially within the Port of Mombasa at a time when there is more focus on the SGR and ICD.

1.2 Statement of the Problem

In the last six years from 2014 to 2020, there was an upsurge in voluminous trade at the East African ports and more so the Port of Mombasa. The eminent voluminous trade was due to the strategic repositioning of the Port of Mombasa 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 the Port of Mombasa to handle more cargo was attributed to expansion of the warehousing area for its operations with the commissioning of the second container terminal in 2016. However, according to KPA website, logistics firms experienced under-performance within the last six years as a result of inefficiencies in their logistics processes. This was largely attributed to the warehouse management practices which had not been very efficient and effective due to various reasons. In March 2017, KPA sponsored a workshop for its stakeholders to discuss the level of performance at the port. What came out was that four main warehouse management practices directly affected the performance of logistics firms operating within the port: order processing, tracking of goods, receiving process of goods and physical storage facilities.

There was great need for effective restructuring in warehousing operations. Without an automated system, companies often did not know what they had in stock, causing inaccuracies. Use of EDI and EPOS needed to be adopted for quick turnaround of inventory from the time they are brought into the warehouse to the time they leave for delivery to the consignee. Lack of inventory oversight could cause a buildup of inefficiencies within the warehouse that slowed operations and increased costs. Without adequate insight into location, pickers took longer to find the items to ship, which slowed the loading process and created a backlog in labor allocation and dock-door scheduling. Thus, use of appropriate ERPs was key to ensuring a streamlined process in inventory control. Proper storage, management and control of inventory reduces storage costs. There is increased visibility and inventory control leading to better planning and meeting customer expectation (Ristovska *et al.,* 2017).

Naliaka & Namusonge (2015) assert that inventory management affect competitive advantage of logistics firms. The firms will be able to achieve the competitive advantage with proper inventory management that provides an opportunity for streamlining the warehouse management practices so as to service customer orders as required. With an annual increase in cargo throughput seen recently at Port of Mombasa, there was great need for increased efficiency in system processes in warehouse management. There was need to optimize storage systems, racking and pallet patterns, and the amount of space necessary for warehouse inventory. It was common for warehouse workers to pass a pick ticket or other documentation through multiple hands. The picker passed it to the checker, who then passed it to the stager, who passed it to the loader, and so on. Barcode technology, which is frequently found in today's automated warehouse systems, eliminated multiple touches (Dean, 2008).

A study by Silva & Borsato (2017) on Organizational Performance and Indicators noted that there was poor management of the supply chain within an organization. SCM becomes complex and challenging since it involves a number of activities in different areas in the organization. They allude that many organizations have failed in this sense due to the lack of capacity to develop performance indicators necessary for the integration of the supply chain to other sectors and consequently the measurement of their performance. As a result, quality, price and production cost reductions were greatly affected thereby impacting heavily and negatively on the organizational performance. There was need to bridge the knowledge gap in this regard so that these bottlenecks could be overcome.

Mutai (2017) carried out study on the influence of warehouse management on productivity of state run corporations in Kenya with a case study of KenGen. The study entailed use of a sample of 117 both qualitatively and quantitatively. The study noted that an increase in stock control in the organization led to increased productivity in state run corporations in Kenya. Wangari (2015) carried out a study on influence of inventory management practices on organization competitiveness with a case study of Safaricom in Kenya. The study established three components of inventory management: inventory shrinkage, inventory investment and inventory turnover which had an impact on competitiveness of companies. She asserted that in order to curb risks and losses, there was need for management to carry out accurate forecasting models so as to increase efficiency and effectiveness in the warehouse management. A study by Oballah (2015) on warehouse management practices on performance of public health institutions in Kenya with a focus on Kenyatta National Hospital found out that investment in inventory record accuracy had positive impact on the

performance of public health institutions in Kenya. It was also noted that inventory shrinkage also impacted negatively on the performance of public health institutions.

Most if not all logistics firms in Mombasa County have had a direct interaction with the Port of Mombasa for a longer time compared to other logistics firms in Nairobi, Naivasha and other parts of Kenya. This was the reason why the study concentrated on the performance of logistics firms in Mombasa County so as to give more credible results.

1.3 Research Objectives

1.3.1 General Objective:

The general objective of this study was to evaluate the effects of warehouse management practices on organizational performance of logistics firms in Mombasa.

1.3.2 Specific Objectives:

i. To determine the effect of order processing on organizational performance of logistics firms in Mombasa County.

ii. To determine the effect of tracking of goods to and from the warehouse on organizational performance of logistics firms in Mombasa County.

iii. To investigate the effect of receiving process of goods on organizational performance of logistics firms in Mombasa County.

iv. To investigate the effect of physical storage facilities on organizational performance of logistics firms in Mombasa County.

1.4 Research Hypotheses

The following hypotheses were tested for the study:

Ho$_1$: Order processing has no significant effect on organizational performance of logistics firms in Mombasa County.

Ho$_2$: Tracking of goods to and from the warehouse has no significant effect on organizational performance of logistics firms in Mombasa County.

Ho$_3$: Receiving process of goods has no significant effect on organizational performance of logistics firms in Mombasa County.

Ho$_4$: Physical storage facilities have no significant effect on organizational performance of logistics firms in Mombasa County.

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 overcome this challenge, most governments and organizations empower the parastatals, institutions or government departments to take the lead in the governance and management of 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. This study will form a resource material for the Government of Kenya. The concerns raised in this 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 Inland Container Depots and the Standard Gauge Railway. The study will be a reference point to logistics firms which will play a pivotal role in

comprehension of the warehouse management in logistics process at the Port of Mombasa and its effectiveness in making the port to achieve its mission. This study will help staff of the logistics firms in the improvement of the general organizational performance and more so the warehousing division. The study will be a source of literature to academic and research scholars. The concerns raised in the study will aid research scholars in reference aspect of warehouse management to enrich further scholarly work in organizational performance.

1.6 Scope of the Study

The research was carried out in Mombasa County in Kenya. It focused on the warehouse management practices and performance of logistics firms in Mombasa County. The aim was to identify to what extent the warehouse management practices affected the overall organizational performance of logistics firms in Mombasa County.The study used 228 senior staff from logistics firms, specifically Warehouse and Logistics Managers out of a target population of 532. The research took a period of two years from 2020-2021.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter looked at the thoughts of other scholars on the subject matter and went ahead to define the objectives of the study. The variables were: order processing, tracking of goods, receiving process of goods and physical storage facilities. Theoretical and conceptual framework of the research project were also discussed in this section.

2.1 The Concept of Organizational Performance of Logistics Firms

Organizational performance is the actual results or output of an organization as measured against that organization's intended output (Tomal & Jones, 2015). It is greatly dependent on the employee capabilities and leadership competencies. This therefore means that for an organization to achieve its objectives, there has to be collaboration between the employees and their leaders working towards the same goals. The success of the organization is influenced by how competent its leaders are and what culture they have inculcated in the organization (Soebbing *et al.*, 2015). Another study by Ssekakubo *et al.* (2014) on leadership competencies and its effects on organizational performance noted that leadership competencies can improve employee performance which consequently enhances organizational performance. To this end, therefore, logistics firms need to have competent leaders who are expected to come up with an organizational culture that will enable every member of staff to work together in harmony. This will go a long way in creating collaborative workmanship in the organization leading to achievement of set objectives. The harmonious working relationship between the leadership and employees of an organization will in turn help create structures that will lead to better performance.

Nordberg (2008) contends that corporate governance is a logistics 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 programs is a deliberate decision aimed at propelling an organization in the direction of its strategic intent. 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.

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 (1997) 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 and successful. 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 favored 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 The Concept of Warehouse Management Practices

A warehouse is a planned storage and handling facility of goods and materials, a focal point for product and information flow between sources of supply and the end users. 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 logistics-related organizations prefer to hire local labor which provides employment instead of relying on handling equipment (Olsen, 2013). It is therefore very important that the activities and processes taking place here are handled

very effectively and efficiently. There are many practices that take place in the warehouse. They include price stabilization processes, order processing, tracking of goods practices, risk minimization activities, financial controls, receiving process of goods, time utility practices and physical storage facility of good practices. However, in this study, we looked at the four main broad areas: order processing, tracking of goods, receiving process of goods and physical storage facility of the goods.

