Influence Of Supply Chain Management Practices On Inventory Performance: A Case Study Of Kenya Medical Supplies Authority

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Abstract: Managing inventory in an effective way has a positive influence on the business since it allows business to meet or exceed customers' expectations of product availability with the amount of each item that will maximize their company's net profit or minimize its total inventory investment. The objectives of the study were to find out the influence of technology on inventory performance at Kenya Medical Supplies Authority, to establish the influence of staff competency on inventory performance at Kenya Medical Supplies Authority, to examine the influence of management support on inventory performance at Kenya Medical Supplies Authority, and to identify influence of ethical issues on inventory performance at Kenya Medical Supplies Authority. The study considered the Strategic Choice Theory, Resource Dependency Theory, and Theory of Constraints. The population of the study comprised of Kenya Medical Supplies Authority senior personnel in the following departments; finance division, customer care, supply and administration, sales and marketing department. The population was stratified into strata based on the levels of management, which are executives, middle management and low level of management. Simple random sampling procedure was then used to pick the sample. Questionnaire was used to collect data from the respondents and the data was analysed using descriptive and inferential analysis with the help of SPSS. The study concluded that inventory management has positive effect on supply chain performance. As evident from this study, automation of transactions, the creation of an integrated method of storing and viewing data across the enterprise enhanced supply chain performance. The use of technology in the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention enhances supply chain performance. From the findings, the study recommends that health care facilities should adopt supply chain management best practices as it increases inventory performance. For businesses to realize growth, investment in inventory management should be made in order to reduce costs and increase the level of sales. Supply chain organizations should therefore take into consideration supply chain management practices such as technology, staff competency, management support and ethical issues in order to enhance inventory performance.

I. BACKGROUND TO THE STUDY

Supply chain Management (SCM) involves managing a network of interconnected businesses involved in the ultimate provision of products and services or service packages required by the end users (Harland, 1996). Supply Chain Management practices are gradually becoming an important feature in the attainment of competitive advantage in most service organizations in the global markets today. The number of competitors is increasing and expanding both locally and globally, organizations not only have to re-establish their operations to produce goods and services of increased quality which will greatly differentiate them from others and make them respond to the changing market dynamics through the efficient and effective management of the Supply Chain (Stock & Boyer, 2009).

Over the years, the world has seen a massive change in the management of businesses; From conventional multipurpose service functions and have seen organizations replying more on specialized in-house service functions or on outsourced services. The information technology (IT) sector has ably responded to the ongoing change in the needs of the

business. It has helped many businesses in improving their operational efficiencies by providing electronic solutions and Internet based solutions for their supply chain networks. From the late 1990s a raft of new inventory technologies emerged which promised to revolutionize supply chain practices (Chan & Lu, 2004). Following this growth in inventory management techniques in business market, there has been significant adoption of new supply chain related technology and applications by organisations globally (Sheng, 2002).

The global healthcare industry is one of the world's largest and fastest growing industries, comprising various sectors: medical equipment supplies, pharmaceuticals, healthcare services, bio-technology and alternative medicine sectors. With extreme pricing pressures on today's healthcare expense providers, delivering high-quality medical care while reducing costs is a top strategic priority (Kavulya, 2004). Health care in much of Sub-Saharan Africa remains poor. The region accounts for 11 percent of the world's population and 24 percent of the global disease burden, yet commands less than one percent of global health expenditure (World Health report 2006). Recent development targets such as the Millennium Development Goals require significant new investment and scaling up of health services.

Efficient public health supply chain performance is essential for assuring access to health supplies, and thus for positive health outcomes. This is particularly important in most countries in East African Countries where large proportion of the population is served by the public and mission health sectors. The public/mission health supply chain manager therefore has an essential role in the realization of global public health goals, for improving maternal health, reducing child mortality, and combating HIV/AIDS, malaria and other diseases (Burns, 2012). Continuous access to quality medicines is an important component of health care but in many African countries continues to be problematic. Commonly reported problems include inadequate storage facilities, poor forecasting, pilfering of stock, insufficient human resources and limited financing resulting in chronic stock outs. The trade in substandard and counterfeit medicines is also increasingly prevalent. Donors have experimented with a range of approaches to strengthen in-country supply chains including building new supply chains (PEPFAR-SCMS) and strengthening public sector supply networks (Global Fund, USAID/JSI). Donors have also begun to explore how private sector supply and distribution channels can effectively complement state-run drug procurement and distribution systems (IFC 2008).

According to health sector performance report 2013 and 2014, health institutions in Kenya are ailing from shortage of drugs or holding on expired drugs. Health centers and dispensaries are hardly stocked with the recommended medicines. The high rate of expired drugs in dispensaries and other public hospitals indicates poor planning and high wastage of public resources in the counties, which affects efficient delivery of quality services. An effective procurement process ensures the availability of the right Medicals in the right quantities, available at right time for the right patient and at the right prices and at recognizable standards of quality (WHO, 2007). The health system in Kenya is organized and implemented through a network of facilities organized in a pyramidal pattern. The network starts from dispensaries and health clinics/ posts at the bottom, up to the health centers, sub-district hospitals, district hospitals level 4, provincial general hospitals level 5 and at the apex there is the Kenyatta National Hospital. The Ministry of Health (MoH) is the major financier and provider of health care services in Kenya.

Managing inventory in an effective way has a positive influence on the business since it allows business to meet or exceed customers' expectations of product availability with the amount of each item that will maximize their company's net profit or minimize its total inventory investment (Schieber & Akiko, 2010). Supply chain management in the public health sector has acknowledged increasing attention in recent years as both a significant and a challenge for many countries as healthcare institutions find themselves with increasing number of products, programs and patients to manage (Muturi, 2012). According to Nyanga (2010), Inventory management helps healthcare supply chain to establish the proper inventory levels through the economic order quantity and to keep track of this level through inventory control system.

Stakeholders in the healthcare supply chain can be divided into three major groups: producers, purchasers, and providers. The function of producers is to manufacture medical products such as surgical supplies, medical devices and pharmaceuticals. Purchasers include distributors, wholesalers and Group Purchase Organizations (GPOs). Distributors and wholesalers hold inventory for producers to facilitate delivery of products. GPOs sign purchasing contracts with producers in order to achieve economies of scale by aggregating the volume of member providers. Healthcare providers represent those at the end of the supply chain with the function to serve patients and include, among others, hospitals, integrated delivery networks (IDNs), physicians, clinics, nursing homes and pharmacies (Burns, 2012).

Supply chain management is the backbone of healthcare delivery. This arises from the fact that health care is so dependent on the availability of drugs and other medical supplies at the right time and in the right quantities for the management of patients. Lack of the pharmaceutical product at the point of need often leads to an unnecessary loss of lives which could otherwise have been prevented (Brackus, 2010). Health care supply chain integration not only relates to the integration and co-ordination of planning processes but can also be linked to joint "market development" and offering new "care products".

