THE EFFECT OF INVENTORY MANAGEMENT PRACTICES ON OPERATIONAL PERFORMANCE OF WAREHOUSING FIRMS IN MOMBASA COUNTY

BY

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DECLARATION

I declare that this research project is my original work and has never been submitted to any other University for assessment or award of a degree.

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This project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This research is dedicated to Mr& Mrs. William Gitau K. and Natane Ryan K.

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LIST OF ABBREVIATIONS AND ACRONYMNS

OP : Operational Performance

ICT : Information Communication Technology

JIT : Just – In - Time

ERP : Enterprise Resource Planning

VMI : Vendor Managed Inventory

MRP : Materials Requirements Planning Systems

RBV : Resource-Based View

RDT : Resource Dependence Theory

KBT : Knowledge-Based Theory

EDI : Electronic Data Interchange

EPOS : Electronic Point of Sale

PSA : Product and Service Agreements

ELI : Empirical Leanness Indicator

IMSS : International Manufacturing Strategy Survey

GMRG: Global Manufacturing Research Group

KRA : Kenya Revenue Authority

FM : Facilities Management

ROA : Return on Assets

ABSTRACT

The focal point of the study was conducted to determine the effect of inventory management practices in Warehousing firms in Mombasa County. From the early literature, man kept in reserve surplus foods from both the large and small harvests plus carried out animal rearing for catastrophes, emergencies and periods of food scarcity or famine. These foods were stored in elevated food cache. As time passed and new technology was acquired, so was the building of warehouses were introduced (Tompkins, Smith & Jerry, 1998). In the operations of various organisations, a very crucial division is warehousing. Thus ensuring the operational performance in a firm is well catered for. Inventory management as explained by Lavely, 1996 as the active control program that permits to govern its running of the various departments in a firm. This includes the production, research and development (R&D), purchasing, marketing, human resource, accounting and finance. The research design applied was the cross-sectional descriptive census survey of 48 Warehousing firms in Mombasa County. Also correlation survey was applied to show the link between the inventory management variables an operational performance. Data collection was by use of a questionnaire that was deduced by the "drop and pick" method and also e-mail for respondents who were not physically reachable. Cronbach's alpha test was used to test reliability of the questionnaires. This test was to measure internal consistency of the independent variables. According to Cronbach (1951), reliability coefficient of 0.70 is deemed "acceptable". From the results attained, most of the parameters had high internal consistency thus very acceptable. The computerized package that was used to carry out the data analysis was Microsoft excel and SPSS software. The $R^{2,}$ Durbin-Watson analysis, ANOVA analysis, multicollinearity model and multivariate regression analysis was used to determine the correlation between the inventory management practices and operational performance of the Warehousing firms in Mombasa County. The findings are presented in tables. It was clear that there was a significant relationship between inventory management practices and operational performance which was shown by a significance level 0.033 which was less than the 0.05 that was accepted in checking the significance level explained by the three independent variables of inventory management systems, strategic supplier partnerships and information communication technology. The study only focused on the Warehousing firms in Mombasa County. Accordingly, the researcher recommends further research on other firms that are not located in Mombasa County and are not in the Warehousing sector. The researcher has also recommended that all Warehousing firms and other organizations adopt inventory management practices so that they can relish the advantages.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Inventory management as explained by Lavely, (1996) as the active control program that permits to govern its running of the various departments in a firm. This includes the production, research and development (R&D), purchasing, marketing, human resource, accounting and finance. Inventory control and management are pivotal to a firm for mishandling of inventory endangers a firm's capability to do practical and useful way Sprague & Wacker, (1996) and also affects a firm's financial supremacy and one-upmanship for inventory management approach taken directly influences the equity capital, output and client service Ng et al., (1993); Vergin,(1998).The concept of inventory management suggests that the formation of inventory positioning and well-calculated objectives (Sprague & Wacker, 1996).

As stated by Wade and Hulland, (2004), the resource-based view (RBV)says firms own supply of money, materials, staff and other assets, a branch of what allows the firms to attain the back-and-forth competition and a branch of those that pilot to higher-ranking long-standing performance. Valuable resources are not only scarce but do usherin the formation of back-and-forth competition which might be conserved over a prolonged period of time to the length which the firm is capable to fight against imitation of resources, removal, or replacement. In-addition, as defined by Pfeffer, (1981) resource dependence theory (RDT) is defined as firms boosting their capability and influence. As early as 1949, the observation of sphere of influence disagreements from relations occurring within an organisation to relations occurring among organizations was seen.

RDT distinguishes these relationships between firms as a stand of capability relations built on switch resources. RDT suggests that firms needing in crucial resources will seek to be dependent upon others fitting to acquire the required resources.

As well, firms strives to vary their reliance bonds by lessening their own reliance or by growing the reliance of other firms on them. As expounded by Petrick and other authors (1999), the knowledge-based theory introduce the intangible assets (e.g. leadership, reputation of the organizational) as the cornerstone for continued high-ranking competition. The greatest power of an RBV approach (e.g the power to give description and resolve a firm's difficulty) are the foundation for the distinguishing high-level competition of the firm.

From their study Henneberry, (1987); Power et al., (2007), for any organised mass production or commercial distribution there has to be sensible deliberation of the role of warehousing. For adequate holding of stock by retailers and manufacturers, warehousing is essential. Corporate businesses in addition to private shoppers and manufacturers of products are placing orders through the online platform thus increasing the reliance on online options Brown, (1990); Lindley et al., (2008).For successful functioning of a firm's operations, warehousing offers a very important part of this function. Thus ensuring the operational performance in a firm is well catered for.

1.1.1Inventory Management

Inventory management, strikes an equilibrium in the midst of deficit stock and surplus stock Gupta & Gupta, (2012). Inventory is made up of huge numbers of quick/liquid assets especially in firms mainly dealing in retail trading and manufacturing. With the view to sustain this stock levels of such enormity, large financial resources are invested to

the firms Mittal, (2014). Inventory management performance is a huge determinant for the prosperity or downfall of a business. For a huge reduction of investment in working capital and exceptional operational performance, the organized management and orderly control of inventories assist in it all. Thus, according to Gupta & Gupta, (2012) the overall calculated business objective should be inventory management since it has a remarkable capacity on profitability. This is further expounded by Chalotra, (2013) who states that well established inventory management levels outcomes by intensifying competitive ability and market share of firms. Companies can experience high-ranking competition and high-level of financial performance from correctly controlled inventories Isaksson & Seifert, (2013). This also ensures the development of a firm and prosperity as the product quality is intertwined to the product volume sold and overall firm's profit. Anichebe&Agu, (2013).

In present day supply chain, holding and warehousing inventory is an important role for a firm. Logistic costs survey in Europe identified the inventory cost to be 13 percent(%) of entire logistic costs, 24 percent(%) was accounted for warehousing, Baker,(2007). Nonetheless, to determine inventory costs and to control purchase in most instances may not be able to curb purchasing costs in a similar manner to the industry which is competitive. Inventory management provides great potential for firms to reduce costs and improve customer service performance, Jeffrey et al,(2008). Therefore, by reducing/minimizing costs from inventory means saving money which can be used to increase profit in the firm and also improve the performance.

