

**INVENTORY MANAGEMENT PRACTICES AND SERVICE
DELIVERY OF MAJOR SUPERMARKETS IN KENYA**

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DECLARATION

This research project is my original work and has not been submitted for any degree in this or any other University.

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ABSTRACT

In the present day business environment, organizations must be cognizant of the role that their supply chain play for firms to survive and meet their customer demands. An efficient supply chain is necessary in ensuring a timely delivery and quality standards to the market. The general objective of the study was to establish the effect of inventory management practices on service delivery of supermarkets in Nairobi. The specific objectives was to establish the inventory management practices commonly used by supermarkets in Nairobi, namely, the vendor managed inventory, economic order quantity, just-in-time and the A-B-C model. In addition, the sought to determine the relationship between inventory management practices and service delivery of major supermarkets in Nairobi, Kenya. The target population comprised of the supermarkets Operations manager and Procurement manager that were deemed to be knowledgeable to the research subject matter. Primary data was collected using a questionnaire with both open ended and closed ended questions and administered using drop and pick later method. For analysis, both descriptive and inferential statistics were utilized and the results interpreted in terms of percentages and means score and presented in tables and figures. The study established that the supermarkets have employed the four inventory management practices in different proportions with the Just-in-time inventory system being the most commonly used followed by the vendor managed system. The JIT system is used popularly used by the supermarkets in managing the perishable goods such as milk, bread and groceries while the vendor managed inventory system is used in managing the high value products in conjunction with the ABC system where the high value and small in size products are supervised by dedicated members of staff in addition to the use of security mechanism. The findings show that the adoption of the inventory management practices has majorly led to the improvement of the relationship between the supermarket and its suppliers and from the same positive relationship; there is high product availability in the supermarket. The regression analysis reveal that the four independent variables contribute about 55.8% to the service delivery level of the supermarkets while other factors not studied in this research contributes 44.2% of the supermarket service deliver. The study recommends that for effective inventory control, the management should adopt an effective working capital management policy that will optimize the payment to suppliers and hence facilitate efficient delivery of products.

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ABBREVIATIONS AND ACRONYMS

EOQ	Economic Order Quantity
IMP	Inventory Management Practices
JIT	Just-in-Time
MRP	Materials Requirement Planning
R-A Theory	Resource-Advantage Theory
SCT	Strategic Choice Theory
SPSS	Statistical Package for Social Sciences
TCA	Transaction Cost Analysis
TCE	Transaction Cost Economics
TMT	Top Management Teams
VMI	Vendor Managed Inventory

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The inventories of an organization are critical to the management of an enterprise because of their direct influence on profits and the liquidity position of the firm. Effective management of inventories is essential for the organization in order to reduce cost as well as winning the confidence of the customers and also fulfilling their expectations. Heizer and Render (2014) further opine that modern management do appreciate that a regular inventory review can reduce the level of capital tied up in a firm's stock without hampering the cost and customer's goodwill and consequently the firm overall performance. Hence an organization which overlooks the management of its inventories will have challenges relating to long-term success and may not survive. Conversely, a well managed inventory can decrease the levels of inventories significantly without adversely affecting the business smooth running, while the inventory surplus may lead to additional cost, hence decreasing returns, (Pujari, 2012). Therefore, the primary goal of management of inventory is to achieve an optimum level of stock that avoids too much or too little stock that will lead to interrupted production and sales.

A firm's inventory management practices are concerned with the recording and monitoring of level of inventory, projecting demand in the future as well as making decision when to order and how it should be ordered, (Adeyemi and Salami, 2014). As explained by Miller (2010), stock control is concerned with all actions aimed at guaranteeing a customers access a specific product or service. These activities will include purchasing, manufacturing along with distribution so as to meet the marketing needs of ensuring that products are availed to a consumer.

The service delivery level of a supermarket determines its customer satisfaction. Likewise the competitiveness of a firm is influenced by the capacity of the supermarket to offer goods that the customers want at the right place and time. Indeed over the last decade, the number of supermarkets in Nairobi has increased with different outlets setting their business units within the CBD and in the surrounding estates (Munyoki, 2014). As a result, there has been need for the supermarkets to maintain their stocks at a level that meets their customers demand and at the same time not tying down their resources in form of excessive stock. Hence it is necessary to determine how inventory management practices employed by the supermarkets impacts on the service delivery process of the supermarkets in Nairobi. By determining the same, the supermarkets will gain insightful information that will help them make informed future decision in future.

1.1.1 Inventory Management Practices

Inventory management practices are models that are adopted by various firms used to manage their inventory. Different authorities have attempted to explain what an inventory management practice is. Stevenson (2010) opines that inventory management practices are a system adopted by a firm to manage the investment made in a stock and therefore will include, but not limited to, recording as well as monitoring of level of inventory, projecting demand in the future in addition to making decision when to order and how it should be ordered. On his part, Miller (2010) asserts that inventory management is associated with all activities established to guarantee that customers access a specific product or service. The inventory management practices commonly used include Vendor Managed Inventory, Economic Order Quantity, Just In Time, ABC analysis, Two Bin System(Kanban), Cycle counting, stochastic model, Automatic Replenishment among many but this study will focus only on the first four.

The reason why inventory management is considered important is because of its perceived significant impact on financial resources of a company that can ultimately affect profitability. Dobler (2014) highlight that organizations having good stock control practices may lead to the rise of their total return coming out of better management of working capital, production and satisfaction of their customers (Rajeev, 2008). Indeed as Pirttila and Virolainen (2012) noted the mission of management of inventory is to change wide and overall business goals into active activities with an aim to hit a balance between stock investment and customer service (Heizer and Render, 2014). This is because organizations holding a lot of stock generally bear with increased inventory costs such as management costs, holding and transportation cost. Further, it needs to be appreciated at the present time that vibrant as well as competitive business situation, the managers of inventory of retail companies are more and more under pressure to come up with structures which allows the organization to reduce inventory costs, come up with a better movement of stock in the supply chain, and satisfy the requests of the customers at the right time. High level of customer satisfaction that result from better service delivery result in increased revenue, lower inventory level, greater liquidity, and improved return on investment. Thus, management of inventory signifies a key success factor that displays how efficiently a firm is controlling its inventories.

1.1.2 Service Delivery

The concept of service quality varies with organizations and disciplines. Service delivery means wherever, when as well as away a product or service is provided to clients, (Lovelock and Wright, 2002). Atuahene-Gima's (2012) point out that a firms faced with changing customer demands grow fresh service distribution strategy through acquisition as well as making their private investigative and unfair inventive competency to answer the rivalry.

Helmsing, (2005) assert that service delivery is an arrangement made by a firm to periodically supply a customers' needs. This means that service delivery is a deliberate obligatory decision by a firm's management to deliver or serve goods and services to the beneficiary. Service delivery therefore is a set of principles, policies or standards used to direct the design and offering of services provided by a service provider with a view of providing a regular service to a group of users. The indicators of service delivery consist of responsiveness, tangibility, empathy, reliability and accessibility. The managerial view of service concept is a sequence of elements which require a competent coordination and control, whereas the service is strictly standardized. This paper adopts the production oriented approach to service quality.

1.1.3 Major Supermarkets in Nairobi

The definition of major supermarkets varies depending on the state and the industry. More to the number of employees, there other methods used to categorize major corporation include annual sales, value of assets, net profit and the number of branches a supermarket has, which is divided into tier 01 with 15 branches and above, tier 02 with 5 to 15 branches and tier 03 with 4 branches and below. Major businesses are usually dominant in their field of operation. In Nairobi, for example, the five major supermarkets control up to 70% of the market share and they include Nakumatt, Uchumi, Tuskys, Naivas and Ukwala (Choppies).

