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STOCK MANAGEMENT PRACTICES AND SUPPLY CHAIN PERFORMANCE OF PHARMACEUTICAL COMPANIES IN NAIROBI, KENYA

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ABSTRACT: Purpose: The study was aimed at establishing stock management practices and performance in pharmaceutical firms in Nairobi. It was specifically aimed to establish how, EOQ, VMI, ERP, JIT and ABC analysis affects SC performance. The study used descriptive research design in its methodology. **Design/Research method:** The study was guided by Resource based view Theory and strategic choice theory. Data collection was effected by use of structured questionnaires. Supply chain managers, procurement managers and the equivalent were the targeted population. The targeted population was 38 pharmaceutical firms in Nairobi. These questionnaires were issued through drop and pick method, coded, keyed and analyzed using both descriptive and regression analysis. **Finding:** he findings of the study established that Pharmaceutical firms in Nairobi had adopted stock management practices to a large extent, which was indicated by a mean values greater than 3.0 on a scale of 1-5 for stock management practices. The results ascertained that stock management practices had a positive impact on performance. This was indicated by a positive correlation between the stock management practices and performance, which was measured by the values in the coefficients table. **Limitation:** The major limitation of the study is that it was based on pharmaceutical firms in Nairobi only. **Implication:** Future academicians should research on stock management practices in other firms rather than pharmaceutical firms in Nairobi Key words: Stock management practices, Supply chain management, procurement management practices, supply chain performance, pharmaceutical firms.

Keywords: Stock Management Practices, Performance, Kenya.

1. INTRODUCTION

In order to attain efficiency in operations by firms, there is need by firms to adopt stock management practices. Sound stock management accrues interest to organizations in terms of easy acquisition and distribution of goods (Ramakrishna, 2005). Stock management as a whole is very key in the minimization of overall costs incurred by firms and in the long run increase the amount of revenue earned by the firms. Stock is defined as all the raw materials and goods which are stored in a firm's space which form part of the operations of a firm and facilitate. Pharmaceutical firms need to adopt proper stock management practices to be effective that adequate measures that may compromise stock such as theft, misappropriation of assets and false records are addressed (Bethesda, 2002).

Traditionally, firms used traditional stock control methods in the management of their stock. Various traditional methods like Always Better Control (ABC), Order Quantity Purchase were used in the management of stock (Rajeev, 2008) .The inventory management experiences inaccuracies that create various problems in a firm such as; productivity loss, manufacturing of unwanted products, declining commitment of customers and physical inventories accumulation. As a result of adopting better inventory management practices, the firm makes substantial savings. Helms *et al.* (2000) points out that there is failure in the firms' systems since most of them are not applying inventory management techniques fully and such firms tend to have huge inventories due to poor planning. The failure leads to problems of demand forecasting since material managers are not able to predict the exact amount of inventory to maintain so as to meet the customers demand.

Many firms have experienced challenges in the stock management process based on the fact that most firms do not have adequate stock management practices put in place and have not established the amount of money to invest in stock and the correct amount of stock to hold at a particular period of time. Whenever there is excess stock held by firms at any particular time, this has a resulting effect of more space required and more capital required in the long this results in poor performance of the firm in the market (Helms *et al.*, 2000).

There are 32 companies listed as local pharmaceutical manufacturers in Kenya (Wangari, 2012). Amongst these, there is only one multinational, GlaxoSmithKline (GSK). Together, these companies constitute an important pharmaceutical manufacturing centre in the region. Some firms have already made the investment in plant and equipment to meet World Health Organization (WHO) basic good manufacturing practices (GMP) standards. Unsatisfactory and inadequate access to essential drugs and other healthcare commodities is a key limitation that impacts on people's health in most developing and least developed countries (Economic Survey 2004 by Central Bureau of Statistics and Ministry of Planning). The main legislation for the control of pharmacy in Kenya is Pharmacy and Poisons Act, Cap 244. Its main purpose is to regulate the profession of pharmacy and control the manufacturing, trade and distribution of pharmaceutical products. The Industry Property Act, 2001 provides for the promotion of inventive and innovative activities to facilitate the acquisition of technology by granting and regulating parents, utility models, technical innovations and industrial designs. It is popularly known as the "Patent Act".