1.1.2 Inventory Management and Operational Performance

Husonand Nanda, (1995) from their study gave proof that those firms that embraced JIT system (an inventory management practice) enjoyed high and better net income as an outcome of improved inventory turnover. Afterward, Lieberman and Demeester, (1999) noticed a favourable bond between growth in production and reduction in inventory. Indicatively, findings from their study displayed a 10% inventory reduction due to application of JIT has resulted to 1% increase in labor productivity. They concluded that for process improvement, the key pilot is the reduction in inventory. In addition, the results of reinforced the favourable impact of reduction in inventory on organization performance. The JIT context was also reinforced by the researchers Claycomb et al, (1999) and Fullerton and McWatters, (2001) from their study. In Claycomb et al, (1999) research study, three items that quantify a firm's performance were attained through; profits, investment returns and sales returns. On the other hand, Fullerton et al, (2003) research study brought forth three firm's performance (financial) which are; assets returns, sales returns, and a margin in the cash flow.

Another study conducted by Demeter, (2003) expressed a favourable result of inventory turnover on firm's performance which was determined by sales return. This was done by utilizing a data-file covering 700 firms and more in 23 countries by the International Manufacturing Strategy Survey (IMSS).Vastagand Clay Whybark, (2005) utilized a representative of 1222 global organizations pulled from the data-file of the Global Manufacturing Research Group (GMRG). Their conclusion showed that even if inventory turnover has a great effect, it had no immediate relationship with the firm's performance. In an Indian context, Ramachandran and Jankriaman, (2009) study reinforced the

favourable bond between inventory and firm's performance. An affirmative and significant link between inventory days-reduction and profitability using a sample of UK firms which was reported by researchers Pong and Mitchell, (2012). Recently, Elsayed (2015) observed a positive relationship between inventory efficiency and financial performance using a sample of Egyptian firms.

However, they are studies carried out by several researchers that showed contradictory results from the positive link between inventory management and firm's performance. In the US context, Tunc and Gupta, (1993) revealed the foremost empirical proof of no correlation between total sales and inventory turnover. Other studies conducted afterwards by Balakrishnan et al, (1996), Cannon (2008) and Obermaier and Donhauser, (2009) also revealed they was no correlation in return on assets in JIT firms and non-JIT firms and that inventory management and organization performance had no relative correlation.

1.1.3 Warehousing Firms in Mombasa

From the early literature, man kept in reserve surplus foods from both the large and small harvests plus carried out animal rearing for catastrophes, emergencies and periods of food scarcity or famine. These foods were stored in elevated food cache. As time passed and new technology was acquired, so was the building of warehouses were introduced (Tompkins, Smith & Jerry, 1998).

Over the years Kenya has seen the growth of various warehouses and have evolved with the client's changing needs. Most of the warehousing firms not only offer warehousing facilities but also dry port operations, transit cargo handling, freight forwarding and customs clearance, local distribution and inventory management, telecoms logistics, project logistics, air freight, commodities handling, humanitarian relief projects,

local and international packing & removal services. The largest numbers of warehousing firms are located in Mombasa near the port area, Nairobi, Nakuru, Eldoret, and at Kenya – Uganda border to facilitate cross – border trade. Some warehousing firms have implemented the ISO 9001: 2001 certification process. This is essential to the clients and suppliers for they will receive good services due to the good and effective Quality Management Systems put in place. MithellCotts, (2016)

1.2 Research Problem

A crucial element for successful operational performance in warehousing firms is essential inventory management. To set an equilibrium between the supply and demand of inventory is one of the major problem in inventory management. Enough inventories but not too much are the ultimate objective according to (Coyle, Bardi& Langley, 2003). This is why most organisations will seek warehousing as a storage facility so that they do not run out of inventory when needed. Warehousing practices worldwide is increasingly growing as firms in Kenya adopt new management philosophies such as Just-In-Time, lean, agile, cross-docking, E-commerce and globalization. Lwiki et al, (2013) using a survey carried-out in eight (8) sugar manufacturing firms in Kenya established that there is generally positive correlation between each of inventory management practices. The level of inventory management practices were the main determinants of specific performance indicators. A strong correlation had erupted between Return on Equity and inventory management practices (supplier partnerships and lean inventory). As such, they concluded that the accomplishment of sugar manufacturing firms was consequently due to the inventory management practices applied.

Capkun, Hameri, and Weiss, (2009) carried out a research study to determine the relationship between inventory and financial performance in manufacturing firms. After they studied 52,254 manufacturing firms in years 1980 - 2005; and carried out the analysis through use of multiple regressions as a way to determine the correlation between financial performance and various inventory levels, the results they attained revealed a positive correlation between the firm's inventory management and its financial performance. The main measuring tools they used were gross markup and operating income for financial performance, and unprocessed materials, partially manufactured products and finished products for inventory levels. This allowed them to notice that the degrees of correlation varied depending on the type of inventory and the financial performance reference.

Through an empirical analysis done by the researchers Sahari, Tinggi and Kadri, (2012) they were able to determine a correlation between inventory management and firm's performance plus capital intensity. Their study sample constituted of 82 construction firms in Malaysia for the period 2006–2010. This correlation was deduced further with the use of the regression and correlation analysis methods. They concluded that there is a positive link between inventory management and capital intensity from the results they attained. One of the latest study done by Edwin, Florence, (2016) on inventory management in the cement industry showed results that enabled the researches to conclude that inventory - performance was satisfactory. This study therefore sought to answer the research question: What is the effect of inventory management practices on the operational performance of warehousing firms in Mombasa County?

1.3 Research Objectives

The main objective of the study was to determine the effect of inventory management practices on operational performance of warehousing firms in Mombasa County.

1.4 Value of the Study

To an Academia, the results of the study should be quite significant since it will provide a better understanding of inventory management and the impact it has on the operational performance of warehousing firms. To a policy maker, the study will be used as basic information by inventory control staff to develop friendly policies and procedures for receiving inventory and controlling their levels as well.

To an industry, the findings should assist in guaranteeing successful inventory management at all times for it will guide with decision making by those entrusted to formulate strategies of dealing with the problems of inventory. From the findings of the study, it is hoped that it should assist to identify areas where costs can be reduced while ensuring overall efficiencies is maintained. Lastly, it is hoped that the study findings should form the basis to which further and future researches could be built in the area of inventory.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter provides a substantial evaluation of the theoretical and empirical literature to the research study being conducted, literature analysis to the study and finally the literature review summary.

2.2 Theoretical Review

The theoretical review provides an assessment of the previous researches done by other academicians and assist to make well-thought-out sense of the relationship between inventory management and the operational performance of warehousing firms in Mombasa County.