The City Council of Nairobi 2016/17 Licensing department has categorized the supermarkets based on the nature of the businesses they operate, the area they occupy and location of the business. The large and small supermarkets have been separated as the annual fee charged is different. The supermarkets have been categorized as either small or large based on the area in which they occupy. The large supermarkets occupy an area greater than five thousand

square feet. These major supermarkets in Nairobi operate in a competitive environment in which the level of competition has been intensified from the small and upcoming supermarkets as well as foreign supermarket chains. For example, along the Thika Super Highway between Allsops and Kenyatta University a distance of about 3km there are 3 branches of Nakumatt supermarkets, one Naivas, one Uchumi not to mention other smaller Supermarkets like Quick mart and KassKass located in Githurai (Munyoki, 2014). Further, the researcher asserts that supermarkets try to locate themselves in areas with high population that has enabled purchasing power to maximize on returns. They operate in very competitive environment as seen above and usually lower prices on particular commodities from time to time to attract as many customers as possible to enhance loyalty and market share. In addition loyalty cards have been introduced where by each purchase is rewarded by points which can be redeemed to cash at a later date.

1.2 Research Problem

One of the most important components of inventory management is operation management discipline and consequently to the firms operations. Ahmad and Zabri (2016) posit that the inventory management is an important activity of a manager's day to day activity because it affects the financial asset of a business and by extension a firm's profitability. Dobler (2006) stress this position by claiming that firms with good inventory management can increase their overall profit level, production capacity and customer satisfaction. The ability of a firm to increase their customer's level of satisfaction is dependent upon their ability to deliver the goods and services that are needed by their customers in a manner that meets the expectation of the customer. Consequently, Heizer and Render (2014) argue that the duty of inventory management should be to change firms' overall trade goals into functioning activities in day-to-day inventory management and at the same time raid a stability involving inventory

investment as well as customer care. Therefore, it is important that a firm establishes an appropriate inventory management system not only to improve its profitability level but also to meet the customer demands, both in the short and medium term. Inventory management affects also the service delivery ability of a firm.

Inventory management practices have attracted the attention and studies by different scholars, both locally and at the international arena. Kumar, Anzil, Ashik, Ashwin, and Ashok (2017) sought to investigate the realisation of effective Inventory management system through selective inventory control. The findings were that the inventories of firm should be classified and updated periodically, for better Inventory Management and to gain competitive advantage over its competitors. Ranganatham (2010) researched on Inventory Management (IM) Practices in Small Scale Enterprises in India and found that for the small scale traders, not many systematic and scientific methods are used for managing finances of the traders and that Inter-industry differences exist on matters relating to inventories. Jonsson and Mattsson (2008) looked at investigating the practices of stock control and its implications on planning performance of manufacturing and distribution firms in united Kingdom and found that the mode of relating a Material Planning Method touch its alleged performance especially the capacity to assess regularity of safety stock and therefore the firms planning performance.

Locally, Gitau (2016) studied the consequence of practices of inventory control on an organization's productivity in Parastatals in Kenya. The finding was that the adoption of inventory management practices among the public entities had a positive effect on the productivity of the Parastatals. Similarly, Kinyua (2016) researched on the consequence of control of inventory practices on the performance of consumer goods manufacturing companies in Nairobi Kenya. The findings were that EOQ has more impact on operational performance of consumer goods manufacturing companies in Kenya in comparison to the

other inventory practices such as JIT, VMI, and ABC. Onyango (2016) investigated the effect of management of inventory practices on delivery service of charitable firms in health sector in Kenya. The research findings were that inventory management affects positively the delivery service of charitable firms in the health sector. In the recent past, inability of supermarkets such as Uchumi and Nakumatt to effectively manage its inventory made the giant supermarkets to almost come to a halt. The capacity of a supermarket to adopt inventory management practices, for example A-B-C system will be able to differentiate the supermarket stock according to its value and be able to avoid situation whereby a supermarket stocks large volume of stock with a low value and occupying a large shelf space.

From the above studies, it is evident that though several studies have sought to find out the extent in which inventory management practices are employed by business organization, the effects of IMP on service delivery of supermarkets has not been researched on in depth - except by Onyango (2016), but even so its impact on a retail chain like supermarkets has not been studied. Therefore, the research sought to answer the following research question: what is the effect of inventory management practices on service delivery of major supermarkets in Nairobi, Kenya?

1.3 Research Objectives

The general objective of the study was to establish the effect of inventory management practices on service delivery of supermarkets in Nairobi. The specific objectives were:

- i. To establish the inventory management practices commonly used by supermarkets in Nairobi, Kenya.
- ii. To determine the relationship between inventory management practices and service delivery of major supermarkets in Nairobi, Kenya.

1.4 Value of the Study

The reason of the research is to offer sufficient information regarding the influence of inventory management practices on the performance of supermarkets in Kenya. Therefore, supply chain professionals and finance managers in these organizations will be able to understand the operations of various inventory practices and how they impact on their service delivery process. Considering the increased level of competition, the study will form a valuable source of knowledge to the supermarket management.

Stakeholders in the retail industry, for example customers, business bodies and regulatory authorities will also derive benefit from the study in the sense that they will be able to appreciate how quality of their service delivery is affected by the inventory management practice that they adopt. Supermarkets will be able to estimate their future stock demand to meet fluctuating customer demand.

The study will be valuable to scholars and academicians in advancement of their knowledge. It will also give them a chance to improve on the studies done on inventory management or close related topics.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the review of various studies conducted by other researchers on concept of inventory management practices and service delivery. Among the areas reviewed the theories that anchor the study, discussion on the various practices of inventory management, effect of the practices and service delivery of the supermarkets. In addition, a review of the various empirical studies carried out is covered and finally the study conceptual framework is described.

2.2 Theoretical Foundations

The debates relating to the effect of inventory management practices on service delivery level of supermarkets can be looked at from three theories namely; transaction cost theory, resource advantage theory and strategic choice theory. These theories at the same time explained the reasons why organizations adopt different inventory management practices.

2.2.1 Transaction Cost theory

Transaction Cost Analysis (TCA) theory was advanced by Williamson (1975) and was later improved in subsequent years. The theory shape arguments for a positive relationship between a firm inventory management and firm performance by recognizing the role of inventory management practices that helps organizations to gain the same advantages due to hybrid governance mechanism (Huo, 2012). Transaction cost economics (TCE) posit that Transaction costs are the expenses created as a result of coming up with fair market prices, carrying out economic exchange and negotiations. For example in the case of the Kenyan supermarkets, harmonization of data transmission and cooperative communication in the

supply chain with the suppliers requires information integration cost. The operational integration refers to the ability of the supermarket to facilitate coordinated decisions making in the supply chain.

However, Faems (2008) assert that transaction theory makes firm to become susceptible to its exchange partner's opportunistic behavior when it is difficult to assess the partner's performance though, he opines that trust decreases some of the dangers and uncertainties related to such economic exchanges. The proponents of the relational perspective argue that trust can be used as an alternative governance system since it guarantees exchange partners that the other party will not act opportunistically even when they have opportunities to do so. Therefore reducing the requirement of coming up with complex contracts that may be expensive as well as triggering wide information sharing between exchange partners and aids in mutual adjustment if the need be (Bennett & Klug, 2012).