2.2.1 The Concept of Order Processing

Order processing is the process or work flow from the time a customer places an order to the time the order is delivered. It is a sequential process involving: processing withdrawal list, picking (selective removal of items from loading units), sorting (assembling items based on destination), package formation (weighing, labeling and packing), and consolidation (gathering packages into loading units for transportation, control and bill of lading). Thomas *et al*. (2015) allude that order processing includes all formal processes such as order transmission, data processing and order control measured from the time the order is placed to the receipt of the so-called shipment documents. The physical receipt of the goods is not necessarily part of this order processing. In this process, reliability and accuracy of order fulfillment is very important because it enhances customer satisfaction which leads to enhanced business and increased revenues.

2.2.2 The Concept of Tracking of Goods

Tracking is a system of collecting and managing information on a product to make it easier for consumers to find their goods (Shamsuzzoha *et al*., 2013). Movement of goods should be monitored very closely so as to ascertain their delivery to the intended destination. While in transit, it is possible for the goods to be diverted, stolen

or destroyed. It is therefore very important to track the movement of the goods just to be sure of the status of the goods. An independent tracking system for the delivery of goods contributes to reducing the costs for claims as a consequence of goods routing errors. There is increasing demand for tracking in the supply chain, statutory requirements are growing stricter, and there is increasing pressure to develop standardized systems to tackle such logistics needs (Kandel *et al*., 2011). It has been found out that customer satisfaction increases when customers are given the capability to track their own goods from the point of dispatch to the point of delivery.

2.2.3 The Concept of Receiving Process of Goods

Receiving is the process of checking and verifying goods that have been received in the warehouse for stocking or onward delivery to the customer. Masudin et al. (2020) allude that the receiving activity is the first process in warehouse operations, which involves unloading of goods from transport carriers, updating inventory records, and inspection to ascertain whether or not there is any inconsistency in quantity and quality. The process continues with physical transfer of the goods to a storage location awaiting modification and/or shipping out to the end customer. It is important to check and confirm that the goods are in good condition and will be able to meet the standards required by the customer. In this stage, any anomaly is noted down and acknowledged by both the delivering and the receiving parties for mitigation. Most firms enable the customers to track their products, something that increases customer satisfaction and increased sales.

2.2.4 The Concept of Physical Storage Facilities

According to Masudin *et al*. (2020), physical storage facilities include storage units, in or on which goods are stored, such as pallets, cartons, boxes, and storage system

that contains numerous sub-systems in which various products are stored. This system mostly consists of simple shelves, sophisticated automated or computerized systems that include automated cranes and conveyors that enhance loading, unloading and retrieval of goods from the storage system. The physical storage facility also looks at the premises in which the goods will be stored. It is important to assess the storage facilities in line with the nature of the goods that will be stored therein. Of importance is also the security of the goods while in store. The physical storage facilities should be able to enhance the security of the goods as they await delivery to the end customer. When the quality of the goods is maintained, customer satisfaction increases.

2.3 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-sections.

2.3.1 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 that 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 & 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 that 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 are the effect of order processing and receiving of goods in the supply chain process. For the order processing to be very effective, there is great need to encompass the use of technology (Katok & Wu 2008). A commonly used technology is WMS which is a software based and pegged so much on the existence of stations through which goods pass well instituted mechanism in the coordination of goods movement eventually leading to self-sufficiency (Singh *et al* 2009).

There is need to use technology so as to improve the order processing channel in warehousing management. This will enhance efficiency and effectiveness in filling customer's orders and the performance of the organization will have a marked improvement. There exist some limitations to it though. First and foremost, the continuous coordination requires an upgrade of the software used in the logistics channel. Inasmuch 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). The relevance of Channel Coordination Theory best describes the order processing and receiving process of goods as objectives of the study.

2.3.2 Theory of Constraints

The Theory of Constraints (TOC), proposed by Eliyahu M. Goldrat, 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 them. The most common constraints are capacity constraints (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, a company can be assessed and regulated by three measures: production output, inventory and operating costs.

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 order processing, tracking of inventory, receipt of goods and physical storage of goods. It improves decision making in the short-run, prevents accumulation of inventory and enhances communication among functional units. The implication is that the performance of the organization will improve since there will be fewer bottlenecks in the processes. 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.

2.3.3 Revealed Preference Theory

The Revealed Preference Theory was put forward by Samuelson (1938). This theory states that in the 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. In 1994, Binmore borrowed a leaf from Samuelson and Little. He modified the Revealed Preference Theory to be called Hypothetical Revealed Preference Theory. The Hypothetical Revealed Preference Theory used two types of agents denoted by x and y respectively. In Binmore's 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, 1938). 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 cater for all their needs thus increase customer trust and loyalty. The most striking study objective related to this theory is the ordering process. Procurement managers can be guided when making choices on what goods to order and what not to order.

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. This theory best describes order processing as an objective of the study. With the ability to forecast customer demand and preferences, the orders received will be well processed much to the expectation of the customer. The overall impact will be improvement in the organizational performance.

2.4 Empirical Review

2.4.1 Order Processing and Performance of Logistics 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. They verify the order to ensure that all necessary information such as names, addresses, product numbers and

description codes appear on the order form. They contact customers to verify or obtain missing information. They 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 items and bring them in 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 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).

2.4.2 Tracking of Goods and Performance of Logistics 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 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 the 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).

2.4.3 Receiving Process of Goods and Performance of Logistics Firms

Products 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, 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 the system. When receiving non-stock items, a receiving ticket is run per 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.

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 out 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 material handlers with certifications or licenses to operate forklifts and boom lifts. These material 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 (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 warehouse 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 ICT infrastructure 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 potential 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.

2.4.4 Physical Storage Facilities and Performance of Logistics 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 20th 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 four 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.

Warehouses 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 products 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, 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 Research Gaps

Stock control is an area in the warehouse management that is sometimes not given due consideration yet it is a very critical component. This is an area that is largely responsible for managing the incoming and outgoing inventory and by extension flow of finances. If not handled properly, stock control may push the organization to limits it cannot get itself out of very easily.

A study by Mutai (2017) noted that there was unmet need for training in stock control. Personnel who were charged with managing stocks did not have requisite training to enable them handle this role. This led to mismanagement of inventory and loss of

product and revenue as a result of pilferage and theft. There was also a gap for need to establish harmonized rules and regulation in regards to stock control across all state-run corporations as an element of warehousing management. All parastatals are subjected to the same processes but it was noticed that individual firms exercised their own mechanisms when it came to management of inventory. This led to mismanagement of the corporations and lack of accountability of inventory and funds. A study by Wangari (2015) 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 of inaccuracy in the course of warehousing and inventory management. The lack of training in this section led to very big variances in stocks accounting and the personnel were unable to offer valid and credible explanation for the variances. This obviously led to misappropriation of funds and loss of revenue for the organizations that were subjected to the study. A study by Oballah (2015) noted that there was need for carrying out more study on inventory shrinkage and losses accrued to it as a warehousing component. Just like the two aforementioned studies, a lack of training results to lack of valid and credible explanation as to why stocks shrink or are lost. Most people in the organizations are aware of the gaps and so they take advantage of this so that they may commit malpractices in the stocks control. Inasmuch as the studies have largely suggested the need for training, there should also be mechanism to correct malpractices through punitive action so that these ill practices are highly discouraged.

2.6 Summary of Literature

This chapter covered the independent variables (order processing, tracking of goods, receiving process of goods and physical storage facilities) in detail and how they affected the organizational performance of logistics firms. The role that each predictor

variable played in the operations of an organization and what different scholars thought about the respective variables was also covered. In the same breath, the dependent variable (organizational performance) was defined and how it played in the context of the operations of an organization. The 3 theories encompassed in this study (Channel Coordination Theory, Theory of Constraints and Revealed Preference Theory) also gave an insight into what was expected in the findings of the study. The relevance of the theories to this study was also looked at. Gaps in previous studies were also identified in this chapter and it is this backdrop that this study was conducted to try close those gaps.

2.7 Conceptual Framework

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

Independent Variables   **Dependent Variable**

Order Processing
• Organization Order Processing
• Port adequacy in Order Processing
• Procedural Flow of Order Processing

Tracking of Goods
• Achievement of Tracking of Goods process
• Efficient Warehouse Storage
• Staff participation in Tracking of goods

Receiving Process of Goods
• Improvement of Receiving Process
• Achievement of Receiving Process targets
• Increase in Logistics Management Process

Physical Storage Facilities
• Organization of Storage facilities at Port
• Managerial Knowledge on Warehousing management
• Records and Documentation

Organizational Performance
• Productivity
• Profitability
• Efficiency
• Customer Satisfaction

Figure 2.1: Conceptual Framework
Source: Researcher (2021)

The researcher come up with the conceptual framework as illustrated in figure 2.1
above. The dependent variable which was organizational performance was directly
influenced by the independent variables namely order processing, tracking of goods,
receiving process of goods and physical storage facilities. When all the independent
factors are well considered and taken care of then the effects of warehouse

management practices on organizational performance will be well managed and the logistics firms will perform well too.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlined the methodology to be 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

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 is to provide structure or framework for managing particular research problem in the most economical and visible manner, and serves as a systematic plan for conducting a research project by specifying the sources and types of information relevant to research study (Greener, 2008). The study adopted an explanatory research design. Explanatory research is done to get to the root cause of a problem and goes ahead to detail why the problem exists as is. It also leaves room for future studies on the same subject matter.

