Effects of Inventory Management Techniques on Procurement Performance: An Empirical Study

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Abstract:  
Inventory is a key determinant of procurement success in either private or public organizations since inventory is an asset and an expense to hold. Determining the required level to be held at each and every time required a combination of various mythologies in an organization. Since this study was based on the concept of inventory management and procurement performance, the general objective was to determine the effect of inventory management techniques on procurement performance, the case of empirical evidence. Specially, the study focused on determining the effect of ABC technique, Vendor Managed inventory technique and periodic review approach on procurement performance. The study sampled relevant research papers on the concept of inventory management. Theoretically was anchored on Economic Order Quantity Model, Network Theory and Resource Dependency Theory for illustrating the relationship between inventory control techniques and procurement performance. The study found out that ABC technique, Vendor Managed inventory technique and periodic review approach significantly affects procurement performance. The study recommended the adoption of ABC technique, Vendor Managed inventory technique and periodic review approach for efficient procurement function in an organization. The study further poised for a future study to use different research design to see whether similar findings can be achieved.

Keywords: Economic order quantity, enterprise resource planning, inventory and procurement performance

1. Background Information  
Presently, supply chain environment is described with various factors which are of risk that may affect negatively the internal supply chain operations of an undertaking which researchers have regarded it as supply chain risks (Jolla, 2014). For an association to effectively work and contend in the present risky supply chain environment, the association must institute successful control measures in its internal supply chain functions. As indicated by Posazhennikova (2016) one of the techniques at present received by endeavors is improvement of an effective internal stock control system. Storage of materials, supervision and ensuring item accessibility so as to guarantee a satisfactory supply without intemperate supply or stock outs through a well-adjusted procurement process is termed as inventory control (Bartmann, 2014). To effectively control inventory, Score (2015) posed there must be a proper understanding of the organizational and customer requirements, customer and supplier lead times and the inventory procedures in an organization. Internal Inventory Control has been and keeps on being a critical area in any business regardless of the size or location, scope of operation on account of the expenses related with it (Solutions, 2013). Solutions, (2013) further emphasized that stock control accounts for 45% to 90% of the overall costs of the organization. Likewise, Oballah, (2015) expressed that internal stock control can be utilized by an association as a key way to deal with accomplish improved proficiency and adequacy in tasks and upgraded hierarchical execution; internal stock control can be utilized to streamline inside procedures, track things over the association and smoothen internal activities thus improving authoritative internal productivity.

The concept of inventory management and control begun to attract the attention in 1910s. In 1915, the Economic Order Quantity was created by Harris to assist organizations with the issue of deciding the ideal amount to order (Harris, 1915). In 1953, a probabilistic model was created and in 1958 powerful model was created to improve stock control in mind boggling and dynamic business situations (Liang, 1997). In the present business condition, associations receive the
present advancements to improve stock control. For example, automated stock control system, for example, Electronic Data Interchange, Enterprise Resource Planning and Just in Time have progressively become common in organizations (Sage, 2015).

In perspective on the developed countries, Canada for example, internal stock control practices are very common among organizations both public and private (Liang, 2016). In the US, the United States General Accounting Office built up an official guide in 2012 to accomplish predictable and exact stock control. The structure helps federal managers to improve precision and unwavering quality stock control (United States General Accounting Office, 2012). Equally, the National Food Service Management Institute of the University of Mississippi developed a reference guide to help them in stock management as well as tracking in 2013. The contention in help of improvement of this guide is that stock administration is one of the basic segments of the executives not just in United States Department of Agriculture (USDA) yet in addition in some other administration (National Food Service Management Institute, 2013).

In Africa, the idea of stock control has been an indispensable capacity and challenging in bookkeeping and procurement system since 1930s. As indicated by the report made by The Institute of Auditors Research Foundation (Harris, 2015), internal control frameworks picked up notoriety during the industrialization time frame. For example, in Nigeria, the way that inventories are accepted to give an immediate connection among generation and deals and comprise great level of authoritative expenses has caused numerous associations to contribute intensely on frameworks that can upgrade stock control (Harris, 2015). Associations have and kept on confronting stock administration challenges. In view of the reason that stock control is a significant factor in consumer loyalty and improved benefit, associations, whether public or private, big or small, local or global, big or small are somehow worried about stock control. It has been the endeavor of most associations endeavoring to accomplish ideal stock control while limiting stock costs which has ever been a test (Ngunyi, 2014).