2.2.1 Resource – Based View Theory

Penrose (1959) using the resource-based view (RBV) theory described a firm as an administrative organization and a collection of productive resources, both physical/material and human that provide a firm a variety of services. Thus, it is observed that a tight relationship between the knowledge detained by the human resources and the services provided by the same human resources shows that firms are a true reservoir of knowledge. As stated by Penrose, (1980); Wernerfelt, (1984); Barney, (1991), the RBV of the firm places focus on the inside of the firm, its resources and capabilities, to explain the profit and value of the firm. Thereby, Hoopes et al., (2003) applied the theory to explain the differences in performance of firm's within an industry. In this sense, this theory is applicable in this study for it has helped to learn the required resources needed both material and human resource.

2.2.2 Resource Dependence Theory

According to Harrison et al., (2001) resource dependence theory (RDT), firms ensure official and orderly linkages with other firms by looking for ways to minimize doubt and allow dependence with other firms. Due to that, firms become interdependence and therefore combine resources to form a resource bundle that is one of a kind and difficult to imitate. On the same note, researches Sambharya& Banerji, (2006) have supported the RDT theory for it has shown that through the firm's bond with the other firms has allowed it to create superior products hence giving the firm competitive advantage and improved performance both financial and operational. Thus, the theory shows that firms having strategic supplier partnership are able to form resource bundles.

2.2.3 Knowledge-Based Theory

As stated by Grant, (1996) the knowledge-based (KBV) theory of the firm is an up-to-date enlargement of the RBV theory. From the research study by De Carolis, (2002) it brought out that knowledge awarded to human resources was the most important strategic resource and, affirming the point that KBV theory is an extension of the RBV theory. Being that human resources is an intangible resource, knowledge was also seen to fall in the same category and according to Barney, (2001) intangible assets are highly valued.

Hoskisson et al., (1999) showed that firms heterogeneous entities that constitute of knowledge and thus agree with point made earlier by Grant (1996) and De Carolis (2002) that the KBV theory of the firm is an extension of the RBV theory of the firm. With this human resources and knowledge resource, a firm has a competitive advantage for this resource is next to impossible to imitate thus the firm has got sustainable differentiation (Wiklund& Shepherd, 2003).

2.3 Inventory Management Practices

Ogbadu, (2009) stated that for a reduction in depreciation, pilferage and wastages in inventory, sensible and wise management of inventory key while ensuring availability of the materials as at and when required. This was further shown by the researchers Lwiki et al., (2013) who emphasised that for maximization of profits and survival of a business, which are the fundamental objectives for every firm, systematic and that being the case, specific performance indicators have been proved to depend on the level of inventory management practices.

The independent variables are the variables which have their impact or influence on the dependent variable. They help to ascertain the amount of variation that happens in the dependent variable Kothari, (1992).The value of the dependent variable depends on the independent variables. The independent variables will include: lean inventory system, strategic supplier partnerships, information technology and the legal policies on inventory management. The dependent variable is the performance of the inventory management practices of warehousing firms in the Mombasa County. The relationship between independent variables and the dependent variable is of profound importance as it will clearly stipulate the effect of inventory management on the operational performance of the warehousing firms in Mombasa County.

2.3.1 Inventory Management System

Womack et al., (2003) introduced the lean production principle which was associated with reduced inventories. Their argument was that as a way of reducing storage fees, handling and waste, profit improvement were realised due to interest savings and inventory reduction as the main reason for that. Brigham &Gapenski, (2010) have estimated by

literature, these savings to be in the range of 20 -30 percent (%) of profit realised. Additionally, they noted that in this competitive environment, Inventory Management was gaining more and more attention and awareness. The inventory management system supporters argue that surplus inventory will adversely interrupt the net cash flow in affirm. The main costs incurred in holding inventory, are the capital costs (interest or opportunity) and the physical cost (storage, insurance and spoilage).

Several inventory management systems have been discovered so as to tackle the problem of excess inventory. These inventory management system include Just-In-Time (JIT) and Materials Requirements Planning systems (MRP). Just-In-Time is a combination of various exercises to both reduce and eradicate waste. It was first implemented by Ford Company then later embraced by Toyota Motor Corporation (Japan) in the 1950s. JIT is applied in the entire supply chain operation. The major components of JIT include but not limited to sharing with suppliers and customers the product design, set- up times of machines reduction, having suppliers nearby as single sources and maintaining a comprehensive precautionary system.

Being that it is an inventory strategy, its impact in a firm should be mainly on the return on investment which should go high because of the inventory reduction and any other cost correlated to that. JIT also has huge impact on the quality of the product and the organisation/order in which the product is produced. Its main principle is, products should only be produced when an order of the item is received by a firm. JIT process ensures that there is also warehouse space and cost which is kept at a minimal. Lysons& Gillingham, (2003) defined MRP as a product- oriented computerized technology works by inventory reduction and delivery schedules sustenance. MRP system works by identifying the need

for an item being dependent on the need for an inventory item. This is to mean that with the use of the marketing/sales forecast, they should be a link between an end product and the time period used to attain this product.

2.3.2 Strategic Supplier Partnerships

When the suppliers and customers form a long-term linkage, built on precise, reciprocal concurred objectives, this was defined by Lysons and Gillingham (2003) as strategic partnering whose aim is to venture and attain global ability for a firm. Its main objective is the customers and suppliers to have good working association. Strategic supplier partnering is an idea came to be in the 1980s as a consequence of the inventory management system just- in–time (JIT) in manufacturing. As per the study by Bicheno, (2004) JIT and strategic supplier partnership have the mutual goals and objectives which are; waste reduction, lead time condensation, product improvement and product simplicity.

In a study by Brownell, (2005) he noted that the main factor for strategic supplier partnership to flow well, orthodox communication. Due to this proper communication between customers and suppliers, it makes work more efficient and effective to run in a firm. As new technology erupt and use of all kinds of electronic communication, the strategic supplier representatives still prevail vital. The firm should also embark on early supplier involvement in the design process to minimize items received being defective and also obsolescent.

A new feature in supplier partnership is Vendor Managed Inventory (VMI). VMI allows speedy attainment of inventory by the customer for the supplier maintains the inventory

on site or in a nearby location. In VMI arrangements the supplier has a responsibility for replenishing stock falls duly on the supplier. This includes inventory counting, managing the shipping logistics and ordering. This movement of cost which are incurred by the customer to the supplier works to the customer's advantage for it allows them to reduce the product's overall cost and on the other hand margins are increased. At the end of the day, a very favourable portion of the purchaser's total purchase requirements is attained by the supplier (Loughrim, 2008).

According to Lambert (2001) he defined supplier relationship management as the process whereby the suppliers of a firm connect with the firm itself. Every company not only needs to build a strong bond with customers but also with the suppliers. As in the case of customer relationship management, a company will forge close relationships with a small subset of its suppliers, and manage arm-length relationships with them. Another supplier management feature is the Product and Service Agreements (PSA). For PSA, each key supplier is the main determinant of the relationship terms between them (supplier and firm). PSA becomes non-negotiable for less key suppliers. Thus PSAs are managed and defined by supplier relationship management. When a compact central group of suppliers form a long-term relationships it forms a give-and–take situation which benefits both parties. According to Kandampully, (2003), firms no longer compete as single firms but instead as a network which should be well planned so the firms to gain competitive advantage.