3.2 Study Area

This is the area within which field data is collected for the purpose of analysis. It is a geographical region or territory within which objects of study reside. The study area for this research was Mombasa County. This is because most logistics firms having direct engagement with the Port of Mombasa are actually based in Mombasa County. Therefore, a study of these firms will give very credible results.

3.3 Target Population

Unit of analysis is the item about which generalization and conclusions are made after a study while unit of observation is the item that is actually observed and measured during a study and then data is collected. In this study, the unit of analysis were the logistics firms in Mombasa County and the unit of observation were the Logistics and Warehouse Managers for the logistics firms in Mombasa County. The target population is the specific, conceptually bounded group of potential participants to whom the researcher may have access that represents the nature of the population of interest (Ackerman et al., 2019). The research targeted 532 registered companies involved in logistics operations at the Port of Mombasa and based in Mombasa County. This study targeted shipping agents, clearing and forwarding firms and transport companies in Mombasa County as shown in table 3.1 below:

Table 3.1: Target Population

Designation	Population Size
Shipping Agents	89
Clearing and Forwarding	236
Transporters	207
Total	**532**

Source: KIFWA (2021), KSAA (2021), KTA (2021)

3.4 Sampling Design and Sample Size

Sampling is the selection of a subset of the population of interest in a research study. Sampling from the population is often more practical and allows data to be collected faster and at a lower cost than attempting to reach every member of the population (Turner, 2020).

Sample size is the number of participants or observations included in a study. The sample of the study consisted of 228 respondents drawn from the senior management personnel for the logistics firms in Mombasa as shown in table 3.2 below. 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

Sampling design is the technique or the procedure the researcher would adopt in selecting items for the sample. The sample was selected using stratified random sampling. Kothari & Gaurav (2014) describe stratified sampling as a method of collecting representative data from a heterogeneous group of subjects. Application of stratified sampling ensures that sample group represents certain characteristics of the population chosen by the researcher. The study adopted this sampling method to ensure that employees from the various designated logistics 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.

Table 3.2: Sample Size

Category	Population Size	Sample Size
Shipping Agents	89	38
Clearing and Forwarding	236	101
Transporters	207	89
Total	**532**	**228**

Source: KIFWA (2021), KSAA (2021), KTA (2021)

3.5 Data Collection Instruments and Procedures

This study made use of primary data that was collected by way of questionnaire. Data was collected through structured questionnaires that were administered to the participants who were logistics and warehouse managers for logistics firms in Mombasa County. 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 responses were measured using 5-point Likert scale. 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 researcher shall collect quantitative data that is data in the form of numbers (Creswell, 2007). NACOSTI permit to carry out research was applied for. A letter from the University was then distributed to the respective organizations indicating intention to collect primary data. The questionnaires were accompanied by an informed consent note assuring the participants of confidentiality of their responses. The researcher with the help of 2 trained research assistants administered the questionnaires to all the 228 participants under study.

3.6 Pilot Study

The research instrument was pilot-tested in 10 organizations not included in the study to establish if the targeted respondents answered 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.

3.7 Validity Test

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 study used content validity test which is a measure of the proportion of the variance among variables that might be common variance. Values of between 0.8 and 1 indicated an adequate sampling while values below 0.6 indicated inadequate sampling.

3.8 Reliability Test

A measuring instrument is reliable if it provides consistent results (Kothari, 2011). Reliability refers to the consistency of the measure of concept (Bryman, 2012). The reliability of a measure concerns its ability to produce similar results when repeated measurements are made under identical conditions. The more variability you observe, the less reliable is the measure (Bordens & Abbott, 2014). The reliability of a scale indicates how free it is from random error. The two commonly used indicators of a scale's reliability are linearity tests and test for normality. The tests of a scale are

assessed by administering it to the same people on two different occasions, and calculating the correlation between the two scores obtained. Test for normality indicate a more reliable scale.

3.9 Data Processing, Analysis and Presentation

Data processing is the collection and manipulation of raw data to produce meaningful information. Primary data was collected through questionnaire responses from Logistics and Warehouse Managers of logistics firms in Mombasa County.

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 24. 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. Inferential analysis was conducted using multiple regression model to test the relationship between the independent variables and the dependent variable at the level of significance of alpha=0.05. Inferential statistics such as correlation analysis and multiple regression analysis was used to establish the relationship between the independent variables and the dependent variable. Correlation analysis was conducted to ascertain the magnitude of the relationship between study variables i.e. warehouse management practices and organizational performance. The results revealed a positive relationship between order processing practices, tracking of goods practices, receiving process of goods practices and physical storage facilities practices on 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:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where: Y = Organizational Performance: β_0 = constant: $\beta_1\beta_2\beta_3\beta_4$ = regression coefficients: X_1 = Order Processing: X_2 = Tracking of Goods: X_3 = Receiving Process of Goods: X_4 = Physical Storage Facilities: ε = error term. F-test was used to test the significance and fit of the regression model at $p<0.05$ level of significance. In addition, the study tested the following assumptions of regression: Normality assumption was tested using Shapiro-Wilk test. If $p<0.05$, then reject the null hypothesis. Gujarati & Sangeetha (2013) maintain that regression analysis assumes that data is normally distributed, meaning that errors are normally distributed. Non-normally distributed data can distort relationships and significance tests and hence statistical inferences. Data that is not normally distributed may lead to inaccuracy of results. Multi-collinearity assumption was tested using Variance Inflation Factor (VIF) test. VIF equal to or greater than 2.5 suggest there is multi-collinearity. Multi-collinearity generally occurs when there are high correlations between two or more predictor variables (Hair *et al*., 2006). The scatter plot of dependent variable and residuals showed evenly distributed variance across all performance level, hence homoscedasticity was confirmed. The hypotheses were tested using the results of regression model at the level of significance of alpha=0.05 as shown in table 3.3 below:

Table 3.3: Hypotheses Testing

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

Source: Research Data (2021)

Data presentation is the process of using such formats as graphs to represent a correlation between various sets of data to give an informed decision. Data was presented through tables and figures.

3.10 Variable Definition and Measurement

Table 3.4 below showed the operationalization of variables indicating the variables and how they were measured in the study.

Table 3.4: Variable Definition and Measurement

Variables	Variable Type	Operationalization	Scale
Order processing	Independent	• Organizing order processing • Port adequacy in order processing	5-Point Likert Scale
	Independent	• Procedural flow of order processing	5-Point Likert Scale
Receiving process of goods		• Improvement of Receiving process • Achievement of receiving process targets • Increase in Logistics Management Process	
Tracking of goods	Independent	• Achievement of Tracking of Goods process • Efficient Warehouse Storage • Staff participation in Tracking of goods	5-Point Likert Scale
Physical storage facilities	Independent	• Organization of Storage facilities at Port • Managerial Knowledge on Warehousing management • Records and Documentation	5-Point Likert Scale
Organizational Performance	Dependent	• Productivity • Profitability • Efficiency and Effectiveness • Customer Satisfaction	5-Point Likert Scale

Source: Research Data (2021)

3.11 Ethical Considerations

The researcher sought permission to carry out the study from the relevant authorization bodies as required. A covering letter was sought from the Moi University as well as a license from National Commission for Science Technology & Innovation (NACOSTI). The researcher also sought permission from the management

of the respective logistics 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 where they agreed to participate, they signed an informed consent note. Confidentiality of the information shared and anonymity of the respondents was also maintained.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND PRESENTATION OF

FINDINGS

4.0 Introduction

This chapter covered the study response rate, respondent's general information, validity and reliability tests, regression analysis, ANOVA, model summary, hypothesis testing and discussion of key findings.

4.1 Response Rate

The study engaged 228 respondents who were provided with questionnaires to fill and their responses used for analysis. 150 respondents successfully filled and returned the questionnaires for analysis. The remaining 78 targeted respondents did not fill the questionnaires.