Kenya acceded to the Trade-related intellectual Property Services (TRIPS) agreement by enacting this legislation in 2001. The Anti-Counterfeit Act, December 2008, was legislated to prohibit trade in counterfeit goods and pharmaceuticals are not exempted. The Kenya Public Procurement and Disposal Act, 2005 provides for the establishment of procedures for public procurement. The act also provides for per-qualification of suppliers. The National Quality Control Laboratory (NQCL) was established as the technical arm of PPB to provide for the examination and testing of drugs and to ensure quality control. Kenya procures medicines mainly through the Kenya Medical Supplies Agency (KEMSA). The agency also procures for some donor partners. Many Essential Drug List (EDL) medicines cannot be purchased because of budgetary constraints. Mission for Essential Drugs and Supplies (MEDS) is another large – scale, bulk procurer of medicines.

1.1. Research Problem

For firms to attain competitive advantage there is need for effective stock control practices to be implemented. However, firms majorly face challenges in the controlling of the demand and supply of this stock in order to satisfy their customer's demands. Besides the firms do not want to store so much stock based on the cost involved in storing these stock items.

Stock management is very crucial in Pharmaceutical companies .This is based on the nature of products that are stored by the pharmaceutical firms which are drugs that need special storage. Stock forms part of current assets of pharmaceutical firms hence there is need to manage stock by these firms to ensure that there are no loss of sales, costs of production, and backorder penalties during periods of high demand (Chen, 2005). However despite this, many firms have ignored the potential savings that proper stock management brings to the firms and due to this they end up having much unnecessary money tied up in stock (Chen, 2005).

Various studies have been carried out in the area of stock management and performance .Locally, Onyango (2017) carried out a study on stock control practices and performance in commercial state owned firms. The aim of the study was to ascertain the various stock control practices used by commercial state owned firms in Kenya and their impact on operational performance. The study used descriptive research design in its methodology whereby data was collected by use of structured questionnaires from 31 firms. The findings indicated that commercial state owned firms to a large extent had adopted stock control practices. Besides there existed a positive relationship between adoption of stock control practices and operational performance.

Kinyanjui (2017) studied on inventory management practices and performance of World Food Programme. The purpose of the study was to ascertain inventory management practices used by World Food Programme partners in Kenya, and to establish the effect of these practices on performance of World Food Programme partners in Kenya. The study used questionnaires in the data collection from 19 firms.The study findings indicated that the World Food programme partners had to a great extent adopted inventory management practices and these had improved their performance. However the study solely focused on WFP partners.

Akoth (2017) carried out a study on inventory management practices and supply chain performance in Fast Moving Consumer Goods Manufacturers in Nairobi. The purpose of the study was to ascertain the various inventory management practices adopted by FMCG manufacturers in Nairobi and the impact of use of inventory management practices on supply chain performance. The study adopted use descriptive research design. The study findings indicated that the adoption of inventory management practices facilitates improved performance of FMCG manufacturers in Nairobi and these firms have adopted inventory management practices .However the study solely focused on FMCG firms and not pharmaceutical firms in Nairobi.

Globally, Schonberger (2008) carried out a study on 50 manufacturing firms in America about the inventory management practices and supply chain performance. The study used mixed methodology where both quantitative and qualitative approaches were employed. The study found that supplier partnering contributes to supply chain performance. This is because inventory management practices improves on efficiency and minimizes inventory costs. It also reduces the cycle time by reducing lead time. The study findings are only generalized to the manufacturing firms and only show the situation among the American firms.

Akintonye (2014) carried out a study on effect of inventory management on performance of German service firms. The purpose of the study was to ascertain the impact of inventory management on performance He used exploratory research design where qualitative data was heavily relied on. The study revealed that inventory management models have helped organizations to become more competitive in terms of how they manage their inventories. The availability of technology has made it possible for firms to conduct businesses on a daily basis with fewer inventories. The study limited itself to service firms in German which is a developed economy and the findings only reflect the private firms and hence cannot be applicable to the African countries context and pharmaceutical firms in Nairobi Kenya.