Inventory management techniques and organizational supply chain performance need to be considered keenly to avoid organizations use of huge chunk of its budget on holding inventory. It should ensure that customers are satisfied with its services by providing feedback and ensuring the concept of time, place and costs are maintained at optimal levels. Hence, the total cost model needs to be balanced by ensuring purchase costs, ordering costs and holding costs are minimal so that the firm can reap good profits or it maintains its budgetary allocation for governmental organizations (Kavulya, 2004). Inventory management involves the coordinating of materials availability, controlling, utilization and procuring of materials (Kotabo, 2012). It is the direction of activities with the purpose of getting the right inventory in

the right place at the right time and in the right quantity and it's directly linked to production function of any organization which implies that the inventory management system operated will affect the profitability of an organization directly and indirectly (Brackus, 2010).

According to Coyle et al. (2003), inventories are raw materials, work-in-progress, finished goods and supplies required for creation of a company's goods and services. The main objective of effective inventory management is to maintain inventory at appropriate level and at the lowest possible cost to ensure uninterrupted supplies for ongoing operations. When making decisions on inventory, management has to find a compromise between the different cost components such as costs of supplying inventory, inventory-holding costs resulting from insufficient inventories (Callahan, 2009).

Supply chain management is a set of synchronized decisions and activities utilized to efficiently integrate suppliers, manufacturers, warehouses, transporters, retailers, and customers so that the right product or service is distributed at the right quantities, to the right locations, and at the right time, to minimize system-wide costs while satisfying customer service level requirements (Chan, 2003). The objective of Supply Chain Management (SCM) is to attain sustainable competitive advantage. Within the healthcare sector, the supply chain processes might refer to physical products like pharmaceuticals, medical devices and health aids and also the processes associated with the flow of patients. McCutcheon and Stuart (2000) argues that the basic rationale of a supply chain management approach is founded in the belief that intensive co-ordination and integration between might operational processes lead to a better health supply chain performance.

A. KENYA MEDICAL SUPPLIES AUTHORITY

KEMSA was established as a state corporation under legal notice No. 17 of 2000. The legal notice defined three key objectives of KEMSA to include: develop and operate a viable commercial service for the procurement and sale of drugs and other medical supplies; provide a secure source of drugs and other medical supplies for Public Health institutions; and advice the Health Management Boards and the general public on matters related to the procurement, cost effectiveness and rational use of drugs and other medical supplies. KEMSA' core functions include procurement, warehousing and distribution of medical supplies (KEMSA, 2016).

The Kenya Medical Supplies Agency (KEMSA) is a specialized medical logistics provider for Ministries of Medical Services/Public Health and Sanitation-supported health facilities and programmes. It works to support the National Health Strategic Plan and the Kenya Health Package for Health in providing public health facilities with the "right quantity and quality of drugs and medical supplies" at the best market value. KEMSA's overall mandate is to procure, warehouse and distribute medical commodities to public health facilities operated by the Ministry of Medical Services and the Ministry of Public Health and Sanitation (KEMSA, 2016).

KEMSA Supply chain management is guided by the Public Procurement and Disposal Act, 2005 that came into effect in October 2005. In general, the user generates a requisition form to request for the item required. The stores then fill in the order if the item is available. If not available the requisition form is forwarded to the medical superintendent who then verifies the availability of funds to purchase the items. This is discussed at the facility procurement committee. Depending on the value of the item, government health facilities may procure directly through cash payment for items whose value is less than Kshs. 10,000 or may require raising of quotations (minimum three quotations) or may require tendering if of higher value or the items may be sourced from KEMSA directly. The supplier is then notified of the committee's decision and a Local Purchase Order (LPO) is drawn to allow for the supply and to commit the government to pay. The goods are supplied and received by the stores who verify that they are of the correct quantity and quality. Once received they are stored in proper condition and later issued to the department that ordered the goods (KEMSA, 2015).

B. STATEMENT OF THE PROBLEM

Supply chain management practices and innovation have been found to positively influence supply chain performance and the overall performance of the organizations (Ling and Ling, 2012). Supply chain management practices in humanitarian organizations are critical for the performance of the organizations as the speed at which humanitarian aid is delivered at the point of need (Hassan, 2012). Different stakeholders are involved in health care supply chain practices. Therefore, the application of supply chain management practices in a health care setting is almost by definition related to organizational aspects like building relationships, allocating authorities and responsibilities, and organizing interface processes.

Numerous studies have highlighted the importance of organizational processes when applying supply chain management practices. Moreover, recent studies reveal that elements like organizational culture, technology, the absence of strong leadership and mandating authority, as well as power and interest relationships between stakeholders might severely hinder the integration and co-ordination of processes along the health care supply chain (McCutcheon & Stuart, 2000). Schreibfeder (2010), agreed that by developing and using a comprehensive set of tools, such to closely monitor the performance of inventory, healthcare sector can achieve goals more efficiently. Michael (2011) study agreed that efficient business material levels are established with as much care as production levels, a careless choice of the material level can easily precipitate production slow down caused by lack of badly needed materials. Ndetto (2010) also indicated that inventory management practices in public sector are not effective, The management of inventory is left to operate in general inexplicit guidelines in the legal frame work dispersed in various sections covering other activities (Makena, 2010).

Even though many public health organizations have recognized the importance of supply chain management practices, the application of methods, techniques and best practices that is well developed in the industrial sector is still a

major problem. The aim of all health supply chain is to deliver the right products to the right people at the right time and in the right quantity. The modern pharmaceutical supply chain is complex. Medicines are made from ingredients sourced from different countries. Final formulations are then exported. Packaging, repackaging, and sale can happen in many other countries. Drugs change hands many times between the manufacturer and patient; every transaction is an opportunity for falsified or substandard products to infiltrate the market. Changes to the drug distribution system could improve drug quality around the world Lambert (2008).

During 2009, 20 million pills, bottles and sachets of counterfeit and illegal medicines were seized in a five-month operation coordinated by the International Criminal Police Organization (Interpol) across China. In 2015, a series of raids in Egypt found counterfeit medicines worth hundreds of millions of dollars and exposed a criminal network feeding consumers across the Middle East. In Europe, customs officers seized 34 million counterfeit pills in 2015. Even though higher-income countries have stringent regulations and better law enforcement, they also offer great rewards. According to the Medicines and Health care products Regulatory

KEMSA is the organization that has been mandated to carry out the procurement function for the ministries of health. There have been numerous complaints from the public health facilities regarding erratic supplies of the essential drugs and other medical supplies (MOMS, 2015). KEMSA has adopted various supply chain management practices to enhance its inventory performance. However, no study had been carried out to identify the influence of these supply chain management practices on inventory performance at KEMSA.

C. RESEARCH OBJECTIVES

According to Kothari (2004) research objective is a clear, concise, declarative statement, which provides direction to investigate the variables.

a. GENERAL OBJECTIVE

The general objective of the study was to determine the influence of supply chain management practices on inventory performance at Kenya Medical Supplies Authority.

b. SPECIFIC OBJECTIVES

✓ To find out the influence of technology on inventory performance at Kenya Medical Supplies Authority.
✓ To establish the influence of staff competency on inventory performance at Kenya Medical Supplies Authority.
✓ To examine the influence of management support on inventory performance at Kenya Medical Supplies Authority.
✓ To identify the influence of ethical issues on` inventory performance at Kenya Medical Supplies Authority.