2.3.3 Information Communication Technology (ICT)

Information communication technology is a driving force of any firm as announced by Carter and Price (2010). To thrive in his day-to-day work, an Inventory manager requires

information communication technology. Computers are the key tools of ICT which aids in stock control by ensuring that user requirements are satisfied through computation of the perfect number of stock to dispatch and stock to hold. This is achieved by computer through comparing inventory variables (stock levels, demand and delivery dates). One of the systems that permits direct communication among firms without there being any human intervention is the Electronic Data Interchange(EDI).

All the firm's movements are properly coordinated by ensuring the supplier's and customer's computers as they cross-examine one another similar information, production plans and stock levels. Due to swift and speed communication, the firm attains reduction in lead times, paperwork, staff costs and higher information accuracy. Another technology used in inventory management is Electronic Point of Sale (EPOS) whose main objective is to obtain information concerning goods sold through scanning. Also EPOS system has various activities that it conducts; sends out intra- and inter- stores messages, verifies checks, charges transactions and provides instant sales reports. This allows information to buyers, risk of obsolescence is reduced as well as theft cases and stock deterioration and that not only steer to boost customer service and therefore raise financial performance of a firm Lysons, (2012).

2.4 Operational Performance (of the Warehousing Firms)

Inventory Management is very important in the operational performance and growth of the warehousing firm. As stated by Johnson, (2008) quality inventory management protects the firm the attainment of loses due to low quality products, customers who are disappointed and loss of good social responsibility. The principle determinant of efficient production is quality of raw materials right from procurement to the time of processing.

Lawson et al (2009), views that the most effective measurement systems assess performance in the entire length of the firm's procurement function, from suppliers through internal processes to customers. The measures are divided in five major categories which include cost measures, quality measures, time measures, supplier performance measures and customer satisfaction measures. The metrics that are used in performance measurement should be those that truly capture the essence of the procurement function performance.

Metrics assignments to the most rightful places should be through a measurement system. Measurement goals should amount to the goals of the function and metrics chosen should strike a balance between financial and non-financial measures that can aid in decision making for effective performance measurement. The performance of the procurement function encompasses the financial performance and market performance. Business profitability is a justification of its good performance and loss is a justification of poor performance. Profits are an indication of good operational performance.

2.5 Inventory Management and Operational Performance

Inventory management process as stated by Halachmi&Bouckart, (2005) is a process in which a firm convene financially the requirements placed on it by restricting the amount of stock held in various forms. For cost minimisation and performance improvement, the quantities of stock in a firm should be held at an optimal level and this is the major objective of the inventory control system. Malcom, S. (2005) a bit of protection in opposition to uncertainty of supplier performance leads to the existence of buffer or uncertainty or safety stocks in a firm. This uncertainties may arise due to poor inventory management. Employee illness/absenteeism and machine break down are avoided by

having the work-in-progress buffer while protection against production failures and unforeseen demand are through finished goods buffer.

Schroeder (2000) established that transaction, precautionary and speculative are the main motives for a firm to hold inventory. To avoid unforeseen breakdowns, hold ups and any other disruptions in running of operations Lyson (1996) states that inventory serves as an insurance policy. According to the assessment, overstocking, poor supplier relationships and poor utilization of information technology are a few of the elements that curb inventory management thus influencing the performance of the procurement function. Emphasized by Dobler and Burt (2006) as it is the case of cash, stock amount to the monetary value held by a firm and similar control measures. It is essential to have a sound inventory management system as it assists in preventing stock outs, overstocking, deterioration, obsolescence and high carrying cost. An ideal inventory management system is for the essence for decision making in the procurement function and the company as a whole. Strategic supplier relationships, an inventory management system and effective use of information communication technology are important to a company which expects its procurement function to operate efficiently and offer quality services.

Due to the speculative evolution of the warehouse leasing market is, when the designing and construction of a commercial warehouse is taking place, it becomes quit rigid for the owners to know the specific facilities management (FM) needs of their tenants Varila et al., (2007). For the lack of know-how in essential aspects of FM that would lead to high customer/tenant satisfaction and attraction to the facility, it becomes a big task for owners to improve the quality of their facilities and add value to more facilities for potential customers.

2.6 Empirical Review

JIT as an inventory management practice has been found, by several studies, to have a favourable effect on firm's performance. This is supported by a study by Fullerton et al. (2003) which shows that firms which outshine their counterparts execute a large standard of JIT inventory practice than those who didn't apply the JIT practice. As so, reduction of waste through some practices implemented such as preventive maintenance programs, set-up time reduction and uniform workloads. From the findings, firms were steadily more profitable than the competitors due to the application of the JIT techniques.

Eroglu and Hofer (2011), used a different inventory management tool which is Empirical Leanness Indicator (ELI) which brought out the positive link between a firm's performance and inventory management. Empirical Leanness Indicator (ELI) as stated by Eroglu and Hofer (2011) is an inventory management technique which is supreme. In lean production practice, inventory is considered to be a type of waste which should be reduced is seen to be equivalent to quality inventory management. This study brought out that profit margins are positively affected by leanness which encrust the years 2003 – 2008 of US manufacturing firms. It also showed that firms that attain favourable returns from leanness are leaner compared to the industry itself. Eroglu and Hofer (2011) found that the firm's performance in general is non-linear and positive from the impact of inventory leanness.

Contradictorily, a study by Cannon (2008) brought out conflicting results. The study researcher contended that overall firm's performance should not be quantified with the inventory performance of the firm. Therefore the study examined the assimilation of the return on assets (ROA) as a performance's measurement and a firm's annual percentage

change in inventory turnover as an inventory management measurement. In the study Cannon, (2008) showed that a bad impact on ROA was experienced due to an improvement on turnover taking into account the effects of time. An interpretation of the evidence showed that some turnover improvement associated with increased ROA while other turnover improvement associated with decreased ROA, which varied transversely from one firm to another pertaining to the firm's performance and turnover improvement.

Additionally, Cannon (2008) deeply looked at the turnover-ROA dynamic as probable variability source by embracing capital intensity. From the findings, it was discovered that ROA and the variables never made any notable impact on the correlation between ROA and turnover improvement. Therefore, the study concluded that overall firm's performance is not associated with the firm's inventory performance.

2.7 Summary of Literature Review

Researchers of previous studies have brought out both positive relations and weak relations between the inventory management practices and the operational performance of firms. The studies have also shown the elements that attract firms to adopt inventory management practices and the benefits that they obtain from adopting inventory management practices. Some studies have also shown challenges that firm with the inventory management practices. Nonetheless, these researchers have not distinctly laid down the effects of inventory management practices on operational performance of firms. This forms the basis of this study. They also have not distinctly shown the link between inventory management practices and the operational performance.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, the population study and data collection process with the instrument that was used to collect the data and finally the process of data analysis with the tools that were employed in presenting the analyzed data.

3.2 Research Design

The research design adopted in this study was the cross-sectional descriptive survey design. According to Saunders et al., (2009) the descriptive study is concerned with finding out who, what, where, when, or how much. Cross-sectional study was embraced to answer questions concerning the current status of the research subjects in the study by looking across the entire number of warehousing firms in Mombasa County. The correlation survey was adopted which determined and reported that the inventory management system had an immense positive correlation to the operational performance of the warehousing firms in Mombasa County.