1.2. Research Focus

Locally, Kinyanjui (2017), studied on inventory management practices and performance of World Food Programme. The purpose of the study was to ascertain inventory management practices used by World Food Programme partners in Kenya, and to establish the effect of these practices on performance of World Food Programme partners in Kenya. The study used questionnaires in the data collection from 19 firms'. The study findings indicated that the World Food programme partners had to a great extent adopted inventory management practices and this had improved their performance. However the study solely focused on WFP partners. Akoth (2017) carried out a study on inventory management practices and supply chain performance in Fast Moving Consumer Goods Manufacturers in Nairobi. The purpose of the study was to ascertain the various inventory management practices adopted by FMCG manufacturers in Nairobi and the impact of use of inventory management practices on supply chain performance. The study adopted use descriptive research design. The study established that there exists a positive relationship between adoption of inventory management practices and performance.

From the above studies, both locally and globally, no single study was carried out on stock management practices and supply chain performance of pharmaceutical firms in Kenya. Therefore there exists a gap in knowledge on stock management practices and performance in pharmaceutical firms in Nairobi Kenya. Therefore the study seeks to answer the following research questions: What stock management practices have been adopted by pharmaceutical firms in Nairobi Kenya? And what is the effect of stock management practices and supply chain performance of pharmaceutical firms in Nairobi Kenya?

The general objective of the study was to ascertain the effect of stock management practices and supply chain performance of pharmaceutical firms in Kenya. The specific objectives of the study were: (a) To establish the stock management practices commonly used by Pharmaceutical firms in Nairobi Kenya; (b) To determine the relationship between stock management practices and supply chain performance of pharmaceutical firms in Nairobi Kenya.

2. LITERATURE REVIEW

The theoretical review, existing literature on stock management practices and their impacts on supply chain performance of pharmaceutical companies in Nairobi Kenya plus conceptual framework is what makes up this section. Various theories that make up a basis of this research is what is referred to as the theoretical framework. It is made of not only principles, theories but also the various findings that were obtained .This study was guided by: resource dependency theory and theory of competitive advantage.

2.1. Stock Management Practices

Stock are raw materials, work in progress and finished products that are kept in the firm for future use .For firms to attain operational excellence, organizations have to ensure that the goods have to arrive where they are needed exactly when needed. Stock management practices refer to various activities and functions used by firms in the management of raw materials, semi-finished and finished products. According to Pandey (2004) inventories refers to materials used by companies to facilitate making of the other products such as semi-finished products, finished products and raw materials. Green and Jr (2005) argue that inventories are assets used for ordinary operations or materials used for the manufacturing of other products.

Inventory management according to Silver, Silver *et al.* (1998) revolves around information integration, transportation, acquisition, inspection, material handling, warehousing, packaging and supplies control coupled with securing the inventory. Peter (2000) further notes that IM seeks to optimize investment levels in all manners of inventory works, enhancing the movement of information, products and similar resources like people and energy from production to consumption levels. Some of the inventory management practices discussed in this study includes; economic order quantity, just-in-time, vendor managed inventory, enterprise resource planning and ABC analysis.

The Economic Order Quantity practice is viewed as a conventional method of materials acquisition. It is a measure of material in an order that diminishes the total costs required to order and hold catalogue (Peter, 2000). This approach of placing large size of uncommon orders was conceptualized by Schonberger (2008). Harris' model could be modified to include different price discount schemes to better reflect the practice of the industry (Ray *et al.*, 2004). According to Aydin and Porteus (2008), the assumptions of inventory management model is based on the fact that the firm knows with certainty the number of items of a particular inventory to be used or demanded for a specific time or period. (Globerman and Daniel, 2009) argues that the use of stocks or sales made by a firm remains unchanged throughout the period. This model also assumes that when stocks reach zero level, an order for replenishment should be placed without further delay.