II. LITERATURE REVIEW

A. THEORETICAL REVIEW

The theoretical framework is a summary of the theories related to a particular problem that is developed through a review of previously tested knowledge of the variables involved (Breakwell, Hammon, Fife-Schaw & Smith, 2007). It identifies a plan for investigation and interpretation of the findings. The theoretical framework involves a well-supported rationale and is organized in a manner that helps the reader understand and assess your perspective (Creswell, 2005). The purpose is to demonstrate that the relationships you propose are not based on your personal instincts or guesses, but rather formed from facts obtained from authors of previous research (Breakwell *et al.,* 2007). In this study, Strategic Choice Theory, Resource Dependency Theory, and Theory of Constraints will be considered.

B. EMPIRICAL LITERATURE REVIEW

An empirical review in research methodology is when the writer reviews the information currently available concerning the topic and the historical background of the topic (Kothari, 2004).

a. TECHNOLOGY AND INVENTORY PERFORMANCE

The numerous internet and internet technologies that are applied in inventory management include e-mails for accessing and contacting clients, website technologies designed for distributing, searching, and retrieving documents over the Internet. These new technologies are promising to save costs, to improve customer and supplier relationships, business processes and performance, and to open new business opportunities (Laudon and Laudon, 2013). These technologies allow organizations to respond better to existing challenges and improve the anticipation of future developments. As with the case with earlier innovations, rich multi-facetted interactions are occurring between developments in the place, global business environment, work environments, and technical innovations (Thompson & Cats-Baril 2003). One area that has recently and significantly gained attention is the Business-to-Business (B2B) inventory management that encompasses the supply of goods and services as well as higher-level management tasks and logistics.

According to Hutchins (2013), inventory management techniques is a technology that is capable of instant response to demand without the need for any over stocking, either in expectation of the demand being forthcoming or as a result of inefficiencies in the process. Just In Time technology is extremely important for business operations because their success and cost reduction of the firm's expenditure necessitate improved supply chain performance and knowledge to the employees (Lambert, 2008). These techniques are critical and knowledge in them is highly desirable thus, managers and procurement staff need to be able to apply the techniques for the benefit of the organization (Fellows & Rottger, 2005). Use of Just In time Technique

leads to increase in quality, productivity and efficiency, improved communication and decreases in costs and wastes (Cheng, Podolsky, and Jarvis, 2012).

Vendor Managed Inventory is a streamlined approach to inventory management and order fulfilment in which the vendor is fully responsible for the replenishment of inventory based on timely Point Of Sale information to the buyers (retailer). This concept helps to increase the customer responsiveness by reducing the supply and demand gap thus giving the satisfaction to end customer by availing the desired product when needed. Supply chain partners must share their vision of demand, requirement and constraint to set the common objectives. According to Guillaume et al. (2008), level of buyer-supplier trust and relationship, quality of ICT system and intensity of information sharing has positive impact on VMI implementation.

Material requirement planning (MRP) is a technology for the production and purchase of the components used in making items in the master production schedule (MPS). It shows the quantities needed and when firm intends to make or use them. The application of this popular tool in inventory management has greatly reduced inventory levels and improved productivity (Wee and Shum, 2009). MRP is typically applied to manage inbound material movement in the enterprise and is based on the production requirements and scheduling. Sople, (2010). Lysons and Farrington (2006), point out that an MRP system has the MPS, Bill of Materials (BOM) and the inventory file. Real time MRP comes in handy to reduce the effects of forecasting errors which are a major source of problems to any firm's performance. It has been modified by using route lead-time to estimate the customers 'order lead-time which would be less cumbersome (Kitheka, 2012).The common objectives which permit to build up a better collaboration between the partners and so to reach the main objectives which include speeding up the supply chain and reducing the bullwhip effect (Achabal et al., 2000).

b. STAFF COMPETENCY AND INVENTORY PERFORMANCE

Spencer and Spencer (2004) defined competency as internal characteristics of an individual that produce effective and superior performance. Sparrow (2006) divided competency into three categories as organizational competency, managerial competency and individual competency. He defined individual competency as list of behavioural characteristics related to job tasks. According to Schippment, Ash, Carr and Hesketh (2000), competency is adequate knowledge to successfully complete job tasks. Arthey & Orth (2005) defines it as a set of observable performance dimensions, including individual knowledge, skills, attitudes, and behaviours, as well as collective team, process, and organizational capabilities, which are linked to high performance, and provide the organization with sustainable competitive advantage.

Liu et al. (2010), noted that management and staff have minimal knowledge on how to apply the economic order quantity which negates the success of an organization. Organizations buy and sell their inventory; there always arises balance at the end of the year which ought to be carried over to the next year. Once an organization realizes this, it can develop online inventory management tool to monitor its inventory information by breaking it down into groups by correlating the categories with its customers. Since organizations operates differently in different fields, the inventory can be classified by either seasons or economic year end of your most significant customers hence, demand forecasting need to be employed to have an efficient supply chain.

Curtis (2003) argues that employees should be trained on inventory management. He defined training as a systematic process of changing the behavior, knowledge and motivation of present employees to improve the match between employee's characteristics and employment requirements. Training is critical to performance of employees at all levels in the implementation of inventory management. Training is the motivator and is essential to acquiring and maintaining skills necessary for optimal job performance. Trained worker is a better informed worker who will improve on quality. The competent employee make less operational mistakes hence help in implementation of Quality standard in the company.

c. MANAGEMENT SUPPORT AND INVENTORY PERFORMANCE

According to Revees (2012), management support is the process of planning, organizing, leading and controlling the available resources in a way to achieve stipulated objectives efficiently and effectively. When management supports any activity the rest of the workers will equally support it and it will succeed. The management provides materials for training and implementation of any quality standard. The management motivates workers hence building an environment for success in implementation of inventory management (Ornstein & Hunkins, 2008).

Management provides vision, policy and strategic plan for any organization. It also motivates worker by getting involved in quality activities. Hersey and Blanchard (2007) defined management as a process of working with and through individuals and groups of people to accomplish organizational goals. Management plays a vital role in planning of all inventory management programmes. Management sets goals and objectives for inventory activities by setting short and long term plans for the system. Management communicates all action plans for implementing inventory management systems. This communication helps influence the people implementing by motivating them.

Management offer support by organizing the employees to carry out the organizational plans in inventory management. In case of any changes management support helps employees to absorb and understand the changes. Organizing entails assembling together human, material resources to attain organizational goals and objectives. Management support also involves directing employee toward the right direction. Although a work plan is laid down, employees needs to be pushed to the right direction for the goals to be achieved. According to Castetter (2010) directing is a complex management process whose primary purpose is to get people to work effectively and willingly. Motivation plays a big role by giving employees a reason to do a job and to give their

best. Management support also involves controlling where management does evaluation and checks if set objectives are being achieved or not. Management finds out whether employee implements inventory management as per plan. Here management collects information on action taken in inventory management and then measures performance against feedback.