2.2.2 Resource Advantage Theory

Resource Advantage Theory (R-A Theory) was advanced by Hunt and Morgan (1995) to give explanation on the competition process and is considered a more inclusive option to resource-based theory which explores the how the organization's performance is affected in the situation of vibrant markets. The foundation of R-A Theory is on the importance of a firm's resources through a process of creating, discovering, and exploitation in affecting its level of efficiency and effectiveness. In addition, it focuses on the need of the organization to exploit its learning and innovation capabilities to be on the top of the market thus increasing its competitive advantage. The general financial performance outcome is then impacted on by societal institutions, societal resources, competitors, societal institutions, public policy suppliers, and consumers (Hunt, 2011).

The resource advantage theory explains that each organization has a unique set of resources which if well utilized may enable the firm to gain comparative advantage or be on top of its market therefore attaining greater competitive advantage leading to superior performance. As retail chains like supermarkets are frequently seen as not having enough resources, their ability to identify which resources lead to improved retail performance is both a useful and beneficial exercise. R-A Theory also emphasized on inventory management as a source of advantage and dynamism since inventory levels can be used to fend off unnecessary competition from other players on the environment in which firms operate. Generally, the resources that a firm can utilize to gain competitive advantage include financial, human, organisational, informational and relational (e.g. customer loyalty program, public relations activities) (Megicks & Warnaby, 2008).

2.2.3 Strategic Choice Theory

Strategic Choice Theory (SCT) was advanced by Child (1972) and suggests that organizations management play a vital part in determining the outcome of a firm and reinforces the function of leading groups in shaping the courses of a firm's strategic action. Through their collective role, the top management of a firm promotes internal and external change of the organizations they manage which will eventually impact on the firm structure, strategy and organizational performance (Quigley & Hambrick, 2012). A main idea related to the strategic choice literature is managerial judgment, defined as the freedom of action that top managers have in making strategic choices. Campling and Michelson (2008) recognized that SCT appreciated the inter-dependence between organizations and atmosphere and activities versus the overall performance of a firm. Therefore, SCT holds that an

organization's choice depends on the influence of the environment such as suppliers and decisions made by the management on inventory.

The strategic choice theory argues that by an organization building operational slack, enhances an organization's adaptive strategic behavior, as the amount of slack that an organization has opens up or constrains decision-making. As a result, Mousa et al. (2013) argues that as the slack goes up, for example inventory, it gives the top management teams (TMTs) the requisite assurance and elasticity during the high uncertainty time by easing capital restrictions and allowing for investments that take advantages of emerging opportunities resulting from the process. For the case of supermarkets, higher levels of inventory slack will provide business units the needed flexibility to adjust to and come up with the necessary changes in the organization. (Mousa & Reed, 2013). This means that by a supermarket having a higher levels of inventory slack, as a result of the adoption of inventory management practices, this provides a buffer against external influences which reduce the need for adaptive initiatives.

2.3 Inventory Management Practices

Stock control is one of the important activities of retail operations management. Retailers are constantly preoccupied with reducing the risk of stock outs by having buffer inventory but at the same time appreciating the costs of holding idle inventory as well as cost of losing sales. Therefore, inventory management is an important tool for effective and efficient organization operations. The inventory management practices that will be discussed in this study include Economic Order Quantity, Vendor Managed Inventory, ABC Inventory Model and Just in Time.

2.3.1 Vendor Managed Inventory

Vendor managed inventory (VMI) is a planned agreement between a seller, often a manufacturer or seller, and a purchaser where full control of stock management and replenishment decisions for retailers is taken by the supplying organization. Tang, (2006) observe that under VMI, the buyer gives the supplier the inventory data and the supplier make use of this information to monitor inventory or place new orders. This means that the retailer's inventory management duty is by-passed and the duty of stock replenishment decisions moves from the buyer to the supplier. This will also mean that the supplier is given access to the purchaser's inventory and for reasons of tracking the customer's stock level will demand information. Consequently, the supplier has the right and the obligation to replenish the purchaser's inventory according to collectively agreed inventory control concepts and targets (Kang and Kim, 2012).

Zavanella and Zanoni (2009) assert that VMI program is associated with significant benefits in a firms supply chain in the sense that it gives retailers competitive advantage since it enhances a higher availability of products and enables suppliers to improve production and marketing efficiencies. Similarly, VMI results in supplier increasing replenishment frequencies with lesser quantities and decreases stock level for all involved in distribution and the supply chain. It also leads to greater inventory cost saving and customer satisfaction. Xu and Leung (2009) opines that with appropriate application of VMI, supplier will be able to achieve more flexibility in production scheduling and decision making on quantity and distribution. Similarly, a supplier is able to smooth the fluctuations in demand because of better visibility leading to reduction on the bullwhip effect and demand uncertainty.

2.3.2 Economic Order Quantity (EOQ)

The economic Order quantity (EOQ) is an ordering quantities system that minimize the stability of cost between holding costs and re-orders charges. (Ogbo, 2014).The EOQ model is based on a predictable supply chain, ordering cost, holding cost and purchase price of the product. According to Porteus (2008), the hypothesis of inventory management model is based on the fact that the organization knows with certainty the number of items of a particular inventory to be used or demanded for a specific time or period. This implies that the use of stocks or sales made by a firm throughout the period remains unchanged. EOQ assumes that when stocks reach zero level, an order for replenishment should be placed without further delay. The rationale of EOQ overlooks buffer shares that are preserved to provide for variations in lead-time and call for.

2.3.3 Just-In Time (JIT) Inventory

Ma and Fei (2014) describe Just-In-Time (JIT) inventory technique is a method in which the organizations products are ordered in small quantities in portions required to fulfill individual customer's desires. This implies that the device are carefully programmed to be obtain the time they are required resulting in a 'zero' inventory level. The zero inventory level can be understood from the physical level understanding that is the absolute number of inventory as little as possible and infinite close. However, from the legal perspective, the Zero Inventory implies that the ownership of the inventory does not belong to the firm even if stock piled high with inventory.

Mazanai (2012) assert that the elements of JIT comprise shared product design with suppliers and clients, movement in the direction of unmarried sourcing immediate suppliers, reduced machine set- up times and overall preventive protection. Its miles an inventory approach that

is carried out to enhance the return on funding of a commercial enterprise by decreasing inventory and its related wearing fees.

2.3.4 ABC Inventory Model

ABC is an inventory management system for prioritizing the management of inventory into three classes - A, B, and C. In the system, most management energy and oversights are directed to the management of A items while C items get the least attention and B items are in-between (Zavanella & Zanoni, 2009). According to Mandal (2012) ABC stock control method recognizes the fact that a small portion of a firms inventory might constitute the bulk of cash price of the overall inventory used within the production manner, while a significant large portion may constitute a small a part of the cash price of stores. The monetary value of the stock is ascertained by multiplying the quantity of fabric of every item by using its unit charge.

Ng (2007) conclude that because of the operation of this system, a firm will have to manage with a lot of attention the high value gadgets compared to the low value items. Every item of stock is given A, B or C denomination depending upon the quantity spent for that precise item. "A" or the highest fee gadgets need to be under the tight control and beneath responsibility of the most experienced personnel, even as "C" or the bottom price can be below simple physical manage.

2.4 Relationship between Inventory Management Practices and Service Delivery

Inventory management is important in an organization in enhancing on its performance and obtaining high levels of client's approval. Based on Nzuza (2015) the material apprehended

by a company contributes much on the firm's resources. Service delivery should be designed, established, refined and debugged to satisfy the needs of the customer. Effective service delivery for a firm can be enhanced using different encounters including communication meet, usage encounters as well as service encounters (Payne *et al.*, 2008). Inventory management practices oblige diverse anticipated outcomes which are unusual from business such as decrease in the customer search of products in the shelves, more purchasing options, establishment of a one stop shop whereby customers will not have to go to different outlets to get their products, more recognition of chances where suppliers can add value and enhanced associations with suppliers that enhances service delivery improvement (Dabholkar and Overby, 2012).