Table 4.1: Response Rate

Response	Frequency	Percentage
Responses	150	65.8%
Non-Responses	78	34.2%
Total	**228**	**100%**

Source: Research Data (2021)

The response rate stands at 65.8% as illustrated in the table 4.1 above. Fincham (2008) alludes that response rates approximating 60% for most research should be the goal of researchers. As such, this response rate of 65.8% was deemed acceptable.

4.2 Analysis of General Information

4.2.1 Designation at the Organization

Study participants were asked to indicate their job designation and their logistics firms in Mombasa County. Their responses are as presented in the table below:

Table 4.2: Employee Designation

Designation	Frequency	Percentage
Shipping Agents	38	25
Clearing and Forwarding	76	51
Transporters	36	24
Total	**150**	**100**

Source: Research Data (2021)

As illustrated in the table 4.2 above, the shipping agents based within Mombasa County form 25%, clearing and forwarding form 51% and transporters form 24%. Majority of the respondents are in clearing and forwarding sector as their operations entail a lot of cargo documentation and declaration.

4.2.2 Length of Continuous Service with the Organization

Study participants were asked to indicate the length of time they have continuously served the logistics firms in Mombasa County. Their responses are as presented in the table below:

Table 4.3: Length of Continuous Service with the Organization

Length	Frequency	Percentage
Less than five years	45	30
5-10 years	73	48.7
Over 10 years	32	21.3
Total	**150**	**100**

Source: Research Data (2021)

As illustrated in table 4.3 above, employees in logistic firms indicated length of continuous service with the organization as follows: less than five years 30%, 5-10 years 48.7% while over 10 years 21.3%. It was observed that majority of the targeted

employees had served the logistics firms for a very long time. This therefore implies that they had a better understanding and wealth of experience in the general logistics operations and were better placed to give the desired responses.

4.2.3 Length of Time Company Has Been in Operation

Study participants were asked to indicate the length of time their company had been in operation in Mombasa County. Their responses are as presented in the table below:

Table 4.4: Length of Time Company Has Been in Operation

Length	Frequency	Percentage
Less than five years	13	8.7
5 – 10 years	37	24.7
Over 10 years	100	66.6
Total	**150**	**100**

Source: Research Data (2021)

As illustrated in table 4.4, respondents indicated length of time the company had been in operation as follows: less than five years 8.7%, 5-10 years 24.7% while over 10 years 66.6%. From the findings, it was observed that majority of the logistics firm had been in business for a long period of time. This therefore implies that the firms had been in logistics operations for a long time and its employees were in a good position to respond to the questions asked regarding the logistics operations.

4.3 Reliability and Validity Tests

According to Kothari (2011), a measuring instrument is reliable if it provides consistent results when repeated measurements are made under identical conditions. Cronbach Alpha test was used to determine the reliability of the data and the findings. According to Cooper & Schindler (2008), 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. Factor analysis was done to determine the validity of the data and the findings.

4.3.1 Reliability Test

Reliability of the research instruments was tested using Cronbach's Alpha method. The study obtained a Cronbach's Alpha of more than 0.7 for each variable tested as shown in the table below. The findings proved that the instruments used were reliable and information obtained for each variable was consistent in analysis and generalization of the findings.

Table 4.5: Reliability

Variable	Cronbach Alpha	Items	Decision
Order Processing	0.712	4	Accepted
Tracking of Goods	0.704	4	Accepted
Receiving Process of Goods	0.731	4	Accepted
Physical Storage Facilities	0.757	4	Accepted
Organizational Performance	0.766	4	Accepted
Total	**0.741**	**5**	**Accepted**

Source: Research Data (2021)

From the results, Order Processing had a Cronbach Alpha of 0.712, Tracking of Goods had a Cronbach Alpha of 0.704, Receiving Process of Goods had a Cronbach Alpha of 0.731, Physical Storage Facilities had a Cronbach Alpha of 0.757 and Organizational Performance had a Cronbach Alpha of 0.766. The findings proved that the instruments used were reliable and information obtained for each variable was consistent in analysis and generalization of the findings.

4.3.2 Validity Test

Factor analysis produced a 72.186% cumulative Initial Eigenvalues on all variations of the research data. As illustrated below, the research retained all constructs and used them in the analysis.

Table 4.6: Total Variance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.91	34.554	34.554	6.911	34.554	34.554	3.401	17.006	17.006
2	2.75	13.797	48.351	2.759	13.797	48.351	3.229	16.144	33.151
3	1.95	9.750	58.101	1.950	9.750	58.101	2.819	14.094	47.244
4	1.50	7.508	65.609	1.502	7.508	65.609	2.582	12.908	60.152
5	1.31	6.577	72.186	1.315	6.577	72.186	2.407	12.034	72.186
6	.683	3.416	75.602						
7	.630	3.152	78.754						
8	.600	3.000	81.754						
9	.570	2.852	84.606						
10	.512	2.559	87.165						
11	.390	1.949	89.114						
12	.358	1.792	90.905						
13	.344	1.719	92.625						
14	.289	1.444	94.069						
15	.266	1.328	95.397						
16	.257	1.284	96.681						
17	.233	1.165	97.846						
18	.196	.982	98.828						
19	.147	.734	99.562						
20	.088	.438	100.000						

Extraction Method: Principal Component Analysis.

Source: Research Data (2021)

4.4 Analysis of Study Variables

The independent variables were analyzed to look at how each of them affected the overall performance of the organization. The dependent variable was analyzed to look at how it was affected by the independent variables.

4.4.1 Order Processing Practices

The study sought to establish the effect of order processing practices on organizational performance of logistics firms in Mombasa County. A list with statements was provided to the study participants and required them to provide the extent to which they agreed that the statements affected organizational performance. Their responses are as presented in the table below:

Table 4.7: Order Processing Practices

Statement	N	Mean	Std. Dev
Proper order processing practices	150	2.73	.993
Order processing at the port is adequate	150	3.28	.942
Order processing follows the correct protocol	150	2.64	1.005
Order processing documentation	150	2.75	1.014
Valid N (listwise)	150	2.85	

Source: Research Data (2021)

As illustrated in the table above, statement on proper order processing practices had a mean of 2.73, order processing at the port is adequate had a mean of 3.28, order processing follows the correct protocol had a mean of 2.64 while order processing documentation had a mean of 2.75. On an average mean of 3, respondents moderately agreed that order processing practices affect organizational performance. This means there are other factors other than order processing that affect organizational performance. According to Lin & Shaw (1998) the ordering process starts when an order is received from the customer and ends when the finished product is delivered to the customer.

4.4.2 Tracking of Goods Practices

The study sought to establish the effect of tracking of goods practices on organizational performance of logistics firms in Mombasa County. A list with statements was provided to the study participants and required them to provide the

extent to which they agreed that the statements affected organizational performance. Their responses are as presented in the table below:

Table 4.8: Tracking of Goods Practices

Statement	N	Mean	Std. Dev
Tracking of goods have been achieved by the organization	150	2.48	.944
Tracking of items in the warehouse is efficient	150	2.41	.952
Tracking of goods practices is on point	150	2.25	.788
Proper tracking of goods has been undertaken by staff	150	2.31	.865
Valid N (listwise)	150	2.36	

Source: Research Data (2021)

As illustrated in the table above, statement on tracking of goods have been achieved by the organization had a mean of 2.48, tracking of items in the warehouse is efficient had a mean of 2.41, tracking of goods practices is on point had a mean of 2.25 while proper tracking of goods has been undertaken by staff had a mean of 2.31. On an average mean of 2, study participants to a small extent agreed that tracking of goods influence organizational performance. This means there are other factors other than tracking of goods that affect organizational performance. Tracking, which is the ability to trace the history, application or location of an item by means of recorded identification, through the entire supply chain is a complex process and reliable data tracking is therefore very paramount (Bechini et al., 2007).

4.4.3 Receiving Process of Goods Practices

The study sought to establish the effect of receiving process of goods practices on organizational performance of logistics firms in Mombasa County. A list with statements was provided to the study participants and required them to provide the extent to which they agreed that the statements affected organizational performance. Their responses are as presented in the table below:

Table 4.9: Receiving Process of Goods Practices

Statement	N	Mean	Std. Dev
Receiving process of goods has improved	150	3.99	.739
Receiving process of goods has been achieved	150	3.97	.723
Receiving process has enhanced warehouse management	150	4.05	.701
Receiving process of goods is well documented	150	4.09	.663
Valid N (listwise)	150	4.03	

Source: Research Data (2021)

As illustrated in the table above, statement on receiving process of goods has improved had a mean of 3.99, receiving process of goods has been achieved had a mean of 3.97, receiving process of goods has enhanced warehouse management had a mean of 4.05 while receiving process of goods is well documented had a mean of 4.09. On an average mean of 4, study participants to a great extent agreed that receiving process of goods practices influenced organizational performance. Receiving process of goods usually involves physical unloading of the goods from a carrier, checking the arrived goods against purchase orders and recording the incoming goods into the system. It can also include packing and repacking into a more convenient size. Quality control checks may be carried out at this stage. (Rushton et al. 2017).