According to Pande, Neuman and Cavanagh (2000), management support establishes quality standard by implementing principles of inventory management. These principles include proper communication at work place, upholding of integrity and ethics, providing leadership, establishing team work, sponsoring training and recognizing workers who have excelled in quality implementation by rewarding them. These quality management principles that can be used by top management to guide their organizations towards implementing quality standards. Since the organizations depend on their customers, therefore they should understand current and future customer needs, should meet customer requirements and try to exceed the expectations of customers. An organization attains customer focus when all people in the organization know both the internal and external customers and also what customer requirements must be met to ensure that both the internal and external customers are satisfied. Coordinating operational activities through joint planning also results inventory reduction smoothing production, improve product quality, and lead time reductions argues that integration is an effective strategy in reducing with suppliers throughout the product lifecycle is an effective strategy in reducing supply uncertainty (Harmon, 2010).

d. ETHICAL ISSUES AND INVENTORY PERFORMANCE

According to Githui (2012), transparency in inventory management techniques is absolutely important because it eliminate corruption, biased procurement process, procuring substandard good for the organization that proof to be extremely costly. Some firms find themself practicing unethical supply chain management practices as well as lacking in transparency and fairness. Thus, inventory management techniques in organizations need ethical practices that promote good corporate governance among procurement managers (Miller, 2010). Virtue ethics promotes integrity; utilitarian principle appreciates happiness promotion and reverse of wrong doing.

The cardinal objective of inventory management is the maintenance of an optimum level of inventory necessary to support the production system at any time and at the least cost possible. The attainment of this objective entails taking decisions with respect to the determination of an appropriate order quantity, when to place the order and how much inventory to carry per unit of time. These various decision variables will, at any time, dictate the behaviour of any inventory system. Inventory ordering systems reflect part of the strategies available to an organization in meeting its inventory management objectives. Number of organizations collapse due to poor planning and corruption which drives firms to closes down their operations (Stock and Lambert, 2011). This can be stopped if proper inventory management is

practiced and the technique thoroughly utilized for the benefit of the firm.

Several studies have been done in regard to inventory management and supply chain. Sandeep et al. (2007) states that inventory management can bring unwarranted losses if the organization always has stock outs, lack of proper warehousing plans, delivering the wrong goods to the customers as well as lack of proper documentation for goods procured. The staffs need to understand and apply the inventory management techniques to ensure that the organization gets value for its money. According to Stock and Lambert (2011), the objectives of inventory management are to increase corporate profitability, to predict the impact of corporate policies on inventory levels, and to minimize the total cost of logistics activities.

Bachetti, Plebani, Saccani and Syntetos (2010), argues that inventory management need to be organized in a logical way so that the organization can be able to know when to order and how much to order. This can only be achieved through the Economic Order Quantity (EOQ) computation. Economic order quantity enables organizations to plan their inventory replenishment on a timely basis such as monthly, quarterly, half yearly or 18 yearly basis. By so doing, it enables firms to have minimal storage costs or zero within their warehouses since inventory is coming in and going out immediately. Thus, this tends towards the just in time concept of supply chain management adopted by Toyota motor Corporation in Japan which helps in having zero holding costs (Schonberger, 2008).

Study conducted by Lwiki *et al.* (2013), on the influence of inventory management practices on financial performance of sugar manufacturing firms in Kenya revealed that while sugar companies were applying the same inventory management practices, the implementation of these practices was unique to every organization based laid down procedural practices relating to inventory control. The findings of the study revealed a positive correlation between inventory internal procedural inventory security practices and organizational performance. The researchers recommended that for manufacturing firms to achieve optimal internal inventory security, they should have in place properly outlined laid down procedural inventory security control practices that are developed based on the organization's environment.

In the public sector, while organizations develop and use inventory control practices, the organizations have widely used the documented procedural inventory control practices as either provided for in the constitution or in the regulations relating to procurement and inventory control. Owuoth & Mwangi (2015), conducted such study on inventory control in public sector in Kenya. The study revealed that lack of adoption of the procedural practices spelt in the procurement act and other public procurement regulations by public organizations has led to poor procurement performance in the sector. Actually, the study revealed that a part from adopting the procedures provided for, public entities should use the provisions in the procedural documents to draft procurement policies that are congruent with their environment.

Ondieki et al. (2015), investigated the effects of the management of warehousing inventory systems on procurement Seventh day Adventist institution's financial

performance in Kenya. The main objective is to evaluate the effects of inventory warehousing systems on Seventh Day Adventist Institution's financial performance. The findings of the study revealed a positive significant relationship between inventory warehousing systems and financial performance. The study suggests that owners/managers of organizations embrace effective inventory warehousing systems as a tactic to further their financial performance and in overall performance of their organization.

Internal inventory operations integrated with supply chain management and systems enabled by the Internet will benefit businesses and stakeholders at large. Computerised inventory control is very useful in implementation of e-procurement especially in the large organizations and public organizations. In public organizations, computerised inventory control system can be used to achieve social and economic reforms and in public sector firms keen to demonstrate corporate social responsibility. It is therefore recommended that management facilitates development of operational tasks in the procurement area. Managers of organizations should seriously consider the usage (Owuoth & Mwangi, 2015)

III. RESEARCH METHODOLOGY

A. RESEARCH DESIGN

A research design is the plan of action the researcher employs for answering the research questions (Kothari, 2004). According to Trochim (2006), research design is used to structure the research, to show how all of the major parts of the research project or the groups, measures, treatments or programs, and methods of assignment work together to try to address the central research questions. The study will use descriptive research design. According to Cozby (2005), descriptive design is used to obtain information concerning the status of the phenomena to describe what exists with respect to variables in a situation, by asking individuals about their perceptions, attitudes, behavior or values. This design is appropriate for this research because it is concerned with clearly defined problems with definite objectives, which are the influence on inventory management in supply chain management.

B. TARGET POPULATION

According to Mugenda and Mugenda (2003), target population is a complete set of individuals, cases, or objects with some common observable characteristics. The population of the study comprised of Kenya Medical Supplies Agency senior personnel in the following departments; finance division, customer care, supply and administration, sales and marketing department. The study targeted the personnel in those departments as they are better placed to answer questions relating to inventory management and the company's objectives.

Supply chain management Department	No. of Employees	Percentage
Top level management	76	11
Middle level management	235	33
Lower Level management	409	57
TOTAL	720	100

Table 3.1: Table of Population

C. SAMPLING FRAME

A sampling frame is a clear and concise description of the population under study, which include people, households, organizations or other units of analysis (Mugenda & Mugenda, 2003). It is a physical representation of the target population and comprises all the units that are potential members of a sample (Kothari, 2008). The target respondents included the 720 management staffs from the Company's Head Offices in Nairobi, from the following departments; finance division, customer care, supply and administration, sales and marketing department.

D. SAMPLE AND SAMPLING TECHNIQUE

A sample is a smaller group or sub-group obtained from the accessible population (Mugenda & Mugenda, 2003). Stratified random sampling procedure was administered to select the subjects of study. Stratified sampling ensures a high degree of representativeness of all the strata or layers in the population (Iyoke et al., 2006). The structure in the Company put staffs in three categories; top management level consisted of the executives (head of departments and the deputy heads of departments); middle management comprises functional heads (tactical level of management and comprised all the senior and middle level officers in all departments of the company who are tasked with the responsibility of implementing policies made) while low level management is mainly operational staff (accounting and customer attendant officers whose main duty is performing daily tasks which are routine and repetitive in the Company).