Hutchins (1999) defines JIT inventory technique as a process that is capable of instant reaction to demand without the need for any over stocking, either in anticipation of the demand being forthcoming or as a result of inefficiencies in the process. Hutchins (1999) also studied that the prime goal of just-in-time technique is the accomplishment of zero catalogue, not just within the confines of a single firm but ultimately on the whole supply chain. It can be applied to the manufacturing process within any company as it is also being adapted within service organizations (Harrisson, 2001).

VMI is a rationalized method to inventory organization and order fulfillment whereby the vendor is accountable for replacement of inventory based on timely point of sale information to the retailers. The VMI concept helps to increase client receptiveness by tumbling the demand and supply gap thus providing fulfillment to final customers by availing the anticipated product when desired. The supply chain associates must share their requirements, vision of demand and constraint to set common objectives (Guillaume *et al.*, 2008). The quality of buyer-supplier relationship and trust, ICT system quality and intensity of information sharing has positive an impact on VMI implementation (Claassen *et al.*, 2008). Before implementing VMI, it is important to analyze the level of uncertainty of customer demand because a high uncertainty in demand negatively influences the performance attained through VMI (Kazim, 2007). Upstream data transferred to supplier's current inventory level and accurate sales forecast is the most important factor for the successful implementation of VMI (Aydin and Porteus, 2008). It also gives benefits to retailers as manufacturers stock more to reduce risk of stock out which in turn reduces retailer holding and shortage cost and increases its profit.

ERP is trading process administration software that allows a firm to use a system of unified applications to manage the commercial and systematize other back office tasks associated to services, technology and human properties Lysons and Farrington (2006). By use of ERP software all surfaces of a process, including product development, manufacturing, sales and promotion are incorporated (Magutu P. O. *et al.*, 2015; Magutu P. O. *et al.*, 2016; Mose *et al.*, 2013; Schonberger, 2008). ERP enables large traders and devoted teams to tailor and analyze the data and handle upgrades and placement. On the other hand, ERP upsurges support an interaction among all elements of businesses in a firm on this basis (Harrisson, 2001).

According to this method of inventory management, inventory items are categorized into three groups according to their value. Group A: The high value items. These are 15-20% of items accounting for 75% of total value stock. There is need for close monitoring of items in this category based on the fact that they are very critical. Group B: The medium value items. These forms 30-40% of items which

account for approximately 15% of the total value of stocks (Brandon-Jones and Carey, 2011). According to Qizhi and Kauffman (2001), group B items should be given medium attention as compared to the group A items. Group C: The low value items, the 40-50% of items that account for 10-15% of the annual inventory value. These items should receive least attention. Thus, ABC system facilitates inventory control, over-usage, selective control and enables companies to concentrate on the most cost-effective areas. In addition, it eliminates unnecessary paperwork and reduces stock holding costs.

2.2. Supply Chain Performance

Supply chain performance is defined as a measure of the ability of a supply chain to meet the customer needs through product or service availability, at the right time, right place, at the right price and in the right quantities. Supply chain performance crosses both functional lines and company boundaries. According to Cai *et al.* (2009) improving supply chain performance is a continuous process that requires both an analytical performance measurement system. It also requires a mechanism to initiate steps in order to meet key performance indicators. Cai *et al.* (2009) also describe "key performance indicator accomplishment" as the ability to connect planning and execution, building steps for realization of performance goals into routine work. There are a number of set of variables that capture the impact of logistic supply chains on revenues and costs of the whole system when measuring supply chain performance. These variables seen as drivers of supply chain performance are derived from supply chain management practices. Managers need to identify and continuously improve them, through continuous planning, monitoring and execution (Sambasivan *et al.*, 2009).

Supply chain performance is the organizations ability to lower cost of logistics by delivering the right product at the right place at the right time, Zhang and Okoroafo (2015). According to Albano, Albano and Racca (2011) procurement performance is highly influenced by macro factors namely supply chain management and corporate supply chain. It is on this basis that firms have shifted from individual organizational performance to procurement and supply chain performance in order to enhance bottom line performance within the whole chain. Supply chain performance measurement is also defined as the overall set of measures used to estimate both the competence and capability of the supply chain (Kurien and Qureshi, 2011).