4.4.4 Physical Storage Facilities Practices

The study sought to establish the effect of physical storage facilities practices on organizational performance of logistics firms in Mombasa County. A list with statements was provided to the study participants and required them to provide the extent to which they agreed that the statements affected organizational performance. Their responses are as presented in the table below:

Table 4.10: Physical Storage Facilities Practices

Statement	N	Mean	Std. Dev
Physical storage facilities in the port are organized	150	3.47	.880
The Warehouse Manager knows about the facilities he is handling	150	3.54	.859
Storage facilities are on record for reference	150	3.79	.736
Physical storage facilities are also based on organizational performance	150	3.98	.624
Valid N (listwise)	150	3.70	

Source: Research Data (2021)

As illustrated in the table above, statement on physical storage facilities in the port are organized had a mean of 3.47, the Warehouse Manager knows about the facilities he is handling had a mean of 3.54, storage facilities are on record for reference had a mean of 3.79 while physical storage facilities are also based on organizational performance had a mean of 3.98. On an average mean of 4, study participants agreed to a great extent that physical storage facilities influence organizational performance. Storage is the activity of storing products at warehouses and logistics centers. Its role is to provide a steady supply of goods to the market to fill the temporal gap between producers and consumers. Frazelle et al. (2007).

4.4.5 Organizational Performance

The study sought to establish the relationship between a number of factors and organizational performance of logistics firms in Mombasa County. A list with statements was provided to the study participants and required them to provide the extent to which they agreed that the statements affected organizational performance. Their responses are as presented in the table below:

Table 4.11: Organizational Performance

Statement	N	Mean	Std. Dev
Warehouse management practices result to increased productivity	150	3.75	.735
The profits increase as a result of warehouse management practices	150	3.91	.813
Warehouse management practices lead to increased efficiency	150	3.82	.740
Warehouse management practices result to increased customer satisfaction	150	3.21	.871
Valid N (listwise)	150	3.67	

Source: Research Data (2021)

As illustrated in the table above, statement on warehouse management practices result to increased productivity had a mean of 3.75, the profits increase as a result of warehouse management practices had a mean of 3.91, warehouse management practices lead to increased efficiency had a mean of 3.82 while warehouse management practices result to increased customer satisfaction had a mean of 3.21. On an average mean of 4, study participants agreed to a large extent that warehouse management practices affect the performance of an organization. Organizational performance is the actual results or output of an organization as measured against that organization's intended output (Tomal & Jones, 2015).

4.5 Tests for Assumptions

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: PERFO
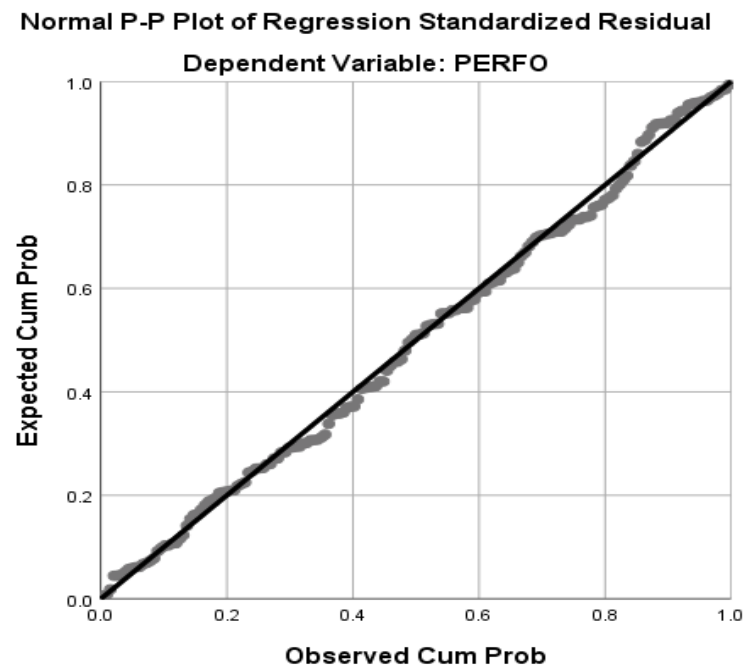
Figure 4.1: Linearity Tests
Source: Research Data (2021)

The study made an assumption that variable relationship is linear. Using a Normal p-p plot of regression, the study realized the distribution of the regression residual to be evenly distributed along the regression line, hence the assumption of linearity is upheld.
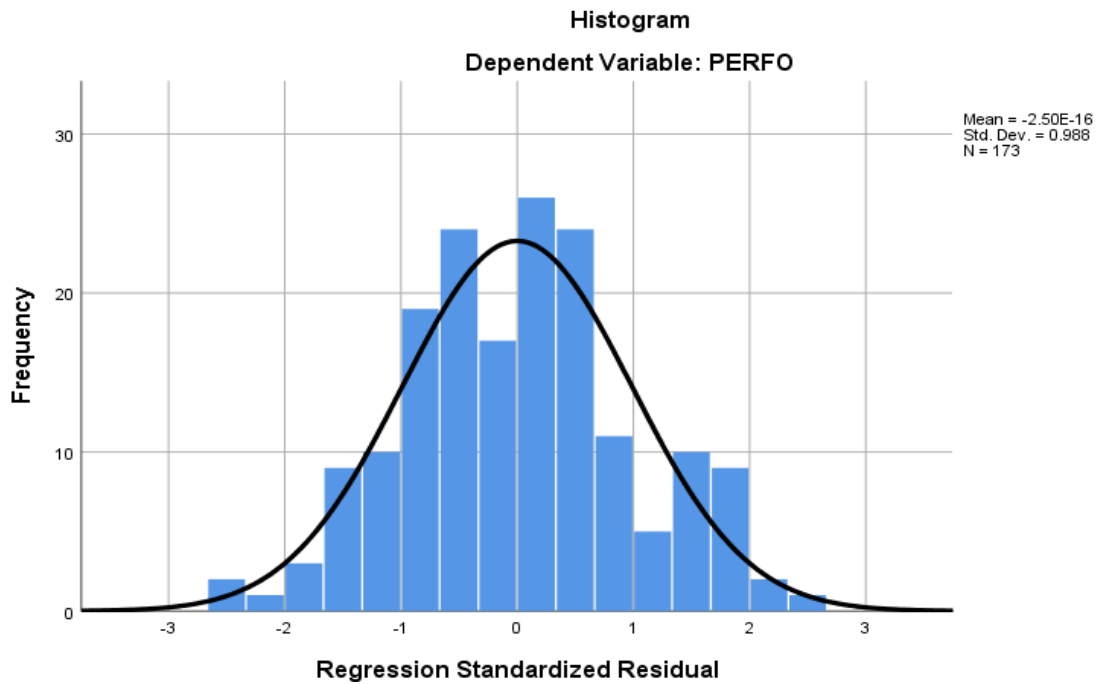
Figure 4.2: Test of Normality
Source: Research Data (2021)

Normality refers to a specific statistical distribution called a normal distribution that is used to test normality of data. Normality of data distribution was tested and findings presented on a histogram. As shown in the table below, regression standardized residuals were normally distributed.
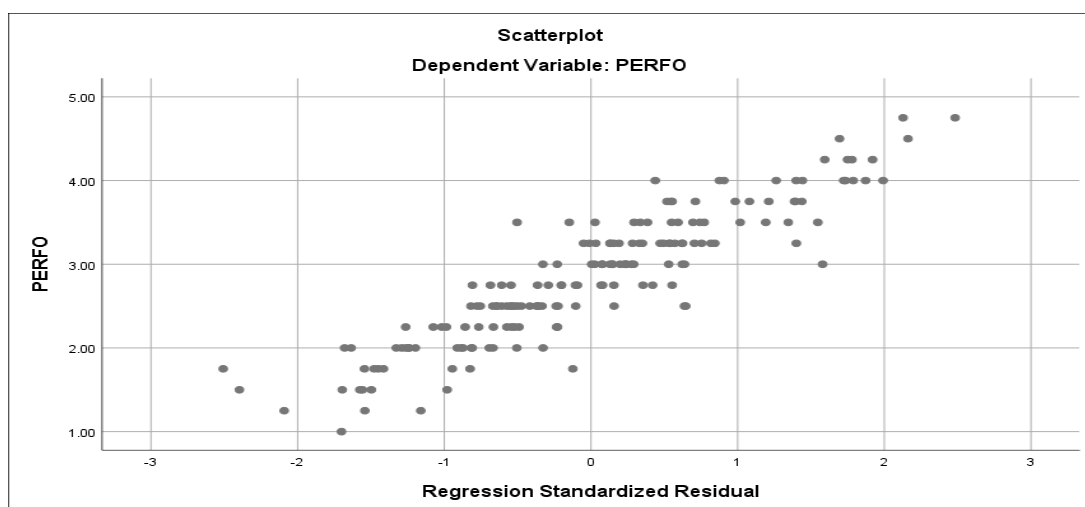
Figure 4.3: Scatter Plot
Source: Research Data (2021)

The scatter plot of dependent variable and residuals shows evenly distributed variance across all performance level. Homoscedasticity confirmed.