1.1. Inventory Control

Stock control or inventory being a quantitative control technique, it has a strong financial implication in any organization. In most organizations, inventory is the absolute most significant control procedure having direct associations with generation, acquiring, promoting and money related approaches (Chalotra, 2015). Chalotra, (2015) has further demonstrated that stocks are held for two reasons which are: economy and for insurance. Security additionally means giving a support against vacillations sought after or conveyance, guaranteeing against vulnerability and postponement (Mandal, 2016). A stock issue happens on the exchange off of stock expenses and client prerequisites (Peter, 2016). Pretty much every business must stock merchandise to guarantee smooth and productive handlings of its activities. A stock issue is decided by choice with respect to how much products a firm could arrange and when to request such merchandise. Both over stocking and under stocking of merchandise could make issues for any firm (Peter, 2016).

2. Problem Statement

Apart from ensuring materials and products timely availability, organizations as well ensures superior customer service and to achieve competitive advantage (Harris, 2015). While numerous organizations utilize internal stock practices as an approach to accomplish organizational goals, like, improved procurement procedures and enhanced efficiency. Adoption of powerful internal stock control practices is a challenge to many (Lwiki, 2015). The inventory management techniques have been used different over time with the main goal of cutting cost so as to improve an overall organizational efficiency. According to Neely, (2014), some of the techniques which have been developed for efficient control includes vendor managed inventory, Enterprise Resource Planning (ERP) software, inventory forecasting and Just in Time. However, these techniques have been developed, Neely (2014) noted that many organizations have not fully adopted.

The performance of a procurement function as measured by its effectiveness has a significant influence on the overall organization performance (Sigma, 2014). Sigma, (2014) further reiterated that internal stock control is directly measurable by how successful an organization is providing services to its customers. A study done by Ogbo, (2014) in Nigeria using state corporations as the case study found out that there was a lot of challenges in determining the desired stock levels that ensures a free flow of materials without incurring heavy expenses in stocking those materials and without any stock being rendered obsolete. The findings by Ogbo, (2014) further showed an evidence of suppliers not meeting delivery schedules and thus caused delivery uncertainty which interned negatively on procurement performance. It is eminent to expand knowledge on inventory techniques more so to state organizations in Kenya.

While studies have been conducted to relate inventory control practices with various aspects of organizational performance such as financial, economic and operational performance, most of such studies has only focused on manufacturing organizations and chain stores neglecting the service industry organizations (Eckert, 2015). Scholars like Jie, Jiancai and Wang, (2017); David, Steffen and, Malte, (2015); Isaac, John-Patrick and Adams (2016) in the field of operations management literature have shown how much inventory a firm should keep but there is dichotomy in the views given that inventory is both an asset and a liability. An excessive amount of stock creates a financial burden, takes physical space, and increases the chances of damage, loss and spoilage (Panwar&Andrew, 2017). Furthermore, too much of the stock most at times compensates for inefficient and sloppy management, haphazard scheduling, poor forecasting, and inadequate attention to procedures and processes. In this setting the lean production principle is spearheaded by Womack, (1990) has been connected with decreased degree of inventories (Rajagopalan and Kumar, 2014; Herer, 2014; Wickramatilake, 2016) regardless of whether unpredictability of interest may restrain the utilization of this guideline. Then again, too little stock frequently upsets producing tasks, and improves the probability of poor service to customer (Jooh and He-Boong, 2017).
Exact proof in the stock administration execution relationship created likewise blended outcomes. In particular, Milgrom and Roberts (2015) and Dudley and Lasserre (2016) demonstrated that convenient and useful client request information can bring about improved procurement execution through decreased inventories. Huson and Nanda (2015) demonstrated that the improvement of stock turnover through the selection of JIT showed a critical negative connection between gross working pay and the quantity of stock days for an example of non-financial related associations in Nairobi. Alam, (2015) while analyzing the challenges of office automation using the case of Kitale Technical Training Institute found out that however the main objective of ERP transform paper based processes and procedures into a computerized system that can capture all the functional processes and functional data information flows to aid in management, the objective was not fully achieved.