Tumuhairwe (2012) suggest that in firms where inventory control choices have been effective, the organization will have developed inventory planning models that focus on the challenges of inventory volume as well as timing. Inventory management models, such as JIT and ABC are designed with an aim to achieving a steadiness involving the ordering costs of obtaining as well as holding stock and in the process improve the service delivery process to its customers. Variability of inventory that does not match customer demands arises because of the inability of the firm to relating the inventory management systems base on the baseline values. Effective inventory management systems help a company to know as well as maintaining an optimal level of speculation in inventory so as to attain needed outfitted performance. Sila, Ebrahimpour and Birkholz (2006) assert that the goal of inventory management is to achieve client's demand and to encounter client request whereas meeting client's needs, it becomes companies obligations to make sure that stock-outs are evaded with less cost of inventory. Inventory level variability is triggered by features like diverse

info distribution as well as scarce predictions. He established out that inconsistency of stock mainly occurs due to company's inability to apply the inventory regulator systems.

Ogbo and Onekanma (2011) opine that by a supermarket, for example, having inventory in its store is taken as an extra benefit for the firm since client will be fulfilled immediately hence improving performance rate. Likewise, accessibility of stock within is beneficial in terms of inventory suitable delivery of service and stock out will be minimal. Effective management of inventory improves the level transparency in inventory management which results in eliminating dishonesty, unfair procurement procedure, purchasing of low quality goods from a firm that is known to be every expensive (Githui, 2012).

The basic objective of inventory control practices is to diminish Inventory Investments as well as to maximize clientele service. It is a strategy which objectives may be varying or even unintended conflicts, the part played by the inventory control is therefore to bring stability to the goal according to the existing situations as well as atmospheric challenges (Thummalapalli, 2010). The ultimate goal of stock control is to exploit clientele's services by sustaining a suitable quantity of stock with a lower cost of production. Cost of Inventory involves the expenses incurred in the process of managing inventory system. Inventory controlling resolution entails a set of ideologies.

Liu et al., (2010) argued that organization leadership as well as workers possesses little information about the application of the Economic Order Quantity which contravenes the company's achievement. Companies purchase and sell their stocks, hence lead to the rise of a balance at the end of the year, therefore carried forward to the subsequent year. Immediately the company realizes this, it can come up with an online stock control tool, which breaks the inventory into categories through the correlation of the stocks with its customer.

Subsequently company's functions differently and in diverse fields, the stock can be categorized base on seasons or financial annual review. To sustain their customers' intimacy the company, has to engage on a demand prediction so as to maintain an efficient supply chain that satisfy the customers' demand and satisfaction.

Base on Cachon and Olivares (2010) obsolescent stock has become a conspicuous occurrence in a number of firms. A number of firms are struggling to eliminate extreme stocks. If the stocks become obsolescent they become unusable hence unable to yield any profit to from the services hence consuming the available storage space in the warehouse, and taxes charged. These extreme charges might attempt to raise the company's total cost of production. The company must initiate methods and steps to be followed by inventory managers in identifying extreme cost of inventory as well as utilizing the excess stocks before it becomes obsolete (Thummalapalli, 2010). Base on the findings of Ashok (2013) the choice of the amount of inventory to purchase as well as when to do that, generally follow the ordering of what the firm thought to be compulsory. The usual is about buying the much you require when you required it which is typically applied by a number of firms where by, for them the choice of the quantity to buy is more significant if the purchase quantity and planned to use them are very close.

2.5 Empirical Studies

Kumar, Anzil, Ashik, Ashwin and Ashok (2017) sought to establish effective Inventory Management system through selective inventory control. The researchers established effectiveness of inventory management using ABC, XYZ, HML and FSN analysis. In addition, selective inventory control methods of one dimensional and two dimensional methods were also performed. The results of ABC and XYZ Analysis were found to be

different, depending on the nature of obsolete items. They found that high value stock was stored and kept under lock and strict supervision. Further, from the inventory control point of view, stock ought to be maintaining to care about the lead-time expenditure as well as also to give security inventory.

Ahmad and Zabri (2016) investigated inventory management practices among Malaysian micro retailing enterprises and adopted a questionnaire survey to gather the data. From 100 completed replies, the results shows that most responding enterprises have adopted both unsystematic and systematic inventory management approaches in their business. It was found that a fully systematic approach of inventory management was only utilized by 33 per cent of the total respondents. The common inventory management techniques used were EOQ, Bar Code Tagging and VMI are only applied by a small number of respondents.

Panigrahi (2013) attempts to set up the correlation involving inventory management and profitability among the Indian cement companies above ten years period between 2001-2010. The dependent variable was represented by gross operating profit as well as the correlation involving inventory control and productivity was analyzed using sample of five top Indian cement firms. This research utilizes Regression Analysis to find out the effect of stock conversion passé over Gross Operating Profit taking Current Ratio, the company's volume and Financial Debt Ratio as regulators variables. The conclusions were that there is an important Pessimistic Linear Correlation involving stock change time as well as productivity.

Koti and Baheti (2010) in their research attempted to scrutinize existing guidelines as well as applications of Working Capital Management at Saregama India Limited and try to ascertain

the strengths as well as weaknesses of the firm, the chances it has as well as the dangers it encounters. It comprises a thorough examination of the numerous aspects touching the Working Capital necessities of the firm as well as the influence they require on its productivity. The research conclusions suggested a number of resolutions to settle the anxiety that have been realized in those areas.

Wangari and Kagiri (2015) analyzed the consequence of the effect of stock control practices on competitiveness/effectiveness of Safaricom, Kenya. The investigators applied an expressive research design with high-ranking employees in the Finance department, customer service, supply chain management as well as commercial (sales and marketing) division being the main respondents targeted. Expressive as well as inferential statistics were employed, hence the conclusions were that inventory reduction, and stocks speculation as well as inventory turnover shakes the competitiveness of Safaricom Ltd.

Mwangi and Thogori (2015) studied the position of inventory controlling on the operations and performance of food processing companies in Kenya. The research used 110 respondents which is an equivalent to the sample needed alongside a questionnaire used to gather raw information. The research conclusions argued that an increase in one unit in control of the cost production, record decreased loss as well as constant supply translates to an increase in the performance score of food processing industry. The researcher suggested that inventory control must be well practiced as well as having a better administration on cost management like carrying cost, cost of ordering as well as maintaining production should be coped so as to cater for the customers' demand, rise production revenue as well as recognizing opportunities.