Table 4.12: Test for Multicollinearity

Multicollinearity is a statistical concept in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy.

Variable	Tolerance	VIF
ORDER	.646	1.548
TRACK	.578	1.730
RECEIV	.872	1.146
PHYS	.670	1.491

Source: Research Data (2021)

The study assumed that study variables do not have multi-collinearity. Collinearity tests were conducted to confirm and the results are as stated. Variance Inflation Factor of 1.548, 1.730, 1.146 and 1.491 were less than a Variance Inflation Factor of 2.5, hence, no multi-collinearity was detected in the use of the model.

4.6 Correlation Analysis Results

Correlation is a statistical measure that expresses the extent to which two variables are linearly related. It is used to test relationships between quantitative or categorical variables (Glen, 2021). Correlation analysis was conducted to ascertain the magnitude of the relationship between study variables i.e. warehouse management practices and organizational performance. The correlation co-efficient results of the study variables are as illustrated.

Table 4.13: Correlation Analysis

		ORDER	TRACK	PHYS	RECEIV	PERFRO
ORDER	Pearson Correlation	1				
	Sig. (2-tailed)					
TRACK	Pearson Correlation	.555**	1			
	Sig. (2-tailed)	.000				
PHYS	Pearson Correlation	.482**	.517**	1		
	Sig. (2-tailed)	.000	.000			
RECEIV	Pearson Correlation	.277**	.368**	.236**	1	
	Sig. (2-tailed)	.001	.000	.004		
PERFRO	Pearson Correlation	.280**	.381**	.299**	.360**	1
	Sig. (2-tailed)	.001	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).
a. Listwise N=150
b. Dependent Variable: PERFRO
c. Predictors: (Constant), RECEIV, PHYS, ORDER, TRACK

Source: Research Data (2021)

Because $p<0.05$, the results (r=.280, p=0.001) reveal a positive relationship between order processing and organizational performance of logistics firms.

Because $p<0.05$, the results (r=.381, p=0.000) reveal a positive relationship between tracking of goods and organizational performance of logistics firms.

Because $p<0.05$, the results (r=.360, p=0.000) reveal a positive relationship between receiving process of goods and organizational performance of logistics firms.

Because $p<0.05$, the results (r=.299, p=0.000) reveal a positive relationship between physical storage facilities and organizational performance of logistics firms.

The 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.

4.7 Multiple Linear Regression Analysis

Multiple linear regression is a statistical technique that uses several explanatory variables to predict the outcome of a response variable. Proceeding sections describes the tests done in this study.

4.7.1 Model Summary

Regression analysis was done to estimate the relationships between warehouse management practices and organizational performance.

Table 4.14: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.462[a]	.214	.192	.72078

a. Predictors: (Constant), ORDER, TRACK, RECEIV, PHYS
Source: Research Data (2021)

From the results, it was observed that the adjusted r-square value of the variable is 0.192 which means that warehouse management practices contribute to 19.2% of performance in the logistics firms in Mombasa County. The 80.8% can be attributed to other factors not covered in this study.

4.7.2 ANOVA Model

ANOVA (Analysis of variance) is a statistical method that separates observed variance data into different components to use for additional tests. ANOVA is considered significant if its p-value is less or equal to 0.05.

Table 4.15: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.492	4	5.123	9.861	.000[b]
	Residual	75.331	145	.520		
	Total	95.823	149			

a. Dependent Variable: PERFRO

b. Predictors: (Constant), ORDER, TRACK, RECEIV, PHYS

Source: Research Data (2021)

The model had a P-value of 0.000 < 0.05, hence fit in explaining the relationships between warehouse management practices and organizational performance of logistics firms in Mombasa County. With an F-value of 9.861 and P-value of 0.000, the model shows that the regression is significant and the variables have a positive influence on organizational performance.

4.7.3 Regression Co-efficient

It measures the degree of dependence of one variable on the other, usually a dependent variable on an independent variable.

Table 4.16: Regression Co-efficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.584	.432		1.353	.178
	ORDER	.051	.114	.041	.448	.655
	TRACK	.257	.119	.210	2.161	.032
	RECEIV	.249	.081	.245	3.079	.002
	PHYS	.147	.116	.113	1.266	.208

a. Dependent Variable: PERFRO

b. b. Predictors: (Constant), ORDER, TRACK, RECEIV, PHY

Source: Research Data (2021)

From table above, it was observed that the study had an intercept of .584 which implies that when all other factors are held constant, a variation in organizational performance would be .584.

$$Y = .584 + .041X_1 + .210X_2 + .245X_3 + .113X_4$$

From the above regression results, it can be deduced that a unit change in order processing practices influences organizational performance by .041, a unit change in tracking of goods practices influences organizational performance by .210, a unit change in receiving process of goods practices influences organizational performance by .245 while a unit change in physical storage facilities practices influences organizational performance by .113. The general implication therefore is that all the independent variables mentioned have statistical significant positive effect on the organizational performance of logistics firms in Mombasa County.

4.8 Hypothesis Testing

The hypotheses of the study were tested based on the results of the regression model. Table 4.17 presents the hypotheses test results.

Table 4.17: Hypothesis Testing

Hypothesis	P-Value	Decision
Order processing has no significant effect on organizational performance of logistics firms in Mombasa County	.655	Accept
Tracking of goods to and from the warehouse has no significant effect on organizational performance of logistics firms in Mombasa County	.032	Reject
Receiving process of goods has no significant effect on organizational performance of logistics firms in Mombasa County	.002	Reject
Physical storage facilities have no significant effect on organizational performance of logistics firms in Mombasa County	.208	Accept

Source: Research Data (2021)

The first hypothesis formulated was that order processing has no significant effect on organizational performance of logistics firms in Mombasa County. The analysis of regression produced a t-value of .448 and p-value of .655 hence the null hypothesis was accepted.

The second hypothesis formulated was that tracking of goods to and from the warehouse has no significant effect on organizational performance of logistics firms in Mombasa County. The analysis of regression produced a t-value of 2.161 and p-value of .032 hence the null hypothesis was rejected.

The third hypothesis formulated was that the receiving process of goods has no significant effect on organizational performance of logistics firms in Mombasa County. The analysis of regression produced a t-value of 3.079 and p-value of .002 hence the null hypothesis was rejected.

The fourth hypothesis formulated was that physical storage facilities have no significant effect on organizational performance of logistics firms in Mombasa County. The analysis of regression produced a t-value of 1.266 and p-value of .208 hence the null hypothesis was accepted.

4.9 Discussion of Key Findings

On an average mean of 2.85, respondents moderately agreed that order processing practices affect organizational performance. These findings are supported by Kagawa (2018) who observed that 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.

On an average mean of 2.36, study participants to a small extent agreed that tracking of goods influence organizational performance. These findings are supported by Magloff (2010) who stated that 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. 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.

On an average mean of 4.03, study participants to a great extent agreed that receiving process of goods practices influence organizational performance. These findings are supported by Justin (2009) who stated that 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 practice initiatives.

On an average mean of 3.70, study participants agreed that physical storage facilities influence organizational performance. These findings are supported by Johnson (2006), who stated that warehouses allow transport optimization along the supply chain, and allow companies to work with an optimal inventory regarding service quality.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter contained a detailed summary of the findings of the research, conclusions from the conducted analysis and formulated recommendations together with suggested areas for further research.