Based on the analyzed literature gap, especially the study by Milgrom and Roberts (2015); Dudley and Lasserre (2016); Huson and Nanda (2015), it is evident that these is a knowledge disparity between inventory control techniques and the procurement performance in the service-based organizations like public universities.

3. General Objectives
The general objective of the study was to determine the effect of inventory management techniques on procurement performance, case of empirical study.

3.1. Specific Objectives
- To determine the influence of ABC technique on procurement performance, a case study on empirical review.
- To find out the influence of Vender Managed inventory technique on procurement performance a case study on empirical review.
- To assess the influence of periodic review approach on procurement performance a case study on empirical review.

3.2. Research Questions
- How does ABC technique affect procurement performance, a case study on empirical review?
- Does Vender Managed inventory technique affect procurement performance a case study on empirical review?
- Does periodic review approach affect procurement performance a case study on empirical review?

4. Review of Literature
Boute, (2015) proposed that by lessening the quantity of inventories days to a sensible minimum, managers can create value for their investors. Extra proof is given by Yamane, (2016), who found no general abatement of stock proportions in spite of any expanded spotlight on stock decrease for the chosen service industries in North America. Urban, (2015) repeated that organizations with high stock proportions have more potential outcomes to be awful money related entertainers. This is reliable with the discoveries of Shin and Soenen (2014), which detailed a solid negative connection between the money change cycle and corporate benefit for an enormous example of open American firms. Chen, (2015) by looking at how the market esteems the organizations concerning their different inventories approaches, revealed that organizations with strangely high inventories have anomalous poor stock returns, firms with unusually low inventories have normal stock returns while firms with somewhat lower than normal inventories perform best after some time.

Su and Yang (2014) in their study based on a Taiwanese industry that manufactures electronics interviewed users, IT technicians, engineers, production planners, supervisors, managers and consultants on the benefits of ERP systems. They confirmed that ERP systems benefitted the operational, managerial, and strategic competencies of a supply chain and led to a robust procurement function. Bose, Pal and Ye (2013) in their research concluded that manufacturing firms were able to get real time inventory information update, better picking activities, and establishment of effective collaboration with vendors and customers, when they installed ERP systems. A study by Crumbly and Fryling (2014) concluded that ERP systems brought about both positive and negative implications. Companies were able to eliminate their paper-based systems so orders could be processed much more quickly, therefore improving some business processes including the supply chain (Crumbly & Fryling 2014).

Majority of organizations in Kenya use stock control frameworks as a competitive tool and also to enable them improve their procurement performance (Nyabwanga, 2012). A portion of the as of now embraced internal stock control practices received by associations in Kenya incorporate; stock reviews, JIT strategy, advancement of hierarchical stock administration approaches and methods and improvement of mechanized stock administration frameworks (Swaleh, 2014). Companies such as Bidco and Bamburi Cement Limited have reported that they were able to standardize entire document flows and achieve better inventory quality inspections after ERP implementation (Otieno, 2014). Wangui, (2014) while analyzing the procurement performance at Kenafic Industries one of the leading manufacturers of footwear and confectionery products, deployed a comprehensive SAP Enterprise Resource Planning (ERP) management tool. The study showed a significant influence of ERP on procurement efficiency.

5. Theoretical Framework

5.1. The Economic Order Quantity (EOQ) Model
Kisaka, (2016) examined the job of Economic Order Quantity model in lessening the expense of raw material inventory at a dairy farm venture. He looked at the overall cost of raw material inventory incurred through project-
employed technique against the total cost of material stock which could have been caused under the EOQ application. Kisaka, (2016) found that there was cost sparing which could have been seen through utilizing the EOQ model. Wisner, Tanad Leong, (2014) poised that inventory administration includes adjustments between customer service, or item accessibility, and cost of stock. Chambers, Lacey (2015) while analyzing EOQ in the service enterprise, related the theory in enhancing a balancing or trade-off between costs associated with keeping inventory versus the benefits of holding inventory. The benefit of an inventory is to assure that goods will be available as required. The primary costs of an inventory are the opportunity cost of the capital used to finance the inventory, ordering costs and storage costs (Chambers & Lacey, 2015). Similarly, as indicated by Brigham and Daves, (2014) inventory management seeks to maximize on the net benefit Brigham and Daves, (2014) has indicated further that financial managers have an obligation both for raising the capital expected to convey inventory and for the organization’s performance.