The study population therefore was stratified into strata based on the levels of management, which are executives, middle management and low level of management. Simple random sampling procedure was then being used to pick the sample. It is preferred because it allows unbiased sampling and accords the research work more scientific features thereby making the validity of the research findings more concrete. Mugenda and Mugenda (2003) explain that for any meaningful study, 10-30% of the target population would provide an adequate sample size. Gay (1992) suggests that at least 10% of the population is a good representation where the population is large and 30%, where the population is small. He observes that a researcher selects the sample due to various limitations that may not allow researching the whole population drawn. In this study, 10% of the population was used as a sample. Given that the population was 720, 10% gave a sample of 72 employees.

Procurement Department	No. of Employees	Sample
Top level management	76	8
Middle level management	235	24
Lower Level management	409	40
Total	720	72

Table 3.2: Sampling Frame

E. DATA COLLECTION INSTRUMENT

Questionnaire was used to collect data from the respondents. The questionnaire was used because they are straight forward and less time consuming for both the researcher and the participants (Owens, 2002). The questionnaire consisted of both close and open ended items. The questionnaire was structured as follows: Section I: Background Information, Section II: The influence of technology on inventory performance at Kenya Medical Supplies Authority, Section III: The influence of staff competency on inventory performance at Kenya Medical Supplies Authority, Section IV: The influence of management support on inventory performance at Kenya Medical Supplies Authority, and Section V: The influence of ethical issues on inventory performance at Kenya Medical Supplies Authority.

F. DATA COLLECTION PROCEDURE

The researcher used drop and pick method to collect data. This involved distributing the questionnaire with the help of the Human resource, KEMSA. The researcher then picked the questionnaire after one week. The researcher in person made a personal follow up to ensure that the entire questionnaires are filled and collected on time. This process of data collection was done while assuring the participants confidentiality of the provided information.

G. PILOT TEST

According to Kothari (2010), pilot test is the study done to determine the reliability and validity of the data collection instrument. Pilot test was done with the purpose of detecting any weakness and finding out if the questionnaires are clear to the respondents. The research instrument was administered to twelve randomly selected staff who were not selected for the actual study. The results of the pilot study were analyzed and used to modify and remove ambiguous items on the questionnaire designed to be used in the study.

a. VALIDITY OF INSTRUMENT

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. It is rare, that an instrument be 100% valid, so validity is measured in degrees. As a process, validation involves collecting and analyzing data to assess the accuracy of an instrument. There are numerous statistical tests and measures to assess the validity of quantitative instruments, which generally involves pilot testing. Validity of the instrument were measured through a pilot study. The results of the pilot study were analyzed and used to modify and remove ambiguous items on the questionnaire designed to be used in the study.

b. RELIABILITY OF THE INSTRUMENT

According to Moskal, & Leydens, 2000, reliability is the degree to which an assessment tool produces constant and dependable results. The data collected from the pilot test were subjected to a Cronbach's alpha analysis to ascertain the reliability of the instrument. Variables derived from test instruments are declared to be reliable only when they provide stable and reliable responses over a repeated administration of the test (Santos, 1999). The reliability coefficient (alpha = α) range from 0 to 1, with 0 representing an instrument full of error and 1 representing total absence of error. A reliability coefficient (alpha) of 0.70 or higher is considered acceptable reliability (Groves, 1987).

H. DATA ANALYSIS.

The collected data were analysed using descriptive and inferential analysis. Descriptive statistics provide for meaningful distribution of scores using statistical measures of central tendencies, dispersion and distribution (Kothari, 2008). Frequencies and percentages were used to present quantitative data in form of tables based on the major research questions. Data from close ended questions in the questionnaire were coded and entered into the computer using Statistical Package for Social Science (SPSS). Inferential statistics, which included regression analysis, ANOVA and correlation, were used to estimate the relationship between supply chain management practices and inventory performance at KEMSA. Mugenda and Mugenda (2003) define regression analysis as a type of analysis used when a researcher is interested in finding out whether an independent variable predicts a given dependent variable.

The linear regression model below;

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

Where Y is the inventory performance, β_0 is constant and ε is the error term of the model.

X_1	=	Technology
X_2	=	Management Support
X_3	=	Staff Competency
X_4	=	Ethical Issues

IV. RESULTS AND DISCUSSION

A. RESPONSE RATE

Out of the 72 questionnaires that were given 58 questionnaires were returned. This represents a response rate of 81% which is significant to give reliable findings for this study. According to McBurney (2001), a low response rate could have a potentially biasing effect on the study results. However, above 70% response rate is acceptable for the study.

a. GENDER OF THE RESPONDENTS

Respondents were asked to indicate their gender and the findings are presented in Figure 4.1 below
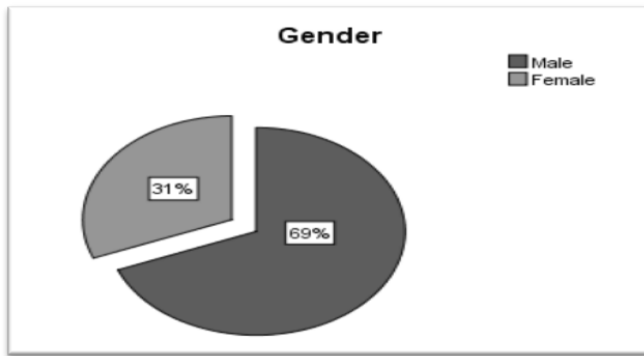
Figure 4.1: Gender of the Respondents

The study shows that majority of the respondents (69%) were male while 31% were female. However, this does not have any implication in this study.

b.   AGE OF THE RESPONDENTS

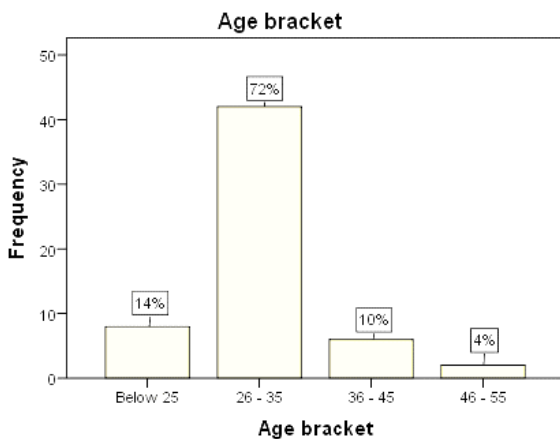Respondents were asked their age bracket and the findings are as shown in Figure 4.2;

Figure 4.1: Age of the Respondents

The findings showed that 72% % of the respondents were between the ages of 26 – 35 years, 14% of the employees were below years, 10% of the employees aged between 36 - 45 years and 4% of the employees were those aged between 46 – 45 years. None were aged above 56 years. This suggests that most of the employees are of the age brackets of 26 – 35 years which is considered to be the productive years.