5.1 Summary of Findings

The general objective of this study was to evaluate the warehouse management practices and performance of logistics firms in Mombasa County. The summary of the findings are discussed below according to the study objectives.

Descriptive results indicated that the respondents moderately 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 =0.001 indicated that order processing had a statistical significant and strong positive correlation with organizational performance of the logistics firms in Mombasa County. In addition, regression results indicated that order processing had a statistical significant and positive influence on organizational performance of the firms.

Descriptive results indicated that the respondents to a small extent agreed that tracking of goods had improved the organizational performance of the firms. Pearson's correlation test at a level of significance of alpha =0.000 indicated that tracking of goods had a statistical significant and strong positive correlation with organizational performance of the logistics firms in Mombasa County. In addition, regression results indicated that tracking of goods had a statistical significant and positive influence on organizational performance of the firms.

Descriptive results indicated that the respondents to a great extent 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 = 0.000 indicated that receiving process of goods had a statistical significant and strong positive correlation with organizational performance of the logistics firms in Mombasa County. In addition, regression results indicated that receiving process of goods had a statistical significant and positive influence on organizational performance of the firms.

Descriptive 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 = 0.000 indicated that physical storage facilities had a statistical significant and strong positive correlation with organizational performance of the logistics firms in Mombasa County. Additionally, regression results indicated that physical storage facilities had a statistical significant and positive influence on organizational performance of the firms.

5.2 Conclusions

Based on the study findings, the study concluded the following:

Order processing has statistical significant and positive effect on organizational performance of logistics firms in Mombasa County. Therefore, all stakeholders should work together to enhance order processing practices in the warehouse management.

Tracking of goods has statistical significant and positive effect on organizational performance of logistics firms in Mombasa County. Therefore, all stakeholders should work together to enhance tracking of goods practices in the warehouse management.

Receiving process of goods has statistical significant and positive effect on organizational performance of logistics firms in Mombasa County. Therefore, all stakeholders should work together to enhance receiving process of goods practices in the warehouse management.

Physical storage facilities has statistical significant and positive effect on organizational performance of logistics firms in Mombasa County. Therefore, all stakeholders should work together to enhance physical storage facilities in the warehouse management.

5.3 Recommendations

Based on the conclusions, the study recommends that:

5.3.1 Managerial Recommendations

Management of logistics firms in Mombasa County should consider enhancing their warehouse management practices by improving on order processing of goods, tracking of goods, receiving process of goods and physical storage facilities in order to improve the organizational performance of their firms.

5.3.2 Policy Recommendations

The Kenya Ports Authority together with government and private stakeholders should review the existing processes within the logistics sector to ensure effective warehouse management practices among logistics firms are enhanced.

5.4 Suggestions for Further Studies

The findings have revealed that order processing of goods, tracking of goods, receiving process of goods and physical storage facilities did not exhaustively explain the variability in organizational performance of logistics firms in Mombasa County.

Therefore, the study suggests that further studies should be conducted focusing on other factors influencing organizational performance of logistics firms.

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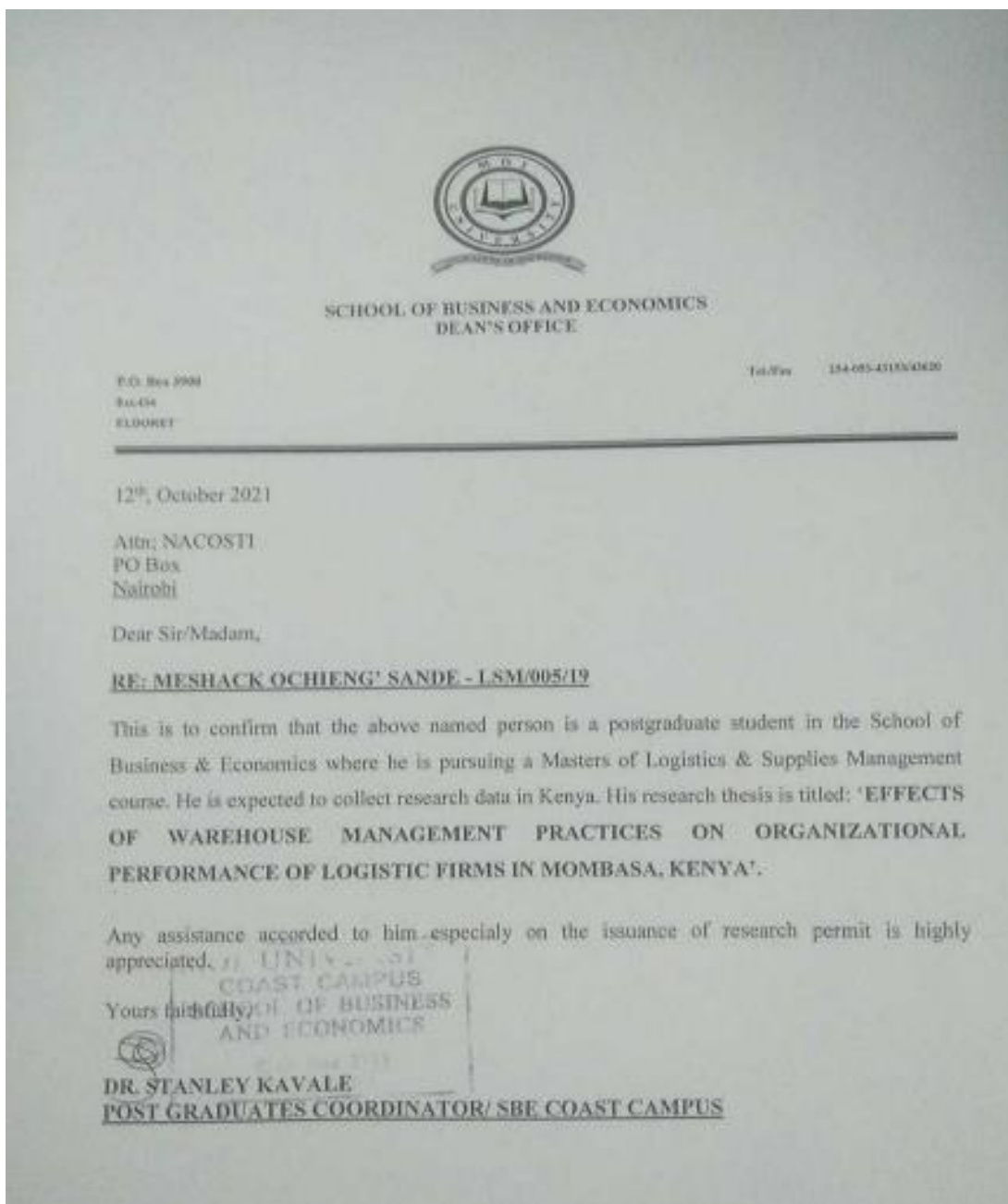
KTA https://www.kta.co.ke/index.php/membership?start=2

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APPENDICES

Appendix I: Introduction Letter

SCHOOL OF BUSINESS AND ECONOMICS
DEAN'S OFFICE

P.O. Box 3900
Bal-434
ELDORET

Tel/Fax   154-685-43155/43620

12ᵗʰ, October 2021

Attn: NACOSTI
PO Box
Nairobi

Dear Sir/Madam,

RE: MESHACK OCHIENG' SANDE - LSM/005/19

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 II: NACOSTI Permit

RESEARCH LICENSE

Ref No: 222234

Date of Issue: 28/October/2021

This is to Certify that Mr.. Meshack Ochieng' Sande of Moi University, has been licensed to conduct research in Mombasa on the topic: EFFECTS OF WAREHOUSE MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF LOGISTICS FIRMS IN MOMBASA COUNTY for the period ending : 28/October/2022.

License No: NACOSTI/P/21/13691

222234

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document,
Scan the QR Code using QR scanner application.

Appendix III: 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. Name of the company:

    ………(optional)…………………………………………………..

2. What is your designation at the

    organization…………………………………………?