The concept of EOQ guarantees the inventory administration a balance between the inventories expected to manage activities and on the same hand holding the expenses of ordering and conveying inventories to the least conceivable level. Since inventory is emphatically identified with customer service, it is worth close consideration (Rakesh, 2016). Rakesh, (2016) analyzed EOQ inventory as a feature of association’s general cost regulation systems and several organizations used it as a strategy to manage a balance in cost element on the inventory. KuoHsien (2015) while analyzing EOQ, indicted that the optimal order size and optimal backorder level for each order cycle can be minimized by administering JIT concept and the lot size calculated by EOQ model. EOQ will be used to illustrate the relationship between periodic review approach of inventory control and the cost related to determine the procurement performance in an organization.

5.2 Network Theory
The Network Theory is one of the theories that emphasize on the importance of maintaining downstream and upstream relationships for the optimization of value within organizations (Heizer, & Render, 2014). The theory explains that for an organization to succeed, it must establish a network with other firms to increase its value and operation (Katz, Lazer, Arrow, & Contractor, 2014). The theory suggests organization networking with other firms will give them an advantage of each company complementing each other especially in area where one company lacks capacity which is available in the other. The Network Theory explains that firms with in a network interact with other companies by exchanging resources and adapting new processes that result to added value for these companies (Daastol & Stensrud, 2016). However firms need to build mutual trust and openness with each other for successful (Katz 2014). For firms to from a strong network they must have shared interests, different resource and effective two way communication. The Network Theory will be useful in terms of providing concepts for determining the item categories that can be managed at the supplier’s premise. Since the theory suggests that an organization can establish a working relationship with suppliers there must be mutual trust, shared interest, differing resources, two-way symmetrical communication, and cognitive ties, this theory supports the concept of vender managed inventory.

5.3 Resource Dependency Theory
As hypothesized by Pfeffer and Salancik, (1978), through the resource dependency theory, firms try to diminish vulnerability and oversee reliance by deliberately organizing their trade relationship, setting up formal and semi-formal association with other firms’ (Mito, 2015). Through the created linkages and connections, associations can diminish inconveniences that come because of market elements. This hypothesis can be connected in internal stock control. Organizations can form strategic, long term relationships with providers and product users to guarantee smooth and opportune conveyance of materials (Angel, 2015). With long haul provider client relationship, the association can support itself from inner and outer hierarchical and ecological changes and accomplish ideal stock control (Kitaeva, 2014). Gerald, (2014) has shown that Resource Dependency Theory depends on the suspicions that; first, organizations rely upon assets from different organizations for their internal activities. The subsequent supposition that will be that the assets acquired from different associations are required by assets (cash). Third, the assets are rare and focused and, in this manner, require vital choices to be made about what to purchase, in what amount and at what times. In conclusion, asset reliance is straightforwardly connected to the association’s capacity which is judicious, situational and shared for the hierarchical achievement.

As per the authors (Pfeffer and Salancik 1978), the hypothesis takes a gander at how the assets outside the association decide interior tasks of the association which at last prompts operational execution. Obtainment exercises of the association and control of secured materials is key in sourcing and control of assets utilized inside the association (Pfeffer and Salancik 1978). Asset reliance hypothesis contends that an association must have inside structures all around incorporated and facilitated through viable correspondence frameworks and adjusted to authoritative methodology. There is have to create interior authoritative arrangements and techniques that guide benefiting assets required in completing inside hierarchical exercises. These arrangements are significant in materials sourcing and control choices. Also, there is requirement for a well-overseen data framework that permits convenient progression of stock data between the association and its outer partners (Hurley, 2016). The resource dependency theory will be used in illustrating the concept of enterprise resource planning. Based on the suggestions poised by the founders (Pfeffer & Salancik 1978), resource dependency theory reflects a proper planning for procurement activities in the organization for operational excellence.
6. Conceptual Framework

![Conceptual Framework](https://via.placeholder.com/150)