c.   LEVEL OF EDUCATIONAL QUALIFICATION

Respondents were asked to indicate their level of Education. The findings are in Table 4.1;

	Frequency	Percent
Doctorate	2	3.4
Masters	8	13.8
Degree	22	37.9
Diploma	26	44.8
Total	58	100.0

Table 4.1: Level of Educational Qualification

The findings in Table 4.1 shows majority of the respondents (44.8%) had attained a diploma as their highest level of education while 37.9% had Bachelor's Degree. 13.8% has Master's degree. The study further established that 3.4%

of the respondents had attained Doctorate. This indicates that the respondents were in a position to answer the questionnaire. According to Kothari (2004), respondents who are learned are more likely to understand the questions asked in a questionnaire.

d.   DEPARTMENT

The respondents were asked to indicate the department where they work. The findings are shown in Table 4.2

Department	Frequency	Percent
Distribution	20	34.6
Inventory	4	6.9
IT	2	3.4
Medical Commodities Program	2	3.4
Planning	2	3.4
Procurement	2	3.4
Warehouse	26	44.9
Total	58	100.0

Table 4.2: Department

The findings indicated that majority of the respondents (44.9%) were from the warehouse department, 34.6% were from the distribution department, and 6.9% were from the inventory department. IT, medical commodities program, planning and procurement each had 3.4% of the respondents. This shows that all the department were represented in the study.

e.   YEARS OF EXPERIENCE

The respondents were asked to indicate the years they worked at KEMSA. The findings are indicated in Figure 4.3 below;

Figure 4.2: Years of Experience
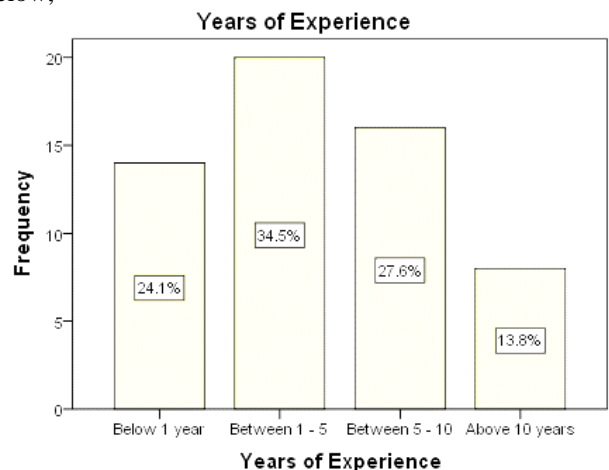
As evident in the Figure 4.2, majority of the respondents (34.5%), have worked for between 1 – 5 years, 27.6% have worked for between 5 – 10 years, 24.1 % have worked below 1 year while 13.8% have over 10 years of experience in their current position.

f.   LEVEL OF MANAGEMENT

Respondents were asked to indicate the level of management. The findings are shown in Table 4.3;

Level of Management	Frequency	Percent
Senior	10	17.2
Middle Management	20	34.5
Operational Level	28	48.3
Total	58	100.0

Table 4.3: Level of Management

Majority of the respondents were on operational level (48.3%), 34.5% of the respondent were on middle management while 17.2 % of the respondents were on senior level management. This shows that the respondents were spread across the three levels of management.

B. INFLUENCE OF TECHNOLOGY ON INVENTORY PERFORMANCE AT KEMSA

The study sought to identify the extent of influence of technology on inventory performance. Likert scale was used where: 1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree. The results are indicated as shown.

	1	2	3	4	5	Mean	Std. Deviation
Application of Economic Order Quantity helps improve organizational supply chain performance by way of quantities required and when they are required	32	18	4	2	2	1.69	.995
Just-in-time helps organizations cut on holding cost and improve customer satisfaction	28	22	6	0	2	1.72	.914
Vendor management inventory system eases management's work for inventory replenishment	26	24	4	2	2	1.79	.969
On-line communication has cultivated organizational capabilities that enables it better communicate with supply chain partners in managing inventory.	32	20	2	2	2	1.66	.965
The company has used technology that uses the Global Positioning System to determine the precise location of a vehicle, person, or other asset to which it is attached and to record the position of the asset at regular intervals	12	28	10	2	6	2.34	1.163
The company is buying and selling products or services over electronic systems on technologies as electronic funds transfer	14	28	12	2	2	2.14	.945
The company has used automated system that runs day-to-day operations of a distribution center by controlling item put away, picking, packing, and shipping	28	20	8	0	2	1.76	.942
The company has used technology focused on automation of simple transactions and the creation of an integrated method of storing and viewing data across the enterprise.	32	18	6	0	2	1.66	.928
The company has used technology in the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention.	28	22	8	0	0	1.66	.715

Table 4.4: Technology

As evident in Table 4.4, respondents agreed that the company has used technology focused on automation of simple transactions and the creation of an integrated method of storing and viewing data across the enterprise (mean of 1.66), the company has used technology in the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention (mean of 1.66). The respondents also agreed that on-line communication has cultivated organizational capabilities that enables it better communicate with supply chain partners in managing inventory (mean of 1.66), application of Economic Order Quantity helps improve organizational supply chain performance by way of quantities required and when they are required (mean of 1.69). The respondent further agreed that Just-in-time helps organizations cut on holding cost and improve customer satisfaction (mean of 1.72), the company has used automated system that runs day-to-day operations of a distribution centre by controlling item put away, picking, packing, and shipping (mean of 1.76) and vendor management inventory system eases management's work for inventory replenishment (mean of 1.79). Further, the respondents agreed that the company is buying and selling products or services over electronic systems on technologies as electronic funds transfer (mean of 2.14), and the company has used technology that uses the Global Positioning System to determine the precise location of a vehicle, person, or other asset to which it is attached and to record the position of the asset at regular intervals (mean of 2.34).

The findings of the study agreed with previous studies for example Hutchins (2013), who established that inventory management techniques are a technology that is capable of instant response to demand without the need for any over stocking, either in expectation of the demand being forthcoming or as a result of inefficiencies in the process. According to Lambert (2008), Just in Time technology is extremely important for business operations because their success and cost reduction of the firm's expenditure necessitate improved supply chain performance and knowledge to the employees. Schreibfeder (2010), agreed that by developing and using a comprehensive set of tools, such as technology to closely monitor the performance of inventory, healthcare sector can achieve goals more efficiently. Laudon and Laudon (2013), agreed that technologies save costs, improve customer and supplier relationships, business

processes and performance, and open new business opportunities. Cheng, Podolsky, and Jarvis (2012), also agreed that the use of Just In Time Technique leads to increase in quality, productivity and efficiency, improved communication and decreases in costs and wastes.