Several measures have been formulated to gauge supply chain activities and the determination of the appropriate type of gauge is not easy since focusing on one aspect such as cost reduction may improve cost effectiveness at the expense of the performance of the entire supply chain system (Arrowsmith, 1998). General performance indicators of the supply chain performance in terms of time, quality, flexibility and cost are used to measure efficiency and effectiveness (Kumar *et al.*, 2005).

3. RESEARCH METHODS

It contains information about the design of the research, population and sample that was selected for the study. The techniques that were used in data collection and analysis and presentation are highlighted in this chapter.

3.1. Research Design

Descriptive research design was adopted in this study. A research design is the data collection process which helps in hypothesis testing so as to give answers to questions regarding the subject under study (Mugenda and Mugenda, 2003). This design was adopted as the researcher has interest in the state of affairs in a particular field and the variables should not be manipulated.

3.2. Target Population

The population of the study was the Pharmaceutical companies in Nairobi Kenya. Thus the population of this study was made up of 38 pharmaceutical firms in Nairobi. For this study, a census was adopted whereby all the study population was used since the population is relatively small.

3.3. Data Collection

The study used primary data which was being collected through use of questionnaire. The questions are constructed in order to address particular objectives and offer a variety of possible responses. The questionnaires were sent to the head of the various supply chain departments of various pharmaceutical firms. The questionnaires were administered through a drop and pick later method.

3.4. Data Analysis

Data collected was screened for accuracy, consistency, uniformity and completeness in preparation for analysis. The data was summarized and tabulated using descriptive measures. Regression analysis was used to identify the impact of the stock management practices on performance. Stock management practices were used as independent variables and the supply chain performance as the dependent variable.

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mathcal{E}$

Where;

Y = Supply chain performance

α – This is a constant

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5– Are constants regression coefficients

X_1 – Economic Order quantity

X_2 – Vendor managed inventory,

X_3 – Enterprise Resource Planning,

X_4– ABC analysis,

X_5 – JIT.

$\mathcal{E}$ - Error term explaining the variability of the factors that are not mentioned.

4. RESULTS AND DISCUSSIONS

4.1. Introduction

This section entails data analysis, findings and interpretation. It presents the findings on effect of stock management practices on performance of Pharmaceutical firms in Nairobi. The study's purpose was to determine the stock management practices implemented at pharmaceutical firms in Nairobi, to determine the effect of stock management practices on performance of pharmaceutical firms in Nairobi. The targeted population was the supply chain personnel, procurement managers and their equivalent in the procurement department. Questionnaires were self-administered by the researcher and follow-ups through phone calls done. A response rate of 50% is considered adequate, 60% good and above 70% rated very good, (Mugenda and Mugenda, 2003). The response rate for this study, was 84% where out of 38 questionnaires that were distributed, the response rate was 30 questionnaires.

4.2. Biographic Information

The study intended to have knowledge of the basic background information of the respondents working at Pharmaceutical firms in Nairobi. The study gathered data on various aspects of respondents at Pharmaceutical firms in Nairobi in order to evaluate how the stock management practices have been implemented in Pharmaceutical firms in Nairobi and how it affects performance.

Most organization in Kenya is moving towards the attainment of gender rule. The respondents were required to indicate their gender either as male or female. The findings on gender of the respondents indicated that 57% of the respondents were female while 43 were male. An indication that there is unequal distribution of staff in terms of gender in Pharmaceutical firms in Nairobi. The findings of the study are in-line with a study carried out by Kinyanjui (2017) which showed that there is equal distribution of gender in offering of employment in firms.

4.2.1. Professional Experience

The number of years one has worked in a functional department determines their grasp of the best practices especially in present management. The respondents were asked to indicate the number of years they had worked in the present management. The findings indicated that 27% of the respondents had 5-10 years' experience, 53% had 11-0 years of professional experience, and 20% of the respondents had over 20 years' experience. This is an indication that most of the employees in the SC department of the various pharmaceutical firms in Nairobi had adequate long enough experience in the field and were in good position to give out information on the study sought on stock management practices. The findings were in-line with Akoth (2017) where he established that experience is key in implementation of various services.