3.3 Population of the Study

The population of the study consisted of all the warehousing firms in Mombasa County. The population size of the study was48 warehousing firms in Mombasa County. The study targeted staff in all the departments in the warehousing firms, KRA, (2016). There was no sampling conducted for the population was small in size, hence the study was a census survey.

3.4 Data Collection

The study used primary data which was collected using questionnaires. These questionnaires were administered through a 'drop-and-pick' method to the respondents at their different firms and also via email to those respondents who could not be reached by hand delivery. After a week was when the questionnaires thus allowing enough time to the respondents to fill it. All the filled questionnaires were counter-checked to ensure completeness.

3.5 Data Analysis

The data was quantitatively presented in tables once data was collected using the questionnaires. To analyse the collected data the following descriptive statistics were applied frequencies, percentages, mean scores and standard deviation. Several models were also employed to expound further on the correlation between the inventory management variables and the operational performance: R^2, Durbin – Watson analysis, ANOVA analysis, and the coefficient of correlation (r) were used to determine the nature and magnitude of the relationship among inventory management variables and operational performance. The relevant computer packages (Microsoft excel and SPSS software) were used to analyze data. The internal consistency reliability was determined through the computation of the Cronbach's alpha.

The variables included both dependent and independent variables. The relationship between these variables was measured using the multivariate regression analysis. This relationship was assumed to be linear represent in the form of an equation.

$OP= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Where;

OP= Operational Performance

β_0 is the intercept of the model.

X_1= Inventory Management System

X_2= Strategic Supplier Partnerships

X_3= Information Communication Technology

ε = Error term

β_1, $\beta 2$, $\beta 3$, are the coefficients of model.

The ε = error term represented the unknown variables or those hard to measure but had an effect on the dependent.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Introduction

This study was carried out to establish the effect inventory management practices on operational performance of warehousing firms in Mombasa County. Data was collected from warehouse managers, warehouse supervisors, material handlers, forklift operators, warehouse officers, assistant warehouse officers and operation managers. The findings are presented as follows:

4.2 Response Rate

A total of 48 questionnaires were distributed to warehousing firms in Mombasa County. 37 were returned to the researcher out of the 48 questionnaires. This represents a response rate of 77.08%. This percentage was considered sufficient for this study. The 22.92% who never responded to the questionnaires claimed to lack time due to their busy life style. The table 4.1 shows the frequency and percentage of respondents.

Table 4.1: Response Rate

Parameters	**Frequency**	**Percent (%)**
Response	37	77.08
Non responses	11	22.92
Total	**48**	**100**

Source: Research Data (2016)

4.3 General Information

The first part of the questionnaire contained general information regarding the firm and the respondent. The areas sited in this part were: the name/title of the respondent, the

location of the warehousing firm, the position of the respondent in the organization, the duration the firm has been in operation and the number of employees in the firm.

Table 4.2: Position of the Respondent

	Frequency	**Percent (%)**
Warehouse manager	6	16.2
Warehouse supervisor	10	27
Material handler	9	24.3
Forklift operator	5	13.5
Warehouse officer	1	2.7
Assistant warehouse officer	1	2.7
Operations manager	2	5.4
Procurement officer	1	2.7
Store keeper	1	2.7
Assistant Human resource	1	2.7
Total	**37**	**100**

Source: Research Data (2016)

The Table 4.2 above shows frequencies and percentages of the various positions held by the respondents that took part in the study. Frequency and percentage for: Warehouse manager 6 16.2%, Warehouse supervisor 10 27%, Material handler 9 24.3%, Forklift operator 5 13.5%, Warehouse officer, Assistant warehouse officer 1 2.7%, Operations manager 2 5.4%, Procurement officer 1 2.7%, Store keeper 1 2.7%, Assistant Human resource 1 2.7%.

Table 4.3: Duration of Operation

	Frequency	**Percent (%)**
Less than 10 years	2	5.4
Above 10 years	35	94.6
Total	**37**	**100**

Source: Research Data (2016)

Table 4.3 above shows the frequencies and percentages regarding information on the duration which the respondent firms have been in operation. The researcher was able to

establish the duration the respective manufacturing companies had been in operation. The findings as illustrated in Table 4.2 above illustrates that 5.4% of the warehousing firms in Mombasa County have been in operation for less than 10 years and 94.6% above 10 years. This is an indication that the firms have knowledge on inventory management practices during the vast span of time in operations.

Table 4.1 Number of Employees

	Frequency	**Percent (%)**
0 – 49 people	1	2.7
50 – 99 people	5	13.5
100 – 149 people	13	35.1
Above 150 people	18	48.6
Total	**37**	**100**

Source: Research Data (2016)

The Table 4.4 above was a clear indication that a large number of warehousing firms in Mombasa County had a number of employees above 150 which means that they provide a source of employment to most residents of Mombasa County.

4.4 Inventory Management Practices

The study sought to establish the extent to which warehousing firms in Mombasa County have embraced inventory management practices. A number of questions were fronted to the respondents who gave their responses on a scale of 1-5 where: 1 = Very small extent and 5 = Very large extent.

Table 4.5: Inventory Management System (IMS)

Parameters	Mean	Std. deviation	Rank
Prepare inventory budgets	4.08	0.92431	1
Review inventory levels	4	0.88192	2
Carryout replenishment of stock	4.08	0.86212	1
Carryout inventory tracking	3.92	0.75933	3
Mean	**4**		

Source: Research Data (2016)

Table 4.5above shows the mean and standard deviation of factors that were used. A mean of 1-3, shows that the factor in question has been adopted by the responding firms to a small extent. A mean of 4-5, shows the factor in question has been adopted by the responding firms to a large extent. Thisshows a good indication that the warehousing firms have adopted the inventory management systems in carrying out their operations. The results show that the inventory management systems are used to prepare inventory budget and carrying out replenishment of stock having a mean of (4.08) by warehousing firms in Mombasa County. It was followed by review of inventory levels having a mean of (3.52), while the least is carryout inventory tracking with a mean of (4.00). On average the warehousing firms adopted inventory management systems on a large extent as indicated by a mean of (4.00).

Table 4.6: Strategic Supplier Partnership (SSP)

Parameters	Mean	Std. deviation	Rank
Long-term relationships	4.41	0.83198	4
High level of trust	4.35	0.82382	3
Mutual information sharing	4	0.70711	1
High level of good communication	4.08	0.64024	2
Grand Mean	**4.21**		

Source: Research Data (2016)

As shown in the Table 4.6above, a mean of (4.41) of the respondent have long-term relationships, followed closely byhigh level of trust with a mean of (4.35). The least

means of (4.08) high level of good communication with their business partners and (4.00) of the respondents shared mutual information with their business partners which allows them to have a robust strategic supplier partnership. With the above analysis, an average (4.21) demonstrates a healthy strategic supplier partnership between the warehousing firms in Mombasa County and their various business partners.