2.6 Conceptual Framework

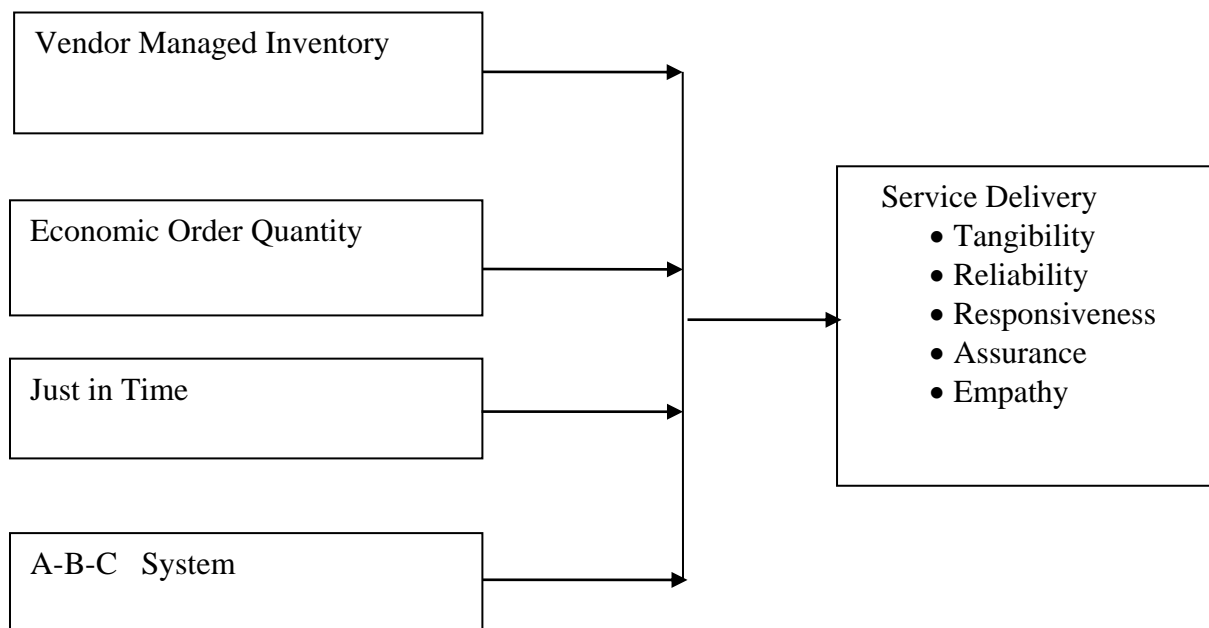
The research will be based on the conceptual framework that has VMI, EOQ, JIT and ABC inventory model as shown below. On the other hand, the dependent variable is the firm service delivery. Supermarkets strive to achieve high quality service delivery in the retail sector.

Figure 2.1 Conceptual Model

Independent variable

Inventory Management Practices

Dependent variable



Source: Researcher (2017)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the approach that was applied in the research so as to attain the research goals. The parts enclosed in this chapter involve the study population, data gathering, research design, data scrutiny, as well as procedures.

3.2 Research Design

A research design involves a tactical outline for the gathering, quantifying as well as analyzing of data that depends on the phase in which information pertaining the subject of the study is advanced (Sekaran & Bougie, 2010). The research emulated an expressive research design. This research design was believed to be suitable since it helps the researcher to gather raw information through acquisition choices, behaviors, attitudes, values or reactions from chosen respondents so as to comprehend the cluster or the entire population represented.

3.3 Population of the Study

The population of the study comprised all the major supermarkets in Nairobi. According to the Nairobi County licensing department for 2017, a large supermarket is one that occupies between 1,000 to 5,000 square feet. Based on the same information, there were 17 major supermarkets as at 31.12.2016 (Appendix II). Since major supermarkets are not many, a census was carried out.

3.4 Data Collection

The research uses first hand data that was gathered through semi structured questionnaire. The questionnaire comprised of the open-ended as well as closed-ended set of questions. Open-ended questions enable the respondents to give full and meaningful answers using their own knowledge and feelings and closed questions help the respondents to respond to a question that provides data that can be quantified. Walliman (2011) explained that the use of questionnaire guaranteed confidentiality, saves on time and is very easy to administer. The respondents were Procurement and Operations managers in the respective supermarkets. The questionnaire was made up of three sections. Section A covered the demographic information of the respondents and organization while section B sought to determine the extent in which inventory controlling practices are adopted in the supermarket chains. Section C wants to set up the shock of inventory management practices on service delivery in the supermarkets.

3.5 Data Analysis

The collected data was examined by the use of Statistical Package for Social Sciences (SPSS) tool. In particular mean and standard deviations was employed to review the reactions as well as to highlight the degree of relationships and variances. The outcomes were given in form of tables. To inaugurate the correlation that exist amongst inventory management practices and service delivery, a regression analysis was used.

The regression equation assumed the following form:

$$Y = \alpha + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + \epsilon$$

Y = Service Delivery

α = Constant (Co-efficient of intercept)

X₁ = Vendor Managed Inventory

X₂ = Economic Order Quantity

X₃ = Just-in-Time

$X_4 =$ ABC system

$\hat{\epsilon}_i =$ Error Term

$B_1 \dots B_5 =$ Regression co-efficient of three variables

To test significance of regression model, the study utilized the F-statistics while the t – statistics was used to test significance of regression coefficients. Both the F and t-statistics were tested at 95% confidence level.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter offers the scrutiny, results, as well as the argument. The outcomes are given various forms like Frequency Distributions Standard Deviations, Percentages as well as Means. An overall of 15 questionnaires were distributed to 15 supermarkets. The questionnaire returned with answers, were again edited for purposes of extensiveness as well as steadiness, 13 of questionnaires issued were reverted. The number of the reverted questionnaires' signified a reaction percentage of 86.7% and there the rate of this feedback was believed to be satisfactory in the recognition of the research goals (Mugenda & Mugenda, 2003).

4.2 Demographic characteristics

The demographic information considered was for both the respondents and the supermarket. the information sought include length of service with the supermarkets, duration of firm operation, number of employees, ownership of supermarket, budget on supply chain, value of monthly turnover, average stock in supermarket and average annual value of stock in the supermarket.

4.2.1 Respondents' information

The research revealed that majority of the respondent 46.2% had worked in the supermarket chain for between 5-10 years while 30.8% had worked in the supermarket for over 11 years. This implies that cumulatively, over 76% of the respondents had worked for over 5 years and they are presumed to be versed with the operational activities of the supermarket. More so,

considering that they held managerial positions that involve inventory management on-day-to basis, they were considered to be valuable to the realization of the research objective.

4.2:2 Supermarket Information

The demographic information for the supermarket included duration of supermarket, number of employees, ownership of the supermarket, monthly sales turnover and the average stock turnover. The findings revealed that 46.1% of the supermarkets have operated for more than 15 years; 23.1% were indicated to have been in operation for 11 to 15 years while 15.4% of the supermarkets duration of operation was indicated to be between 6 and 10 years. The supermarkets (15.4%) were indicated to having been in operation for less than 5 years. From the results majority of the supermarkets have been in operation for more than 10 years and therefore they understand the service industry dynamics and the importance of inventory management to their service.

The results on the number of employees was that 46.2% of the supermarkets have employed between 201 and 500 employees; 38.5% of the supermarkets workforce was said to be over 1000 while 15.3% of the supermarkets employees was said to be between 501 and 1000. The number of employees in the supermarkets varied although majority has employed more than 1000 and this can be attributed to the number of branches and size of the supermarkets.

On the ownership of the supermarkets the results were that 76.9% are locally owned while 23.1% were indicated as foreign owned. This implies therefore that most of the supermarkets are owned by locals and thus in order to be competitive in the sector they have to ensure that they have best inventory management. The budget for supply chain activities was that 61.5%

of the supermarkets have dedicated 60% for supply chain; 15.4% have dedicated between 40 and 60 of the supply chain activities while another 15.4% of the supermarkets were said to have dedicated between 20 and 40%. The supply chain activities are important to the supermarkets as it is important to their business survival.

The results show that 46.2% of the supermarkets turnover was between 100 and 300 million; 30.8 of the supermarkets turnover was indicated as being over 300 million while the turnover for 23.1% of the supermarkets was indicated to be between 50 and 100 million. From the findings, the monthly turnover difference between the supermarkets can be in relation to size, location and availability of different range of products in the supermarkets and this therefore necessitates the establishment of an effective inventory management practices.

On monthly turnover the results indicated that 46.2% of the supermarkets was between 200 and 400 million; 38.5% of the supermarkets maintain an average stock level of 100 to 200 million while 15.3% of the supermarkets was found to be maintaining a stock level of 400 million. From the results, the average value of stock being maintained by the supermarkets varied and this enables the supermarkets to ensure that they have the goods needed by the customers all the time thus promoting delivery of services to its customers.