C. STAFF COMPETENCY

The study sought to identify the influence of staff competency on inventory performance at KEMSA. Likert scale was used where: 1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree. The results are indicated as shown in Table 4.5;

	1	2	3	4	5	Mean	Std. Deviation
Supply chain staff in KEMSA have adequate professional qualifications in purchasing and supply chain management	4	14	16	18	6	2.14	1.115
Supply chain staff in KEMSA have been adequately trained and sensitized on inventory management systems	12	4	16	14	12	2.17	1.403
Loss of key staff competencies may have negative consequences on the supply chain of KEMSA	10	18	4	2	24	2.21	1.641
Preservation and development of staff competencies are critical issues to KEMSA	20	4	8	8	18	2.18	1.596
People based skills are pointed out as strategically important resources for gaining a sustainable competitive advantage	12	12	8	6	20	2.17	1.602
The employees managing inventory clearly understand inventory techniques	6	8	20	12	12	2.28	1.684

Table 4.5: Staff Competency

From the findings, respondents agreed that supply chain staff in KEMSA have adequate professional qualifications in purchasing and supply chain management (mean of 2.14), supply chain staff in KEMSA have been adequately trained and sensitized on inventory management systems (2.17), and that people based skills are pointed out as strategically important resources for gaining a sustainable competitive advantage (2.17). The respondents also agreed that preservation and development of staff competencies are critical issues to KEMSA (mean of 2.18), loss of key staff competencies may have negative consequences on the supply chain of KEMSA (2.21), and that the employees managing inventory clearly understand inventory techniques (mean of 2.28).

The findings agreed with Curtis (2003), who argued that employees should be trained on inventory management. He stated that training is a process of changing the behavior, knowledge and motivation of present employees to improve the match between employee's characteristics and employment requirements. Hutchins (2013), posit that trained worker is a better informed worker who will improve on quality. The competent employee make less operational mistakes hence help in implementation of Quality standard in the company. Curtis (2003), also agreed that training is critical to performance of employees at all levels in the implementation of inventory management since it is the motivator and is essential to acquiring and maintaining skills necessary for optimal job performance. Liu *et al.* (2010), agreed that management and staff need to have knowledge on how to apply the economic order quantity which leads to the success of an organization.

D. MANAGEMENT SUPPORT

The study sought to identify how management support influence inventory performance at KEMSA. Likert scale was used where: 1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree. The results are as shown in Table 4.5;

	1	2	3	4	5	Mean	Std. Deviation
Management offer adequate professional support, training and educational facilities and opportunities to staff managing inventory.	14	10	4	20	10	2.03	1.486
Management allocated more resources and equipment's to procurement department than other departments	16	12	16	6	8	2.10	1.361
Procurement department is involved in the decision-making process affecting the long-term operation of KEMSA	14	12	4	10	18	2.12	1.419
There is competent commitment and involvement of top management	10	10	6	14	18	2.34	1.505

Table 4.5: Management support

The respondent agreed that management allocated more resources and equipment's to procurement department than other departments (mean of 2.03), management offer adequate professional support, training and educational facilities and opportunities to staff managing inventory (mean of 2.10), procurement department is involved in the decision-making process affecting the long-term operation of KEMSA (mean of 2.12), and there is competent commitment and involvement of top management (2.34).

The findings concur with Hersey and Blanchard (2007) that management provides vision, policy and strategic plan for any organization and plays a vital role in planning of all inventory management programmes. Management sets goals and objectives for inventory activities by setting short and long term plans for the system. Management communicates all action plans for implementing. According to Pande, Neuman and Cavanagh (2000), management support establishes quality standard by implementing principles of inventory management. Harmon (2010), agreed that coordinating operational activities through joint planning also results inventory reduction smoothing production, improve product

quality, and lead time reductions argues that integration is an effective strategy in reducing with suppliers throughout the product lifecycle is an effective strategy in reducing supply uncertainty.

E. ETHICAL ISSUES

The study sought to identify how ethical issues influence inventory performance at KEMSA. Likert scale was used where: 1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree. The results are indicated in Table 4.6;

	1	2	3	4	5	Mean	Std. Deviation
Accountability is highly regarded in inventory control at KEMSA	16	4	4	6	28	1.45	1.649
Information regarding inventory is openly shared within the supply chain	14	6	2	16	20	2.38	1.720
Honesty and integrity is emphasized in all inventory undertakings	22	0	2	10	24	2.24	1.809
Employees follow ethical codes of conduct while dealing with inventory	14	6	4	18	16	2.28	1.825
Procurement rules and regulations discourage corrupt practices in inventory management	14	8	2	8	26	3.41	1.907
KEMSA does not transact business with companies engaged in malpractices like child labor/ Tax evasion/avoidance	18	4	4	6	26	2.31	1.739
KEMSA transacts businesses with original trademark owners and no Imitations	18	6	2	12	20	2.17	1.778

Table 4.6: Ethical Issues

As shown in Table 4.6, respondents strongly agreed that accountability is highly regarded in inventory control at KEMSA. The respondents agreed that KEMSA transacts businesses with original trademark owners and no Imitations, honesty and integrity is emphasized in all inventory undertakings. The respondents also agreed that employees follow ethical codes of conduct while dealing with inventory, KEMSA does not transact business with companies engaged in malpractices like child labor/ Tax evasion/avoidance, and that information regarding inventory is openly shared within the supply chain. However, respondents were undecided whether procurement rules and regulations discourage corrupt practices in inventory management.

The findings agreed with previous studies for example Githui (2012), who found that transparency in inventory management techniques is absolutely important because it eliminate corruption, biased procurement process, procuring substandard good for the organization that proof to be extremely costly. Lambard (2008) concluded that principles, which include proper communication at work place, upholding of integrity and ethics, providing leadership, establishing team work, sponsoring training and recognizing workers who have excelled in quality implementation by rewarding them leads to effective performance. Sandeep et al. (2007), agreed that

inventory management can bring unwarranted losses if the organization always has stock outs, lack of proper warehousing plans, delivering the wrong goods to the customers as well as lack of proper documentation for goods procured. The staffs need to understand and apply the inventory management techniques and ethics to ensure that the organization gets value for its money. Stock and Lambert (2011), posits that the objectives of inventory management are to increase corporate profitability, to predict the impact of corporate policies on inventory levels, and to minimize the total cost of logistics activities.

F. REGRESSION ANALYSIS

Regression analysis was done to predict the inventory performance based on the factors technology, management, staff competency and ethical issues.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.729	.646		4.224	.000
	Technology	.468	.329	.468	1.421	.161
	Management support	.363	.286	.364	1.268	.210
	Staff competency	.088	.285	-.096	-.309	.758
	Ethical issues	-.104	.308	-.103	-.336	.738

Table 4.7: Regression coefficients

$$Y = 2.729 + 0.468X_1 + 0.363X_2 + 0.088X_3 - 0.104X_4$$

Where Y is the inventory performance, and ε is the error term of the model.

X_1	=	Technology
X_2	=	Management support
X_3	=	Staff competency
X_4	=	Ethical issues

From these results, we conclude that positive effects were reported on use of technology, management support, and staff competency implying that these independent variables are directly proportional to inventory performance.

Negative effect was reported on ethical issues showing that the independent variable is inversely proportional to inventory performance.

The values of t-test and p-values shows the relative contribution of each independent variable. The predictor variables of technology (t = 1.421, p = 0.161), management support (t = 1.268, p = 0.210), staff competency (t = -0.309, p = 0.758), and ethical issues (t = -0.336, p = 0.738) are not statistically significant with their p-values being greater than the significance level. In addition, the computed values of t-test are less than the critical t-test values.