4.2.2. Education

Education is key in our modern sector and is key in development of our economy and facilitates innovations too. Employees need to have adequate skills in order to carry out day to day operations of the

firm and attain objectives and goals of the firm. The respondents were asked to indicate their education background. From the findings it was ascertained that13% of the respondents had college education, 47% of the respondents had undergraduate education, 37% of the respondents had master's education, while only 3% of the respondents had PHD level of education. This was an indication that the respondents had adequate knowledge in the data sought on stock management practices based on the fact that they had adequate knowledge based on educational background. These findings were in-line with the study findings by Magutu O. P. *et al.* (2014) who established that education background is key in implementation of inventory management practices.

4.2.3. Knowledge in Stock Management Practices
The respondents were asked to indicate whether they had knowledge on stock management practices. The table below represents information on the responses on the knowledge on stock management practices by the researchers. The respondents were asked on whether they had knowledge on stock management practices. The findings indicated that all the respondents had adverse knowledge on the stock management practices. This was an indication that almost 100% of the respondents had knowledge on effective supply chain management based on these findings.

4.3. Implementation of Stock Management Practices
The first objective of the study was to ascertain the various stock management practices adopted by Pharmaceutical firms in Nairobi to ascertain this; descriptive statics was carried out of all the data collected on the various Stock management practices. The level at which the various Stock management practices have been adopted at Pharmaceutical firms in Nairobi is as discussed below:

4.3.1. Economic Order Quantity
The respondents were required to indicate to what extend EOQ had been adopted as stock management practice in Pharmaceutical firms in Nairobi on a scale of 1-5 where:1-no extent, 2-small extent.3-moderate extent,4-large extent, 5-very large extent.

Table 1. Economic Order Quantity

EOQ	Mean	S.D
EOQ is used in controlling as per their stock value	3.4591	.57321
EOQ is used to know how much to order in order to cut on holding costs of excess	3.6405	.51177
EOQ is used to know when to order and the timing between orders to cut on ordering costs and purchase costs	3.3967	.57735
Average	**4.0286**	**.70695**

Source: Research Data, 2018

From the findings it was ascertained that to a great extent EOQ had been adopted by Pharmaceutical firms in Nairobi based on the fact that mean values of above 3.0 was indicated by the respondents. In conclusion these results indicated that EOQ had been implemented at Pharmaceutical firms in Nairobi as a stock management practice and this facilitates efficiency in the operations of the firm. These findings are in-line with study findings of Silver (1999) who indicated that EOQ adoption is key in cost reduction.

4.3.2. Vendor Managed Inventory
VMI adoption is key to ensuring visibility of inventory management in a firm. The respondents were required to indicate to what extend VMI management had been adopted as stock management practice in Pharmaceutical firms in Nairobi on a scale of 1-5 where: 1-no extent, 2-small extent.3-moderate extent,4-large extent, 5-very large extent. From the findings it was ascertained that to a great extent VMI had been adopted by Pharmaceutical firms in Nairobi based on the fact that mean values of above 3.0 was indicated by the respondents. In conclusion these results indicated that VMI had been implemented at Pharmaceutical firms in Nairobi as a stock chain management practice. This facilitates visibility in the supply chain and hence facilitates timely placement of orders and monitoring the stock levels at the suppliers and distributors point. This is in-line with findings by Onder *et al.* (2009).

4.3.3. Enterprise Resource Planning
ERP implementation helps in the coordination of activities within different departments which increases stock visibility. The respondents were required to indicate to what extend ERP had been adopted

as stock management practice at Pharmaceutical firms in Nairobi on a scale of 1-5 where:1-no extent, 2-small extent.3-moderate extent,4-large extent, 5-very large extent. From the findings it was ascertained that to a great extent ERP had been adopted by Pharmaceutical firms in Nairobi based on the fact that mean values of above 3.0 was indicated by the respondents. In conclusion these results indicated that ERP had been implemented at Pharmaceutical firms in Nairobi as a supply chain management practice. This improved seamless communication between department and faster decision making.