The study also sought to establish the extent to which ICT has been implemented in the warehousing firms and how it affects operational performance as shown in table 4.7 below.

Table 4.7: Information Communication Technology (ICT)

Parameters	**Mean**	**Std. deviation**	**Rank**
Review of inventory levels	4.38	0.86124	1
Determination of appropriate maximum and minimum inventory levels	4.32	0.81833	3
Determination of appropriate reorder level of stock	4.35	0.78938	2
Availability of adequate stock at all times	4.16	0.68773	4
Use of inventory management techniques to determine inventory level	3.73	0.69317	5
Grand Mean	**4.19**		

Source: Research Data (2016)

It was evident that ICT has an impact on the operational performance of warehousing firms in Mombasa County. From Table 4.7indicates that ICT assists in the review of inventory levels having the highest mean (4.38). Followed closely by a mean of (4.35) that express the determination of appropriate maximum and minimum inventory levels, (4.32) that indicates determination of appropriate reorder level of stock. The least mean of (3.73) assists to show that the use of inventory management techniques to determine

inventory level is not largely used by the warehousing firms in Mombasa County. The average mean (4.19) shows that large extents of respondents use ICT in their business operations.

Table 4.8: Operational Performance

Parameters	Mean	Std. deviation	Rank
Improved labor productivity	4.11	0.77401	4
Enhanced customer service	4.35	0.71555	2
Facilitates standardization of inventory movements	3.97	0.79884	5
Improved cycle counting	3.92	0.64024	7
More efficient use of available warehouse space	3.95	1.07873	6
Faster inventory turns	4.24	0.68335	3
Reduction in inventory paperwork	4.65	0.58766	1
Grand Mean	**3.6**		

Source: Research Data (2016)

Table 4.8 shows the relationship between inventory management practices and operational performance which had an average mean (3.60) which is a moderate extent. The mean scores also show that reduction of inventory paperwork ranks high with a mean score of 4.65 in terms of influencing operational performance followed closely by enhanced customer services at 4.35. Improved cycle counting ranked low with a mean score of 3.92 in terms of its effect on operational performance followed by availability of warehouse space at 3.95. None of the respondents disagreed that inventory management practices have assisted the warehousing firms in Mombasa County improve their operational performance.

4.5 Reliability Test

Cronbach's alpha test was used to test reliability. This test was to measure internal consistency of the independent variables. According to Cronbach (1951), reliability

coefficient of 0.70 is deemed “acceptable". The Cronbach's alpha values are as shown below in Table 4.9.

Table 4.9: Reliability Test

Parameters	**Coefficient Alpha Reliability**
Inventory Management Systems	0.679
Strategic Supplier Partnerships	0.741
Information Communication Technology	0.823

Source: Research Data (2016)

The above results recommend that most of the parameters had high internal consistency thus very acceptable.

4.6 Model Fit

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.480[a]	0.23	0.16	0.39259	2.425
a. Predictors: (Constant), Inventory Management Systems, Strategic Supplier Partnership, Information Communication Technology					
b. Dependent Variable: Operational performance					

Source: Research Data (2016)

From the data in Table 4.10the R^2 was 0.230 which means 23.0% of variation in operational performance is accounted for by the variation in inventory management practices. 77.0% is accounted for the variables not included in the model.

The correlation coefficient (R) in this case was 0.480 and thus there was a moderate positive correlation between inventory management practices and operational performance.

In order to determine autocorrelation for operational performance, the Durbin-Watson test is used, where:

$H_{0:}$ $e = 0$ (No autocorrelation between operational performance and inventory management practices),

H_1: $e \neq 0$ (Auto-correlation is present between operational performance and inventory management practices)

Level of significance $\alpha = 0.05$ and It is a two tailed test at 5% level of significance with number of independent variables (K) being 3 and number of observations (n) is 37, with these two values, upper critical value (du) and lower critical value (dl). The du and dl values can be obtained from the Durbin-Watson significance table. The decision to reject null hypothesis (H_0) is done using the following criteria:

D (computed test statistics), d<dl (reject H_0, i.e. autocorrelation is present), d>du (fail to reject H_0, i.e. no autocorrelation), dl<=d<=du (test is inclusive).

From table 4.10, the Durbin-Watson table dl=1.307 and du=1.655, d = 2.425. Therefore d (2.425) > du (1.655) means no rejection of the null hypothesis (H_0). Conclusion, there is no autocorrelation between operational performance and the inventory management practices.

Table 4.11: ANOVA Analysis

Model		Sum of Squares	df	Mean Square
	Regression	1.519	3	0.506
	Residual	5.086	33	0.154
	Total	6.606	36	
a. Dependent Variable: Operational performance				
b. Predictors: (Constant), Inventory Management Systems, Strategic Supplier Partnership, Information Co				

Source: Research Data (2016)

From the above Table 4.11 the significant value was 0.033, implying the model was statistically significant since the value 0.033< 0.05.

Table 4.12: Multicollinearity Model

Collinearity Statistics		
	Tolerance	**VIF**
Inventory management systems	0.906	1.104
Strategic supplier partnership	0.854	1.171
Information communication technology	0.817	1.224

Source: Research Data (2016)

According to Martz, (2013) collinearity (multicollinearity) is an event in which two or more variables can be linearly foreseen from the other by a use of a considerable magnitude of accuracy. The outcomes of multicollinearity analysis for the independent variables are as in Table 4.12above. From the table, the values of tolerance and VIF for each independent variable were within the .10 with VIF of slightly more than one suggesting that multicollinearity did not pose any issue in the study.

Table 4.13: Model Coefficients

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	1.999	0.74		2.72	0.01
Inventory Management Systems	0.266	0.13	0.341	2.12	0.04
Strategic Supplier Partnership	0.127	0.14	0.148	0.89	0.38
Information Communication Technology	0.134	0.15	0.155	0.92	0.37
a. Dependent Variable: Operational performance					

Source: Research Data (2016)

The model shows a statistically positive significant relationship between Inventory management practices and operational performance (β = 1.999, t= 2.72, $p<0.05$) in general. It also shows a large significance was between inventory management systems and operational (β = .266, t= 2.12, $p<0.05$). However, there is no significance when it comes to; Strategic supplier partnership (β = .127, t= .89, $p>0.05$) and Information Communication Technology (ICT) (β = .134, t= 0.92, $p>0.05$) and operational performance for the significance is greater than 0.05. The coefficients are positive which would indicate that as the selected inventory management practices increases, so as operational performance. The consistency of regression coefficients on the selected inventory management practices suggests that these variables are important factors influencing operational performance although at different degrees.

From the regression model the following regression equation was derived: $Y = 1.999 + .266 X_1 + .127X_2 + .134X_3 + \varepsilon$

Where,

Constant = 1.999, to mean, inventory management practices all held at zero (constant) operational performance would change by1.999:

X_1 = .266, to mean, one unit increase in inventory management system equals an increase in operational performance by 0.266

X_2 = .127, to mean, one unit increase in strategic supplier partnership equals an increase in operational performance by 0.127

X_3 = .134, to mean, one unit increase in inventory management system equals an increase in operational performance by 0.134

ε = error term represents all the factors/variables that affects the dependent variable but were not included in the model either because they were difficult to measure or not known.