ANOVA test was carried out to establish the influence of supply chain management practices on inventory performance at Kenya Medical Supplies Agency at 95% confident level. The results are indicated in Table 4.9

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	12.028	7	1.718	6.256	.013
Residual	26.009	8	3.251		
Total	38.037	15			

Table 4.8: Analysis of Variance

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a

regression model and form a basis for tests of significance. Significance exist between the response and predictor variables if P-value < 0.05. As shown in table 4.8, P-Value = 0.013 < 0.05. F-value computed, F = 6.256, is in the critical region and p<0.5 hence we reject null hypothesis. The ANOVA indicates that there are significant linear relationship supply chain management practices and inventory performance, F (7, 8) = 6.256, p<0.05

V. SUMMARY, CONCLUSION AND RECOMMENDATION

A. SUMMARY

The study was intended to establish the influence of supply chain management practices on inventory performance at Kenya Medical Supplies Agency. The following is a summary of the findings.

a. TECHNOLOGY AND INVENTORY PERFORMANCE

Respondents agreed that the company has used technology focused on automation of simple transactions and the creation of an integrated method of storing and viewing data across the enterprise, the company has used technology in the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention. The respondents also agreed that on-line communication has cultivated organizational capabilities that enables it better communicate with supply chain partners in managing inventory, application of Economic Order Quantity helps improve organizational supply chain performance by way of quantities required and when they are required. The respondent further agreed that Just-in-time helps organizations cut on holding cost and improve customer satisfaction, the company has used automated system that runs day-to-day operations of a distribution centre by controlling item put away, picking, packing, and shipping and vendor management inventory system eases management's work for inventory replenishment. Further, the respondents agreed that the company is buying and selling products or services over electronic systems on technologies as electronic funds transfer, and the company has used technology that uses the Global Positioning System to determine the precise location of a vehicle, person, or other asset to which it is attached and to record the position of the asset at regular intervals.

b. STAFF COMPETENCY AND INVENTORY PERFORMANCE

The respondents agreed that supply chain staff in KEMSA have adequate professional qualifications in purchasing and supply chain management, supply chain staff in KEMSA have been adequately trained and sensitized on inventory management systems, and that people based skills are pointed out as strategically important resources for gaining a sustainable competitive advantage. The respondents also agreed that preservation and development of staff competencies are critical issues to KEMSA, loss of key staff competencies may have negative consequences on the supply chain of KEMSA, and that the employees managing inventory clearly understand inventory techniques.

c. MANAGEMENT SUPPORT AND INVENTORY PERFORMANCE

The findings indicated that the respondent agreed that management allocated more resources and equipment's to procurement department than other departments, management offer adequate professional support, training and educational facilities and opportunities to staff managing inventory, procurement department is involved in the decision-making process affecting the long-term operation of KEMSA, and there is competent commitment and involvement of top management.

d. ETHICAL ISSUES AND INVENTORY PERFORMANCE

The respondents strongly agreed that accountability is highly regarded in inventory control at KEMSA. The respondents agreed that KEMSA transacts businesses with original trademark owners and no Imitations, honesty and integrity is emphasized in all inventory undertakings. The respondents also agreed that employees follow ethical codes of conduct while dealing with inventory, KEMSA does not transact business with companies engaged in malpractices like child labor/ Tax evasion/avoidance, and that information regarding inventory is openly shared within the supply chain. However, respondents were undecided whether procurement rules and regulations discourage corrupt practices in inventory management.

B. CONCLUSION

The study concluded that supply chain management practices has positive effect on inventory performance. As evident from this study, automation of transactions, the creation of an integrated method of storing and viewing data across the enterprise enhanced supply chain performance. The use of technology in the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention enhances supply chain performance. On-line communication enables better communicate with supply chain partners in managing inventory and the application of Economic Order Quantity helps improve organizational supply chain performance by way of quantities required and when they are required. The study also concluded that Just-in-time helps organizations cut on holding cost and improve customer satisfaction, and vendor management inventory system eases management's work for inventory replenishment.

The study also concluded that training and sensitizing employees on inventory management systems, considering employee's skills as strategically important resources for gaining a sustainable competitive advantage, preservation and development of staff competencies, and ensuring employees understand inventory techniques enhances supply chain

performance. The study also concluded that allocating resources, offering adequate professional support, training and educational facilities and opportunities to staff managing inventory, involving employees in decision making process, and the competent commitment and involvement of top management influence supply chain performance.

The study further concluded that accountability, transacting businesses with original trademark owners, honesty and integrity in all inventory undertakings, following ethical codes of conduct while dealing with inventory, not transact business with companies engaged in malpractices like child labor/Tax evasion/avoidance, and sharing information regarding inventory is openly within the supply chain influences on inventory performance.

C. RECOMMENDATIONS

a. TECHNOLOGY

Technology is the bedrock of every competitive supply chain organization. For efficiency and effectiveness to be realized in the inventory flow through a supply chain stream, the study recommends that technology should be interfaced with inventory as it flows from the source to end user. For instance, the application of technology can be done across the supply chain from procurement to the operational units including distribution level. At procurement level, the organization should put in place the e-procurement system. Once stock is procured, it should be accounted for in the warehouse management system. This is composed of the bar codes, scanners, frequency radio identification tags and centralized computers for data bases. At distribution level, an application known as distribution resource planning should be implemented to ensure efficiency in load planning and the distributed inventory tracked through by tracking systems while on transit. An organization wide system called the Enterprise Resource Planning (ERP) that integrate procurement and operation activities including internal and external stakeholders should thus be implemented. There should also be collaboration with universities and Information Technology Firms on research and development on inventory technologies that could improve inventory performance.

b. ETHICAL ISSUES

The study further recommends that supply chain organizations develops inventory ethical policies touching on parameters such as fair trade dealing, health and safety, environment, child labor and wages, tax evasion, theft, corruption and fraud. Inventory staff should then be enlightened with regards to such ethical policies and monitored to ensure implementation to the latter. There should also be collaboration with other organizations such Ethical Trading Initiative and Fair Trade Movement which are committed to working to working together to identify and promote internationally-agreed principles of ethical trade and employment, and to monitor and independently verify the observance of ethics code provisions.

c. STAFF COMPETENCY

This study also recommends that inventory staff should be skilled, knowledgeable and experienced in inventory techniques and technologies. Thus, there should be requirement supply chain staff handling inventory should be members of professional association such as chartered institute of procurement and supply or Supply Chain Council where they continuously learn about new trend inventory management. The staff should also be qualified in professional courses that comes along with the professional memberships.

d. MANAGEMENT SUPPORT

Management should strive to support staff handling inventory through continuous training on inventory technologies that provide competitive edge in inventory activities. This is also achievable through registering staff to local universities for further learning in supply chain management. The management should also put measure to mitigate rebellion towards technology introduction in inventory management. Management also ensures support through being in the fore front in fighting ethical malpractices by being the fore front showing good examples ethical practices in inventory management. Management can also improve inventory performance by collaborating with best in practice companies on inventory management where the organization can gain best in practice expertise on inventory management from such organizations.

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