Table 2. Enterprise Resource Planning

ERP	Mean	Standard Deviation
Your firm makes use of an integrated system where all departments are coordinated in all processes	4.2381	.62488
Your firm uses ERP system to maintain a database of all suppliers	4.1905	.51753
Average	4.0084	.54671
The firm has integrated information sharing on various activities of the firm	3.7762	.67964

Source: Research Data, 2018

4.3.4. ABC analysis

ABC analysis facilitates the firms's ability to classify items into category A,B,C. The respondents were required to indicate to what extend ABC analysis had been adopted as stock management practice at Pharmaceutical firms in Nairobi on a scale of 1-5 where:1-no extent, 2-small extent.3-moderate extent,4-large extent, 5-very large extent.

Table 3. ABC analysis

ABC	Mean	Standard Deviation
You categorize goods into category A,B,C	4.2382	.62488
You categorize stock based on how critical the good	3.6422	.55566
You pay attention to different categories of goods as per the value of good	4.2341	.56645
Average	**3.4232**	**.57761**

Source: Research Data, 2018

From the findings, it was ascertained that to a great extent ABC analysis had been adopted by Pharmaceutical firms in Nairobi based on the fact that mean values of above 3.0 was indicated by the respondents. In conclusion these results indicated that ABC analysis had been implemented at Pharmaceutical firms in Nairobi as a supply chain management practice. This is an indication that they classify their stock items in the order of priority based on the level of importance in the firm.

4.3.5. Just In Time

JIT facilitates the firm's ability to cut on costs and helps in ensuring that a firm minimizes on costs. The respondents were required to indicate to what extend JIT had been adopted as stock management practice in Pharmaceutical firms in Nairobi on a scale of 1-5 where: 1-no extent, 2-small extent.3-moderate extent, 4-large extent, 5-very large extent.

Table 4. Just In Time

JIT	Mean	Standard Deviation
The firm uses JIT stock control system to control stock	3.4566	.58576
The firm only produces and stores goods as per the customers' orders	4.6451	.78346
The firm maintains zero stock	3.5432	.57456
Total	3.5671	.56456

Source: Research Data, 2018

From the findings it was ascertained that to a great extent JIT had been adopted by Pharmaceutical firms in Nairobi based on the fact that mean values of above 3.0 was indicated by the respondents. In conclusion these results indicated that JIT had been implemented at Pharmaceutical firms in Nairobi as a supply chain management practice. This is an indication that the pharmaceutical firms to some extent manufacture products as per the orders placed by customers to cut on costs.

4.4. Supply Chain Performance

Supply chain performance is a good measure in ensuring that the various key measures are met by the firm. It is important in the running of the day to day operations of the firm based on the firms's ability to cut on costs and attain high levels of competitiveness. The study was aimed to establish the effect of stock management practices on procurement performance. The findings are as shown below:

Table 5. Supply Chain Performance

Performance indicator	Mean	Standard Deviation
Cost	4.0543	.68475
Timeliness	3.8905	.51177
Flexibility	3.7829	.67964
Average	**4.1571**	**.68354**

Source: Research Data, 2018

The study findings indicated that to a large extent, cost is a determinant of supply chain performance as indicated by a mean of 4.1, flexibility to a moderate extent: 3.7, Timeliness: 3.8. An indication that all the performance indicators had impact on procurement performance of government ministries in Kenya. These study findings are in-line with the findings of Kiplagat (2017) who established that various stock management practices have positive impact on performance.