The results indicated that 38.5% of the supermarkets average annual turnover was indicated as being over 20 billion; 30.8% of the supermarkets maintains an average of between 5 and 10 billion while 23.1% of the supermarkets annual turnover lies between 10 and 20 billion. The turnover for the supermarkets is important in order to enable them to deliver services adequately to its customers thus the need for efficient and effective inventory management practices.

4.3 Inventory Management Practices

This section sought to set up the degree to which various inventory controlling practices were being adopted by the supermarkets. . The scores of respondents' was low level of practice usage represent a variable which had a mean score of below 3.0 while the scores of above 3.0 represent respondents' agreement with the usage of marketing practice. A standard deviation of >0.9 implies a significant difference on the impact of the variable among respondents. The specific inventory management practices discussed includes the vendor managed inventory, economic order quantity, just-in-time and the ABC model.

4.3.1 Vendor Managed Inventory

Under the Vendor Managed Inventory, the seller takes a complete management of stock control and replacement choices for the retailers. The results on the actions practiced under the vendor managed inventory are presented in Table 4.1.

Table 4.1 Vendor Managed Inventory

Statement	Mean	Std. Deviation
The vendor uses this information to monitor and replenish inventory	4.154	.899
The supermarket provides the vendor with the information necessary for replenishment	4.077	.954
The vendor is given access to the supermarket inventory and demand information	4.000	1.155
The vendor has the obligation to replenish inventory accordi collectively agreed inventory control concepts and targets	3.987	1.057
Overall Mean	4.055	

Source: Research Data (2017)

The result in Table 4.1 reveals that to a large extent, under the vendor managed inventory system, the supermarket vendors use available information system to monitor inventory in the supermarket

or place new orders on continuous manner ($M=4.15$, $SD=0,899$) and in the process the supermarket provides the vendor all inventory information necessary for replenishment originating from the business unit ($M=4.077$, $SD=0.954$). The low standard deviation means in the answers implies that there was a high level of concurrence among the respondents on their perception with regard to the two practices concerning the vendor managed inventory system. Therefore, vendor management inventory guides the supermarket with crucial information on monitoring and ordering of new product. Similarly, under the same arrangement, the supermarket provides the vendor with access to the supermarket inventory and demand information as well as the authority and the obligation to replenish the purchaser's inventory according to collectively agreed inventory control concepts and targets.

Base on the research, a number of the respondents 82.5% indicated that vendor managed inventory affect service delivery of the supermarkets and in the process they use the available information system to monitor inventory in the supermarket or place new orders on continuous manner. The standard deviation is low implying that there is concurrence among the respondents on their perception with regard to the two practices concerning the vendor managed inventory system. In addition, it was found that the vendor management inventory guides the supermarket with crucial information on monitoring and ordering of new product. The results involve that Vendor Managed Inventory practices has important role in influencing the service delivery of the supermarkets. The outcomes coincided with Dabholkar and Overby (2012) with effective VMI system customers of a retail chain will not have to go to different outlets to get their products, because more identification of opportunities occur under the vendor managed system because the resultant improvement of associations with suppliers that pace service delivery improvement.

4.3.2 Economic Order Quantity

The Economic Order Quantity (EOQ) is explained as the quantities of the system of ordering that diminishes the inconsistency of budget that exist between the cost of holding inventory and the re-orders costs. EOQ therefore, controls the Ideal Order Quantity to be bought by a firm as its inventory if provided with a fixed production cost, rate of demand as well as other variables. The result with regard to the individual EOQ practices employed by the supermarket is presented in Table 4.2.

Table 4.2 Economic Order Quantity

Statement	Mean	Std. Deviation
When stocks reach reorder level, an order for replenishment is placed without further delay	4.231	.599
The firm knows with certainty the replenishment quantity of its items	3.846	1.281
The supermarket stocks or sales made by a firm remains unchanged throughout the period	2.196	1.068
Overall Mean	3.114	

Source: Research Data (2017)

The outcomes in Table 4.2 reveal that applications of the EOQ inventory management practices is such that when stocks reach reorder level, an order for replenishment is placed automatically without further delay (M=4.231, SD=0.599) and the low standard deviation means that there was a high agreement among the respondents. The application of the EOQ system means that most of the supermarkets do not over stock the product and assist them in identifying the fast moving and dormant product. However, to a low extent, the respondents concurred that supermarket stocks or sales made by a firm remains unchanged throughout the period (M=2.196).

The respondents were additionally asked to rate their usage of the Economic Order Quantity in their operations. According with the results, the adoption of the EOQ inventory

management practices is such that an replenishment is placed automatically without a delay and also that the firms do overstock products and the system assist them in identifying the fast moving and dormant product. The findings concur with that of Tumuhairwe (2012) who suggest that in firms where inventory control choices have been effectual, the organization will have developed Inventory Planning Models that focus on the challenges involving inventory volumes as well as timing.

4.3.3 Just –in -Time

The Just-in-Time inventory system is an inventory management technique in which the organizations materials and other commodities are ordered in small quantities needed to fulfil individual supermarket’s desires. With regard to the application of the JIT system by the supermarkets in Nairobi, the outcomes are presented in Table 4.3.

Table 4.3 Just –in -Time

Statement	Mean	Std. Deviation
There exist preventive protection in the supermarket	4.000	.913
There is a shared product design with suppliers and clients	3.692	1.377
The supermarket employs a zero-stock level of its inventory	3.215	1.042
The ownership of the inventory does not belong to the Supermarket	2.923	1.441
Overall Mean	3.458	

Source: Research Data (2017)

The result on Table 4.3 shows that, in the implementation of the just-in-time inventory management system, the supermarkets have established a preventive protection such that they have established a shared product design with suppliers and clients (M=4.000, SD=0.913). However, to a low extent, the respondents agreed to the statement that the ownership of the inventory does not belong to the

supermarket implying that majority of the stock in the supermarket actually belongs the supermarket chains (M=2.9231, SD=1.441).

The research as well needed the respondents' level of conformity with a number of statements concerning Just-in-time. The result indicate that with the implementation of the just-in-time inventory management system, the supermarkets have established a preventive protection such that they have a shared product design with suppliers and clients (M=4.000) and also that the ownership of the inventory does not belong to the supermarket implying that majority of the stock in the supermarket actually belongs the supermarket chains. The results are in line with that of Sila, Ebrahimpour and Birkholz (2006) which stated that the ultimate goal of inventory management is to encounter client request whereas meeting client's needs, it becomes companies obligations to make sure that stock-outs are evaded with less cost of inventory. Inventory level variability is triggered by features like diverse information distribution as well as scarce predictions.

4.3.4 A-B-C Model

ABC is an inventory management system for prioritizing the management of inventory into three classes - A, B, and C. In the system, most management energy and oversights are directed to the management of class A items such as hot drinks and other expensive item while C items get the least attention and B items are in-between it. The results with regard to the implementation of the A-B-C system by the supermarkets are presented in Table 4.4.

Table 4.4 A-B-C Model

Statement	Mean	Std. Deviation
The management has separated items with high value from those of a lesser value	4.231	1.013
There is a dedicated supervisor who manages the high value products	4.128	1.313
The low value products are less supervised by the supermarket management	2.539	1.450
Overall Mean	3.632	

Source: Research Data (2017)

The finding in table 4.4 shows that the management has separated items with high value from those of a lesser value (M=4.2308, SD=1.01274), this is as a result of proper valuation of product in term of the price brought and sold. On the question of whether the low value products are less supervised by the supermarket management, the respondents agreed to a low extent with this suggestion (M=2.539). The high standard deviation among the respondents implies that there was a less agreement among the respondents on their perception.