### 6.1 ABC Technique

ABC examination is the classification of stocks into three classes to be specific: A –stock items which are of medium value and medium volume; B –stock items baring minimal value but are of great volume; C –stock items that are of high value and material to the organization but low volume such as land, building and motor vehicles. Successful control of inventories can be expensive, time and exertion devouring. In any case, not all things kept in stock require such meticulous and close-study checking especially if such things are low-esteem things that are haphazardly utilized in the generation framework (Lyson, 2013). The ABC stock control procedure depends on the rule that a little bit of the things may normally speak to the heft of cash estimation of the absolute stock utilized in the creation procedure, while a generally enormous number of things may frame a little piece of the cash estimation of stores (Lyson, 2013). The cash worth is found out by increasing the amount of material of everything by its unit cost. Everything of stock is given A, B or C section contingent on the sum spent for that specific thing. “An” or the most noteworthy worth things ought to be under the tight control and under obligation of the most experienced staff, while “C” or the least worth might be under basic physical control. Dark colored (2016) takes note of that the ABC investigation orders items dependent on significance. Significance may originate from money streams, lead time, stock outs, and stock out costs, deals volume, or gainfulness. When the positioning element is picked, break focuses are picked for classes A, B, C, etc.

Mandal (2012) show that the ABC stock control strategy depends absolutely on the rule that a little piece of the things may normally establish the greater part of money cost of the general stock utilized inside the creation way, while a prominently enormous number of things may from a little a piece of the money cost of stores. The cash cost is learned by increasing the amount of texture of each thing by utilizing its unit charge. In accordance with this system to stock administration (Onwubolu & Dube, 2016), sees that high worth contraptions are more firmly controlled than minimal effort things. Each thing of stock is given A, B or C group contingent on the amount spent for that exact thing. “An” or the most astounding charge devices should be under the tight control and underneath obligation of the most experienced work force, even as “C” or the base cost can be beneath straightforward physical oversee.

Lyson, (2013) observe that ABC evaluation is a nicely-set up categorization method based at the Pareto precept for determining which objects have to get priority in the management of a corporation’s stock. ABC analysis is a way for prioritizing the management of inventory. Inventories are categorized into 3 instructions-A, B, and C. maximum management efforts and oversights are expended on coping with A objects. C objects get the least attention and B items are in-among (Lyson, 2013).

### 6.2 Vendor Managed Inventory

The VMI model as viewed by Stadtler, (2015) as a tool for continuous replenishment process, continual replenishment or automatic. The advantages of using VMI to the downstream member, usually a large retailer, have well been documented by Irungu and Wanjau, (2011) as lean inventory. Dong, Dresner and Yao (2014) noted that the main advantages of VMI were reduced costs, and increased customer service levels to one or both participating members. VMI has greatly reduced inventory-carrying costs and stock-out problems while, at the same time, it offered the ability to synchronize both inventory and transportation decisions (Wambua, 2015). Further, Govindan (2013) noted that VMI advantages included improved customer service, reduced demand uncertainty and reduced inventory cost requirements. Vendor Managed Inventory (VMI) is a concept for supplier partnering with the customer for the management of stock (Li, Veliyath, & Tan, 2013). According to Qrunfleh and Taraferdar, (2015), the relationship is ensured by the supplier making sure inventory is available at customer convenient location and the customer can buy or pick the goods when needed. In VMI arrangements, the supplier has a responsibility to replenish stock, which includes ordering, managing the logistics to ship the material and counting inventory costs (Qrunfleh & Taraferdar, (2015). The buying organization can minimize the overall inventory costs by passing the inventory costs to the supplier in VMI system (Loughrin, 2015).

Zhao, Wu and Yuan, (2016) while analyzing the application of VMI on the retail outlets such as Wallmatt, Foodex and Safeway’s realized that VMI brought a significant importance in efficiency in servicing customers at a reduced cost.
Further, a South African retail outlet—Shoprite recorded an 18 percent increase in total revenues after a full integration of the VMI system in their supply chain (NJura, 2015). According to Wisner, Tan and Leong, (2014) the Vendor Managed Inventory system can diminish the bullwhip effect that is linked up with incorrect forecast of demand, improve the set-up time of machines, help to better planning of production, decrease administrative costs of customers, increase the service level, truckload rate and decrease risk of stock out. It is also able to reduce the time needed for managing the inventory level, set up the minimum order to optimize loading, improve plans to minimize costs or disruptions in the whole supply chain, detect deficiencies or surplus in the goal financial statements and give more trust in the relationship of both sides (Ross, 2016).