This is a two-tailed test at 0.05 level of significance. The degree of freedom = n – 2= 37 – 2 = 35. From the t-distribution table, critical t = 2.042. The decision rule would therefore be to reject H0 if computed t is either less than -2.042 or greater than +2.042.

Computed t = $r\sqrt{n-2}/1-r^2$ = $0.480\sqrt{37-2}/1-0.480^2$ = 3.237

Since computed t (3.237) is greater than critical t (2.042) the null hypothesis is rejected and it can be concluded that the relationship between inventory management practices and operational performance is significant.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives the summary of study findings, the conclusions, recommendations made based on findings, limitation of the study and the suggestions for further studies.

5.2 Summary of the Study Findings

The research study was sub-divided into three segments on the questionnaire; firstly, response rate and general information on respondents, secondly, inventory management practices embraced by the warehousing firms in Mombasa County and lastly, the effect of inventory management on operational performance.

From the findings, the questionnaires that were completed and returned by respondents were 37 out of 48, representing a response rate of 77.08%. The respondents were warehouse managers, warehouse supervisor, material handler, forklift operator, warehouse officer, assistant warehouse officer, operations manager, procurement officer store keeper and assistant human resource. The largest number of respondents were the warehouse supervisors 27% followed closely by material handler at 24.3%. From the observation, a large number of warehousing firms have been in operation for long periods enough to embrace inventory management practices. 94% of the warehousing firms according to the respondents have been in operations for 10 or more years. The findings also revealed that a large number of warehousing firms have above 150 number of employees (48.6%), followed closely by 100 – 149 employees (35.1%), then 50 – 99 employees (13.5%) and lastly, 2.7% of the warehousing firms have 0 - 49 employees.

The analysis from the finding revealed that there was a significant level of embracement of each of the inventory management practices. Strategic supplier partnership was the most embraced inventory management practices by warehousing firms, having a grand mean score of 4.21. Secondly followed by Information Communication Technology with a grand mean score of 4.19 and finally the inventory management systems (4.00).

Under strategic supplier partnership, long-term relationships ranked as the highest indicator with a mean score of 4.41 followed closely by high level of trust (4.35). The lowest ranked indicator of strategic supplier partnership was mutual information sharing (4.00). The analysis further revealed that for information communication technology practices, the highest ranked indicator was firms using ICT to review inventory levels (4.38). Similarly, the lowest ranked indicator was use of inventory management techniques to determine inventory level (3.73). For inventory management system practices, firm using the systems to prepare inventory budgets and carrying out replenishment of stock ranked high at 4.08, followed by the use of the systems to review the inventory levels (4.00) and the lowest rank being the carrying out of inventory tracking at 3.92 mean score.

Using a multiple regression model, the data obtained from the respondents was used to regress inventory management practices against operational performance of the warehousing firms in Mombasa County. The analysis on the relationship between inventory management practices and operational performance revealed that an overall significant relationship (P=0.01) was attained. Out of all the three (3) inventory management practices, strategic supplier partnership and information communication technology were negatively related to operational performance. While the model was

generally found to be significant, only inventory management systems were significantly related to operational performance given a p-value of 0.04while the others (strategic supplier partnership and information communication technology) were not. From the analysis, inventory management practices were regressed against operational performance as a whole. R^2=0.23 indicated that 23.0% of the variation in operational performance can be explained by variation in inventory management practices. However, strategic supplier partnership and information communication technology had p-values greater than 0.05 therefore, the model would not be appropriate to predict operational performance.

5.3 Conclusions

The focus of this research was to scan the effects of inventory management practices on operational performance of Warehousing firms in Mombasa County. The study found that out of the three (3) inventory management practices, inventory management systems was the most embraced having significance of 0.04. This is because inventory management systems not only reduces inventory wastage but also ensures more efficient use of available warehouse. This findings conform to that of Womack et al., (2003) who introduced the lean production principle which was associated with reduced inventories. Their argument was that as a way of reducing storage fees, handling and waste, profit improvement were realised due to interest savings and inventory reduction as the main reason for that. Also the research study by Eroglu and Hofer (2011), showed positive relationship between inventory management and performance which used the Empirical Leanness Indicator (ELI) as a measurement for inventory management. They argued that inventory leanness is the best inventory management tool. Thus to mean that inventory management practices have a positive impact on the operational performance of a firm.

Findings further revealed that strategic supplier partnership had a significant relationship with the operational performance of the warehousing companies. While the p value (0.38) was found to be insignificant an indication that the model would not be appropriate however, the grand mean (4.21) showed a high ranking in its adoption. These findings conformed to a study done by Brownell, (2005) who noted that the main factor for strategic supplier partnership to flow well, orthodox communication. Due to this proper communication between customers and suppliers, it makes work more efficient and effective to run in a firm. As new technology erupt and use of all kinds of electronic communication, the strategic supplier representative's still prevail vital. The firm should also embark on early supplier involvement in the design process to minimize items received being defective and also obsolescent.

The results also revealed that information communication technology was not significantly related to the operational performance as shown by the p value. The reason could be because ICT is mainly intertwined in most of the inventory management systems which have been adopted by the warehousing firms. Such systems include: JIT systems, Enterprise Resource Planning (ERP), Vendor Managed Inventory (VMI), and Materials Requirements Planning Systems (MRP).

5.4 Recommendations of the Study

The Warehousing firms in Mombasa County ought to embrace inventory management systems improve the operational performance. This was observed by the high mean rank of 4.00. These systems include: JIT systems, Enterprise Resource Planning (ERP), Vendor Managed Inventory (VMI), and Materials Requirements Planning Systems (MRP).

Having the highest mean (4.21) among the three variables, strategic supplier relationship was observed to a great effect on operational performance of warehousing firms. Thus, long-term relationships with not only suppliers but customers as well should be adopted by the warehousing firms in Mombasa County. This is by embracing the Vendor Managed Inventory (VMI) which will interchange the handling of inventory management from the warehousing firms to the suppliers thus improving the overall operational performance of the firm. Supplier appraisal by the procurement function should be a key element in inventory management as this will help evaluate the suppliers and choose the best from the many and develop long term round table relationships with them.

Warehousing firms in Mombasa County ought to embrace information communication technology in inventory management. Even though it was at a mean of 4.19, more firms not only in the warehousing industry, they should adopt ICT. Automation will help the warehousing firm in inventory control by setting inventory control levels and calculating the amount of inventory to hold and release therefore improving the operational performance of the firm.

5.5 Limitations of Study

Some of the limitations of the study: Firstly, the independent variables that have been stated in this research are not limited to three (3). Therefore there could be more variables to measure and assess the effect of inventory management practices on operational performance. Secondly, the research study only focused on warehousing firms which are situated in Mombasa County thus making the research vague for such a broad industry. The remaining firms of the industry are left unrepresented.