The results concur with the findings of Kumar, Anzil, Ashik, Ashwin and Ashok (2017) who found that high value stock was stored and kept under lock and strict supervision. Additional, from the inventory control point of view, stock ought to be maintained to care about the lead-time expenditure as well as also to give security inventory.

4.4 Service Delivery

The respondents were asked to give their views on how the implementation of the various inventory management systems by the supermarkets impacted on their level of service delivery. This was significant for the research in order to conclude the performance measures

adopted in the supermarket. The range of the scale was ‘very small extent (1)’ to ‘very large extent’ (5). The scores of respondents’ low level of practice usage represent a variable which had a mean score of below 3.0 while the scores of above 3.0 represent respondents’ agreement with the usage of marketing practice. A Standard Deviation of >0.9 implies a substantial diversity on the influence of the inconsistency between respondents. The finding is presented in Table 4.5.

Table 4.5 Service delivery

Statement	Mean	Std. Deviation
The adoption of the inventory management practices has improved the relationship between the supermarket and its suppliers	4.231	1.092
There is a higher product availability in the supermarket	4.000	.816
The supermarket provides the supplier with opportunities to improve production and marketing efficiencies	3.900	1.000
The supermarket is currently a one-stop-shop where customers can of their products demanded	3.823	.954
The supermarkets has minimized cases of stock outs as a result of adopting inventing management practices	3.714	1.188
VMI results in supplier increasing replenishment frequencies smaller quantities	3.646	.987
Timely delivery of products from the suppliers has been achieved	3.592	1.109
There is a better balance between the cost of acquiring and holding inventory that does not match customer demands	3.077	1.038
Overall Mean	3.748	

Source: Research Data (2017)

The findings in Table 4.5 indicate that the adoption of the inventory management practices has majorly led to the improvement of the relationship between the supermarket and its suppliers (M=4.231, SD=1.092) and from the same positive relationship, there is a high product availability

in the supermarket. In addition, adoption of the inventory management practices has resulted in the supermarkets being able to provide the supplier with opportunities to improve production and marketing efficiencies (M=3.900). On the side of moderate extent, VMI results in supplier increasing replenishment frequencies with smaller quantities (M=3.646) and timely delivery of products from the suppliers has been achieved (M=3.592). Further, on the small extent, there is a better balance between the cost of obtaining as well as investment inventory that does not match customer demands (M=3.077).

4.5 Relationship between Inventory Management Practices and Service Delivery

The study utilized inferential analysis to find out if there was a correlation involving an intervention and an outcome, and to establish the strength of the correlation involving the variables. The Inferential Statistics entails the realization of the coefficient of purpose as well as Multiple Regression Analysis. The Coefficient of Determination is an indication of how well a statistical model is likely to predict future outcomes. The coefficient of purpose, r^2 is the square of the Sample Correlation Coefficient involving results and forecasted standards. As such it demonstrates the degree where changes in the variables can be illustrated by the change in the free variables or the rate in percentages of the disparity in the dependent variables (service delivery of supermarkets in Nairobi) that is explained by all the four independent variables (vendor managed inventory, economic order quantity, just-in-time and the A-B-C inventory management system).

Table 4.6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747 ^a	.558	.492	.61679

a. Dependent Variable: Service Delivery

b. Predictor Variable: (constant); X₁ = VMI, X₂ = EOQ; X₃ = JIT, X₄ = ABC

From the results in Table 4.6, the four independent variables that were studied, explain 55.8% of the service delivery level of supermarkets in Nairobi as represented by the R². This implies that the four independent variables only contribute about 55.8% to the service delivery level of the supermarkets while other aspects not covered in this research contributes 44.2% of the supermarket service delivery. The Standard Error of the estimate (S_e) indicates that on average, the supermarket service delivery level deviate from the predicted regression line by a score of 0.61679.

The researcher piloted a multiple Regression Analysis as to find out the correlation involving boundaries of service delivery of the supermarkets and the four variables of inventory management practices.

Table 4.7: Model Summary of multiple regression for organization performance

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	-.753	.985		-.764	.452
	X ₁	.187	.166	.162	1.122	.272
1	X ₂	.644	.166	.559	3.869	.001
	X ₃	.238	.149	.213	1.596	.122
	X ₄	.173	.251	.115	0.689	.0003

a. Dependent Variable: Service Delivery

b. Predictor Variable: (constant); X₁ = VMI, X₂ = EOQ; X₃ = JIT, X₄ = ABC

As per the SPSS generated Table 4.9, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$) becomes:

$$Y = -.753 + 0.187 X_1 + 0.644 X_2 + 0.238 X_3 + 0.173 X_4$$

The value of the intercept (B_0) indicates that the level of supermarket service delivery when all the explanatory variables are zero is -0.753. This implies that were the supermarkets to withdraw from their existing inventory management practices, then the current level of service delivery will reduce by 75.3%.

The data examined as well shows that obtaining all other independent variables at zero, a unit increase in vendor managed inventory will lead to a 0.187 increase in service delivery level; a unit increase in economic order quantity will lead to a 0.644 increase in service delivery level of the supermarkets, a unit increase in just-in-time system will lead to an increase of 0.238, while a unit increase in ABC inventory system will lead to a 0.173 increase in service delivery level of the supermarkets. These results infer that economic order quantity contributes more to the supermarket service level, followed by just-in-time, while A-B-C inventory management contributes the least to the service delivery level at 5% level of importance and 95% level of assurance. The results are in line with Githui (2012) that the effective management of inventory improves the level transparency in inventory management which results in eliminating dishonesty, unfair procurement procedure, purchasing of low quality goods from a firm that is known to be very expensive therefore increasing sales.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter is defined into a summary of the research outcomes, conclusion, recommendations, and limits of the study as well as proposals for advance research.

5.2 Summary of the Findings

The study recognized that the supermarkets had employed the four inventory management practices in different proportions with the Just-in-time inventory system being the most commonly used followed by the vendor managed system. The JIT system is used popularly used by the supermarkets in managing the perishable goods such as milk, bread and groceries while the vendor managed inventory system is used in managing the high value products in conjunction with the ABC system where the high value and small in size products are supervised by dedicated members of staff in addition to the use of security mechanism.

The findings show that the adoption of the inventory management practices had majorly led to the improvement of the relationship between the supermarket and its suppliers and from the same positive relationship; there is high product availability in the supermarket. Further, study reveal that the adoption of the inventory management practices had resulted in the supermarkets being able to provide the supplier with opportunities to improve production and marketing efficiencies while VMI has resulted in an increase in replenishment frequencies with smaller quantities and timely delivery of products from the suppliers.

The regression analysis reveal that the four independent variables contribute about 55.8% to the service delivery level of the supermarkets whereas other aspects not explored in this study contributes 44.2% of the supermarket service delivery. The data analyzed also shows that, a

unit increase in vendor managed inventory will lead to a 18.7% increase in service delivery level; a unit increase in economic order quantity will lead to a 64.4% increase in service delivery level of the supermarkets, a unit increase in just-in-time system will lead to an increase of 23.8% and a unit increase in ABC inventory system will lead to a 17.3% increase in service delivery level of the supermarkets. These outcomes infer that economic order quantity gives extra to the supermarket service level, followed by just-in-time, while A-B-C inventory management contributes the least effect on the level of service delivery.