3. Length of continuous service with the organization?

    a. Less than five years   ( )

    b. 5 – 10 years   ( )

    c. Over 10 years   ( )

4. For how long has your company been in operation?

    a. Under 5 years   ( )

    b. 5 – 10 years   ( )

    c. Over 10 years   ( )

PART B: Warehouse Management Practices at KPA

5. Please indicate the extent to which your organization performance has improved by using order processing practices. Use the scale of: 1- Not at all, 2- Small extent, 3- Moderate extent, 4- Great extent, 5- Very great extent

Order Processing Practices	1	2	3	4	5
1. Proper order processing practices					
2. Order processing at the port is adequate					
3. Order processing follows the correct protocol					
4. Order processing documentation					

6. Please indicate the extent to which your organization performance has improved by using tracking of goods practices. Use the scale of: 1- Not at all, 2- Small extent, 3- Moderate extent, 4- Great extent, 5- Very great extent

Tracking of Goods Practices	1	2	3	4	5
1. Tracking of goods have been achieved by the organization					
2. Tracking of items in the warehouse is efficient					
3. Tracking of goods practices is on point					
4. Proper tracking of goods has been undertaken by staff					

7. Please indicate the extent to which your organization performance has improved by using receiving process of goods practices. Use the scale of: 1- Not at all, 2- Small extent, 3- Moderate extent, 4- Great extent, 5- Very great extent

Receiving process Practices	1	2	3	4	5
1. Receiving process of goods has improved					
2. Receiving process has been achieved					
3. Receiving process of goods has enhanced warehouse management					
4. Receiving process of goods is well documented					

8. Please indicate the extent to which your organization performance has improved by using physical storage facilities practices. Use the scale of: 1- Not at all, 2- Small extent, 3- Moderate extent, 4- Great extent, 5- Very great extent

Physical Storage Facilities Practices	1	2	3	4	5
1. Physical storage facilities in the port are organized					
2. The Warehouse Manager knows about the facilities he is handling					
3. Storage facilities are on record for reference					
4. Physical Storage facilities are also based on organizational performance					

9. What effect does Warehouse Management Logistics practices being used by the port have on the following performance aspects? 1- Very low, 2- Low, 3- Moderate, 4- High, 5- Very high

Organizational Performance	1	2	3	4	5
Warehouse management practices result to increased efficiency					
The profits increase as a result of warehouse management practices					
Warehouse management practices lead to increased productivity					
Warehouse management practices result to increased customer satisfaction					

Thank you for your cooperation

Appendix IV: List of Logistics Firms in Mombasa County

NAME	NAME
ABC INTERNATIONAL CARGO LOGISTICS	CMA CGM (K) LTD
ADVENT LOGISTICS SERVICES LTD	DFS EXPRESS LINES LTD
AFRIQ FREIGHT SERVICES LTD	DIAMOND SHIPPING SERVICES
AIRBAND CARGO FORWARDERS LTD	EAST AFRICAN COMMERCIAL & SHIPPING LTD
AISHA MOTOR DEALERS LTD	ECU-LINE (K) LTD
AMEEN MOTORS LTD	EXPRESS LINE SHIPPING
ARSENAL CARGO LOGISTICS LTD	GREEN ISLAND SHIPPING SERVICES LTD
AVEN FREIGHT LOGISTICS LTD	I MESSINA (K) LTD
BLUE CAT PORT SERVICES LTD	INCHCAPE SHIPPING SERVICES (K) LTD
BLUE WAVE LOGISTICS	KENYA NATIONAL SHIPPING LINE LTD
BLUE-TIDE FREIGHT LOGISTICS LTD	LINEAR EAST AFRICA AGENCY LTD
BUSTAN FREIGHTERS LTD	MAERSK (K) LTD
CAMDEL EXPORT & IMPORT LTD	NORTH LINE SHIPPING (K) LTD
CULZENBERG FORWARDERS LTD	OCEAN FREIGHT EAST AFRICA LTD
CUSTOM AUTO LTD	PIL (K) LTD
DAVIS & SHIRTLIFF LTD	RAIS SHIPPING SERVICES (K) LTD
DUA MOTORS LTD	SAFCO (K) LTD
EAST AFRICA CAR IMPORTS LTD	SEABULK SHIPPING SERVICES LTD
EAST AFRICA MOTORS LTD	SEAFORTH SHIPPING (K) LTD
FASTLANE FREIGHT	SHARAF SHIPPING AGENCY (K) LTD
FASTWING CLEARING & FORWARDING CO	SOUTHERN SHIPPING SERVICES
FREIGHT VENTURES KENYA	WEC LINES (K) LTD
FREIGHTKEY INTERNATIONAL LTD	WILHELMSEN SHIPS SERVICES LTD
GENERAL FREIGHTERS LTD	AFRITON LOGISTICS CO LTD
GEOMIKO AGENCIES LTD	AGA INTERNATIONAL LTD
GOLDWELL FREIGHTERS LTD	ALEXAHNDRIA FREIGHT FORWARDERS LTD
GROTHPOINT WAREHOUSING EPZ LTD	BENITA EAST AFRICA LTD
HOMELAND FREIGHT LTD	CARGO CONVEYORS LTD
IMENTI FREIGHT CO	EXCIA EAST AFRICA LTD
INTERPORT CLEARING SERVICES	GULF SKY TOP LTD
INTRASPEED LTD	HILU INVESTMENTS LTD
JADAT FREIGHTERS LTD	JANIKES CO LTD
JAP IMPORTS LTD	JEDIMA TRADE AGENCIES LTD
JIMS FREIGHT FORWARDERS LTD	MAHAJAN INTERNATIONAL LTD
KB FREIGHT LTD	PIKI PIKI LTD

KENUGA AGENCIES LTD	REFCO FORWARDERS LTD
KESA LOGISTICS LTD	SILVERHAWK INTERNATIONAL LTD
KETONA CARGO LTD	TANTRACO (K) LTD
KIAN CARGO LTD	WARTON AGENCIES
KING CARGO AGENCIES LTD	A. O. BAYUSUF & SONS LTD
LAKHANI MOTORS (K) LTD	AATSONS TRANSPORTERS LTD
LENBASE LOGISTICS LTD	ASP CO LTD
LIBET FREIGHT (K) LTD	ATOZ TRANSPORTERS LTD
LOVISH IMPORTS & EXPORTS LTD	BHAVNA INTERNATIONAL LTD
MASA INVESTMENT	BRILLIAN GROUP CO LTD
MEGA FREIGHT INTERNATIONAL CO LTD	BUZEKI ENTERPRISES
MFIZI INTERNATIONAL CO LTD	CIVICON TRANSPORTERS LTD
MODA FREIGHT & FORWARDERS LTD	COMMERCIAL TRANSPORTERS
MOUNTAIN FREIGHTERS LTD	GATLINK INVESTMENTS LTD
MUCHMORE CLEARING & FORWARDING LTD	GESTALT GILD LTD
MUNGURA AUTO SPARES	GRAMIA ENTERPRISES
PENTAGON LOGISTICS LTD	GREENLAND SUPPLIERS LTD
PMK LOGISTICS SURVEYORS LTD	H. A. BAEMAR TRANSPORTERS LTD
PORT CONVEYORS LTD	HAKIKA TRANSPORT SERVICES LTD
PORTS LOGISTICS LTD	HIGHWAY CARRIERS LTD
RAY CARGO SERVICES	HOLLEY COTEC CO EAST AFRICA LTD
REAL TIME & MADA MOTORS	ISSA TRANSPORT CO LTD
RICHENS LOGISTICS LTD	JERRYMOS INVESTMENT LTD
SAFE LANDING LOGISTICS LTD	KANCHE ENTERPRISES LTD
SAI CARGO MASTERS LTD	KINGSLEY CO LTD
SAMACHI CARGO FORWARDERS	LYNKEL MISOK LTD
SIGNET FREIGHTERS LTD	MAXY LTD
TRANS AFRICA MOTORS LTD	MOTTIZ CO LTD
TREND AUTO LTD	NADIMO ENTERPRISE
TUNETO DRV AUTO LTD	NATIONWIDE TRANSPORTERS LTD
URBAN DRIVE AUTOS LTD	NEW NAIROBI NAIVASHA UNITED SERVICES
VIBES MOTORLAND LTD	PAGNA ENTERPRISES LTD
XIEMEN XGMA INTERNATIONAL TRADE CO LTD	PEARL MATRIX & LOGISTICS LTD
BAX LOGISTICS LTD	POLYCAD LTD
DELTA EXPRESS	RAYTECH ENTERPRISES LTD
GENERAL CARGO SERVICES LTD	SKYFLYERS MOTORS INVESTMENT
TWENTY THIRTY ENTERPRISES CO LTD	SONEVA ENTERPRISES
A PLUS SHIPPING LOGISTICS	TANGANA HOLDINGS LTD

AFRICAN LINER AGENCIES	VITRA LTD
AMPEES SHIPPING & GENERAL AGENCIES	WESTDAM CO LTD

Source: KIFWA (2021), KSAA (2021), KTA (2021)