5.6 Suggestion for Further Studies

From the recommendations, it shows that the positive effect of Inventory Management System, Strategic Supplier Partnerships, and Information Communication Technology operational performance of the warehousing firms in Mombasa County were irrefutable. Further studies should be considered to explore the drivers and the challenges of inventory management practices in warehousing firms in Mombasa County. This would be useful to understand the drivers that influence the embracement of inventory management practices and the challenges being faced by warehousing firms who have embraced inventory management practices.

Additionally, a study on effects of inventory management practices on operational performance in warehousing firms in different Counties or firms in different sectors of the economy. The types of inventory management practices embraced by different firms will differ depending on the sector of its operations.

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APPENDICES

Appendix I: Introduction Letter

UNIVERSITY OF NAIROBI
MOMBASA CAMPUS

Telephone: 020-2059161
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsities
Our Ref: D61/69275/2013

P.O. Box 99560, 80107
Mombasa, Kenya

DATE: 12TH OCTOBER 2016

TO WHOM IT MAY CONCERN

The bearer of this letter, **Naomi Nduta Gitau** of Registration Number **D61/69275/2013** is a Master of Business Administration (MBA) student of the University of Nairobi, Mombasa Campus.

She is required to submit as part of her coursework assessment a research project report. We would like the student to do her project on ***The Effect of Inventory Management Practices on Operational Performance of Warehousing Firms in Mombasa County.*** We would, therefore, appreciate if you assist her by allowing her to collect data within your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organization on request.

Thank you.

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MOMBASA CAMPUS

Zephaniah Ogero Nyagwoka
Administrative Assistant, School of Business-Mombasa Campus

Appendix II: Questionnaire

The questionnaire has been structured with the intention to collect data on a research study, "The effects of inventory management practices on operational performance of warehousing firms in Mombasa County". Any information collected shall be confidential and will only be used for academic aim only.

Kindly fill-in and tick where appropriate.

(Optional)

Name and Title of the respondent ……...

Name and location of your warehousing firm……..

Part A*:* General Information

1. What is your position in the firm?

   Warehouse manager [ ]

   Warehouse supervisor [ ]

   Material handler [ ]

   Forklift operator [ ]

   Other (specify)…….

2. Duration the firm has been in operation. Less than 10 years []Above 10 years []

3. How many employees work for your organization?

   0 - 49 people [] 50 – 99 people [] 100 - 149 people [] Over 150 people []

Part B: Inventory Management Practices

Please indicate using the scale which of the following inventory management practices are successful in the warehousing firm.

Scale: (**1**=very small extent**, 2**= small extent**, 3**= moderate extent, **4**= Large extent, **5**= to a very large extent *(Tick as appropriate*)

	Inventory Management System	**1**	**2**	**3**	**4**	**5**
1	Prepare inventory budgets					
2	Review inventory levels					
3	Carry out replenishment of stock					
4	Carry out inventory tracking					
	Strategic Supplier Partnership					
4	Long-term relationships					
5	High level of trust					
6	Mutual information sharing					
7	High level of good communication					
	Information Communication Technology (ICT)					
8	Review of inventory levels					
9	Determination of appropriate maximum and minimum inventory levels					
10	Determination of appropriate reorder level of stock					
11	Availability of adequate stock at all times					
12	Use of inventory management techniques to determine inventory levels					

Any other? Please indicate.

……

……

……

Part C: Operational Performance

Kindly indicate using the scale below on the effects inventory management practices on operational efficiency in the firm

Scale: (**1** = Strongly Disagree, **2** = Disagree,**3** = No Opinion, **4** = Agree,**5** = Strongly Agree *(Tick as appropriate*)

	Operational performance	**1**	**2**	**3**	**4**	**5**
1	Improved labor productivity					
2	Enhanced customer service					
3	Facilitates standardization of inventory movements					
4	Improved cycle counting					
5	More efficient use of available warehouse space					
6	Faster inventory turns					
7	Reduction in inventory paperwork					

Any other? Please indicate.

……

……

……

Thank you for participating

Appendix III: List of Warehousing Firms in Mombasa County

	LIST OF WAREHOUSING FIRMS IN MOMBASA COUNTY
1	ABBAS TRADERS LTD
2	BRYSON EXPRESS LIMITED
3	CARGIL KENYA LTD
4	CONSOLIDATED(MSA) LTD
5	LULA TRADING COMPANY LTD
6	TRANSPARES(KENYA) LTD
7	YALFA CARGO HANDLING LTD
8	BAHARI TRANSPORT CO. LTD
9	CHAI TRADING COMPANY LTD
10	LIVERCOT IMPEX LTD
11	MITCHELL COTTS FREIGHT (K) LIMITED
12	PEERLESS TEA SERVICES LIMITED
13	RISALA LTD
14	UFANISI FREIGHTERS LIMITED
15	UNITED(EA)WAREHOUSES LTD
16	BLUE JAY LOGISTICS LIMITED
17	CORRUGATED SHEETS LIMITED
18	INTERNATIONAL COMMITTEE OF THE RED CROSS
19	KENYA HAULAGE AGENCY
20	M/SCORRUGATED SHEET LIMITED
21	MBARAKI PORT WAREHOUSE (K) LIMITED
22	MULTIPLE HAULIERS (EA) LIMITED
23	P.N MASHRU
24	ROADTAINERS (MSA)LTD
25	SDV TRANSAMI KENYA LIMITED
26	SOUTHERNSHIPPING SERVICES LIMITED
27	SPEDAG INTERFREIGHT KENYA LIMITED
28	TRANSPARES(KENYA) LTD
29	YALFA CARGO HANDLING LTD
30	KENYA BONDED
31	BRANDED FINE FOODS
32	BATA SHOE
33	EAST AFRICAN PACKAGING
34	MARSHALLS
35	STANDARD OLLING MILLS
36	AVA
37	MABATI ROLLING MILLS LTD
38	DOSHI AND CO. HARDWARE
39	CMC

40	STEELMAKERS LTD
41	CHAI WAREHOUSING LTD
42	UNEECO PAPER PRODUCTS
43	TRANSAFRICA MOTORS LTD
44	TRANSTRAILERS
45	KUEHNE+NAGEL LTD
46	KENYA GENERAL INDUSTRIES
47	ALLIED LIMITED
48	KENYA PETROLEUM REFINERY LTD

Source: Kenya Revenue Authority: KRA (2016)

THE EFFECT OF INVENTORY MANAGEMENT PRACTICES ON OPERATIONAL PERFORMANCE OF WAREHOUSING FIRMS IN MOMBASA COUNTY

ORIGINALITY REPORT

%13	%8	%4	%7
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.ijbhtnet.com Internet Source	%2
2	Submitted to Bolton Institute of Higher Education Student Paper	%1
3	Submitted to Eiffel Corporation Student Paper	%1
4	chss.uonbi.ac.ke Internet Source	%1
5	Elsayed, Khaled. "Exploring the relationship between efficiency of inventory management and firm performance: an empirical research", International Journal of Services and Operations Management, 2015. Publication	%1
6	Carla Curado. "The knowledge-based view of the firm and its theoretical precursor", International Journal of Learning and	%1

03/11/2016

Approved as a True Copy