4.5. Relationship between Stock Management Practices and SC Performance

Regression analysis was carried out between stock management practices and SC performance of Pharmaceutical firms in Nairobi and the findings are as indicated below:

Table 6. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.962	1.661		3.589	.001
	ERP	.153	.213	.069	.424	.675
	VMI	.258	.250	.042	.233	.818
	EOQ	.326	.157	.385	2.081	.048
	JIT	.093	.176	-.153	-.869	.394
	ABC	.292	.160	-.798	-4.315	.000
Dependent Variable: performance						
Independent Predictors: (Constant), EOQ,VMI,ERP,ABC,JIT						

Source: Research Data, 2018

The results show that EOQ and supply chain performance are positively related. This indicates that an increase in the level of adoption of EOQ by one unit, results to related increase in the level of performance by 0.326.ERP and performance are positively related as indicated by 0.153 which is an indication that an increase in the ERP by one unit, results in a related increase in performance by 0.153 all other factors held constant. VMI and performance are positively related, 0.258 which indicates that implementation of VMI leads to an increase in performance of Pharmaceutical firms in Nairobi by 0.153. JIT practices and performance are positively related 0.093, hence its adoption results in a related increase in performance by 0.093.ABC analysis and performance are positively related, 0.292 an indication that a unit increase in the; level of ABC analysis as a supply chain management practice results in an increase in the level of performance by 0.292.

The findings indicated a correlation coefficient value of 0.685 and R value of 62% .From this we can conclude that stock management practices are a representative of 62% of variations in performance at Pharmaceutical firms in Nairobi, from these as per the fitness test, we can conclude that this is a good model since the value is above 50%.

Table 7. Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.828[a]	.685	.620	.39937

Dependent Variable: performance
Independent Predictors: (Constant), EOQ,VMI,ERP,ABC,JIT
Source: Research Data, 2018

From the findings in the anova table the results indicate a significance level of 0.0011which is an indication that stock management practices which include EOQ, JIT, ERP, VMI and ABC analysis are significant contributors to performance since the p-value of 0.00 is lower than the critical value of 5% at 95% confidence level.

Table 8. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.339	5	1.668	10.456	.000[b]
	Residual	3.828	25	.159		
	Total	12.167	30			

Dependent Variable: performance
Independent Predictors: (Constant), EOQ,VMI,ERP,ABC,JIT
Source: Research Data*, 2018*

4.6. Discussion

From the findings, EOQ indicated a mean value of 4.3, VMI indicated a mean value of 4.1, ERP indicated a mean value of 3.6, ABC indicated a mean value of 3.6 and JIT indicated a mean value of 3.0. The second objective of the study was to establish the effect of stock management on performance of Pharmaceutical firms in Nairobi. Besides the regression analysis was carried out where the various stock management practices were regressed against performance .The regression analysis established that 62% of the performance of Pharmaceutical firms in Nairobi is affected by EOQ,ERP,VMI,JIT and ABC analysis. This indicated that the stock management practices had great impact on the supply chain performance in pharmaceutical firms in Nairobi.

5. CONCLUSIONS

The findings indicated that to a large extent, all the stock management practices had been implemented in Pharmaceutical firms in Nairobi as per mean values above 3.0 an indication that all the practices had been implemented to a moderate to high extent. In addition the responses indicated that most of the respondents agreed to a large extent, the various stock management practices had been implemented at Pharmaceutical firms in Nairobi. The findings from the regression analysis indicated that stock management practices to a moderate extent have effect on performance at Pharmaceutical firms in Nairobi .The results of the study ascertained a positive relationship between the various stock management practices and performance at Pharmaceutical firms in Nairobi. In addition to that the p-value indicated a 0.001 value which was an indication that the various stock management practices implemented in Pharmaceutical firms in Nairobi are statically significant based on the fact that the p-value is less than the 0.05 level at 95% confidence level.

6. RECOMMENDATIONS TO POLICY AND PRACTICE

From these study findings, it was established that Pharmaceutical firms in Nairobi had implemented stock management practices .There is need for the management to incorporate the practices into their system in order to improve their performance and competiveness. Other pharmaceutical firms in other parts of the country rather than Nairobi need to incorporate these practices too in their supply chain to improve performance and other manufacturing firms in other sectors. There is need for the government to provide funding to the pharmaceutical firms in order to facilitate the implementation of the various stock management practices based on the fact that most of the practices require heavy capital investments in order to attain their effectiveness in their operations.

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