5.3 Conclusion

According to the research outcomes, the study suggested that inventory control practices are important in determining the level of service delivery by the supermarkets. The study wrap up that inventory control practices has improved the relationship between the supermarket and its suppliers, availability of products in the supermarket outlets, improved production and marketing capacities and reduced incidences of stock outs. From the study, inventory management practices improve the supermarket competitive edge generally indicates that companies possess one or even extra of the subsequent competences if associated to their rivals in accordance with the limits of: capacity of making an order, goods delivery speed, greater quality, higher fidelity, as well as shorter delivery time.

The study concludes that the just-in-time inventory management system significantly affects the service delivery of the supermarkets because the existence of proper records in the stores department courtesy of the inventory system they have installed. The preferred level of inventory is frequently detained behind to a rational number, although the number should be huge enough to allow the firm to efficiently merchandise the products as well as kind of services it gives.

The adoption of the inventory management practices has improved the relationship between the supermarket and its suppliers. It also leads to higher product availability in the supermarket and the supermarket provides the supplier with opportunities to improve production and marketing efficiencies. Service delivery is a vital to the supermarket sector it needs to be more improved to meet the customer's satisfaction and have competitive advantage among the competitors.

5.4 Recommendations

The study found out that vendor management inventory enables the supermarket to use the information to monitor inventory, it is recommended that the supermarket should adopt inventory management practices and service delivery to improve performance. The study established that the supermarket had adopted economic order quantity and it is recommended that it should be more practiced in order to replenishment orders in placed without further delay due to the certainty of the replenishment period of its items. Similarly, just- in- time contribute to preventive protection in the supermarket and the shared product design with suppliers and clients.

The recognition of inventory management practices and service delivery has improved the relationship between the supermarket and its suppliers. It also leads to higher product availability and improve production and marketing efficiencies. Hence the management of the supermarkets should employ appropriate working capital management practices to ensure that prompt payment of suppliers is achieved thus facilitating prompt delivery of products to the supermarkets.

5.5 Limitations of the Study

The study used a small number of staff from the supermarket which put constraints on the simplification of the outcomes to the entire population. The fine center of this research means the outcomes are limited to supermarket only therefore does not cover the whole retail industry as well as public context.

The other limitation of this study is that the supermarkets are spread all over the country but only some were taken into consideration. For collecting data, a large amount of financial resources and huge time were required.

5.6 Suggestion for Further Research

The study was undertaken on the inventory management practices and service delivery by supermarkets. It is recommended that future research studies can examine on other inventory management practices and service quality. A similar study should therefore be done on other firms in retail industry in Kenya. The study recommends that more research ought to be conducted in order to ascertain the challenges facing inventory management practices and service delivery in other supermarkets.

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APPENDIX I: LETTER OF INTRODUCTION

Date.....

To.....

.....

Dear Sir/Madam,

RE: COLLECTION OF RESEARCH DATA

My name is Nancy Neema Wanyonyi, MBA student in Business Administration – procurement option at The University of Nairobi. Currently, I’ am carrying out a research on the “Inventory Management Practices and Service Delivery of major Supermarkets in Kenya. I ’am in the process of gathering relevant data for this study. You have been identified as one of the collaborators and respondents in this study and kindly request for your assistance towards making this study a success.

I therefore kindly request you to take some time to respond to the attached questionnaire. I wish to assure you that your responses will be treated with confidentiality and will be used solely for the purpose of this study.

I thank you in advance for your time and responses. It will be appreciated if you can fill the questionnaire within the next 5days to enable early finalization of the study.

Yours Sincerely

Nancy Neema Wanyonyi

Student Reg No: D61/84435/2016

APPENDIX II: QUESTIONNAIRE

Section A: Demographic Characteristics of Respondents

1. Name of the Supermarket (Optional).....
2. Length of continuous service with the supermarket?
 - a) Less than five years
 - b) 5-10 years
 - c) Over 10 years
 - d) Over 11 years
3. How long has your supermarket been in operation in Kenya?
 - a) Under 5 years
 - b) 6 – 10 years
 - c) 11 – 15 years
 - d) Over 15 years
4. How many employees are there in your supermarket?
 - a) Less than 200
 - b) 201 - 500
 - c) 501 – 1000
 - d) Over 1001
5. What is the ownership of your supermarket?
 - a) Locally Owned
 - b) Foreign Owned
 - b) Mixed Owned
6. What percentage of your budget goes to supply chain activities?
 - a) Less than 20%
 - b) 20% - 40%
 - b) 40% - 60%
 - d) Over 60%
7. What is the value of the monthly supermarket turnover?
 - a) Less than Ksh 50m
 - b) Ksh 50M -100M
 - c) Ksh 100m – 300M
 - d) Over Ksh 300m

8. What is the average Stock in the supermarket?

a) Less than Ksh 100m [] b)Ksh 100M - 200M []

b) Ksh 200m – 400M [] d) Over Ksh 400m []

9. What is the average annual value of stock redundancy in the supermarket?

a) Less than Ksh5m [] b)Ksh5M - 10M []

b) Ksh10m – 20M [] d) Over Ksh20m []

Section B: Inventory Management Practices

10. Please indicate the extent to which you concur with the following statements concerning the extent to which your supermarket adopts in your operations. Using the following rating; 5 = to a very large extent, 4 = Large extent, 3 = Moderate extent, 2 = Small extent, 1 = Very small extent

Vendor Managed Inventory	5	4	3	2	1
The supermarket provides the vendor all inventory information necessary for replenishment					
The supermarket vendor uses this information to monitor inventory or place new orders at continuous manner					
Our vendor is given access to the supermarket inventory and demand information					
The vendor has the authority and the obligation to replenish purchaser’s inventory according to collectively agreed inventory concepts and targets					
Economic Order Quantity					
The firm knows with certainty the replenishment period of its items and therefore					
The supermarket stocks or sales made by a firm remains unchanged throughout the period					
When stocks reach zero level, an order for replenishment is placed without further delay					
Just –in -Time					
The supermarket employs a zero-stock level of its inventory					
The ownership of the inventory does not belong to the supermarket					

There is a shared product design with suppliers and clients					
There exist preventive protection in the supermarket					
A-B-C Model					
The management has separated items with high value from those lesservalue					
There is a dedicated supervisor who manages the high value products					
There low value products are less supervised by the supermarket management					

Section C: Service Delivery

11. The following are measures of service delivery resulting from the implementation of inventory management practices. Please indicate the extent to which the performance measures have been realized in your organization. Use 1-Not at all, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

Statement	5	4	3	2	1
The is a higher product availability in the supermarket					
The supermarket provides the supplier with opportunities to improve production and marketing efficiencies					
VMI results in supplier increasing replenishment frequencies smallerquantities					
The supermarket is currently a one-stop-shop where customers can get all of their products demanded					
The adoption of the inventory management practices has improved the relationship between the supermarket and its suppliers					
There is a better balance between the cost of acquiring and holding inve that does not match customer demands					
The supermarkets has minimized cased of stock outs as a result of adopting inventing management practices					
Timely delivery of products from the suppliers has been achieved					

THANK YOU SO MUCH FOR YOUR TIME

APPENDIX III: LIST OF LARGE SUPERMARKETS IN NAIROBI

- 1) Chandarana Supermarkets
- 2) Cleanshelf Supermarkets
- 3) Eastmatt Supermarkets
- 4) G-Mart Supermarkets
- 5) Jaharis Supermarkets
- 6) Kassmart Supermarkets
- 7) Naivas Limited
- 8) Nakumatt
- 9) Quickmart Supermarkets
- 10) Rikana Supermarkets
- 11) Tumaini Supermarkets
- 12) Tuskys
- 13) Uchumi Supermarkets
- 14) Ukwala(Choppies) Supermarkets
- 15) Karrymatt supermarket
- 16) Carrefour
- 17) Mulleys Supermarket

Source: City Council of Nairobi (2016)