6.3. Periodic Review Approach

The Periodic Review Approach is one of the inventory management policies that review the physical availability of inventories at specified time intervals and ordered to place orders for a maximum level of inventory (Ogbo, 2014). When a periodic review policy is applied, every unit of an item at a particular time is replenishment/ordered to raise the inventory position to the minimum level up to the maximum level (Ogbo, 2014). According to Oballah, (2015), the amount of safety stock on required should be larger than the continuous review policy, due to a longer lead time. The fulfillment of demand along the period lead time, safety stock is used. The value of order interval, safety stock, service level, ordering cost expectation, inventory cost expectation, shortage cost expectation, and total inventory cost are calculated equivalent to the requirement (Neely, 2014). As per Jessop and Morrison (2014), the intermittent survey is refreshing under the activity level of provisioning of things requested at undefined interims from every day as and when requesting levels are come to. This implies request must be put generally for one thing at any given moment (Peter, 2016).

Saxena, (2013) balanced that the use of intermittent audit guarantees that the when stock arrives at the base level the amount requested is gotten. On receipt of the arranged amount of the material, the stock, which had arrived at the base level, increments to the most extreme level and utilization cycle restarts. On the intermittent survey approach, the reorder point is checked by keeping in view the lead time for acquiring the things and making the equivalent accessible for use (Hadley and Whitin, 2014). Hadley and Whitin, (2014) has additionally shown that the occasional audit approach maintains a strategic distance from stock-outs with its expenses and overloading which again may tie-up working capital and may likewise prompt decay of stock and oldness in the stores.

Research has been seen that intermittent survey stock models can regularly be found in overseeing stock cases, for example, littler retail locations, sedate stores and markets (Taylor, 2015). Whitin, (2014) showed that intermittent stock control approach considers lead time as a recommended deterministic amount or an irregular variable. Liao and Shyu, (2014), saw that lead time typically comprises of a few parts, for example, request planning, request travel, provider lead time, conveyance time, and arrangement time which must be viewed as when fixing the different stock levels. To adapt to the expanding vulnerability both on interest and supply sides, it becomes an urgent necessity to settle on interest and supply choices through the participation of providers and clients Kahn (2015). Kahn (2015) has additionally shown that request the executives is the coordination of the whole authoritative administration for the estimation of genuine interest determinants such as pricing and expenses for such inventories. To foresee valuing, request estimates have become refined, however still defective because of the sheer number of items in an association. Due to global supply chains, stock cooperation’s frequently include various firms with long product renewal times and stock irregular characteristics (Bhatnagar and Teo, 2015). The supply chain center in the present commercial center is progressively significant in guaranteeing lead time decrease techniques, single-vendor single-purchaser incorporated stock model with part size-subordinate lead times and stochastic interest draws near.

6.4. Procurement Performance

Much the same as many other useful areas of the organizations, the procurement function must be assessed to establish its performance level (Kakwezi, 2014). Procurement performance takes a gander at the degree to which the procurement function accomplishes the organizational procurement objectives and targets (Neely, 2015). As indicated by Nyeko (2014), procurement performance focuses on the productivity and adequacy of acquisition work. Concurring to Sigma, (2015), obtainment execution can be tended to regarding monetary and non-budgetary angles with respect to the money related and nonfinancial objectives of the association identified with acquisition capacities.

With the progressions of IT ability, most associations apply VMI creation framework as an apparatus to wind up focused. Organizations applying VMI generation framework target limiting all stock levels and conveying the merchandise and enterprises to clients on time (Javier and Inked, 2015). Acquirement practices is a lot of synchronized choices and exercises used to productively incorporate providers, makers, stockrooms,transporters, retailers and clients with the goal that the correct items or administrations is conveyed at the perfect time, so as to limit framework wide expenses while fulfilling clients administration level prerequisites (Sarkar, 2014). According to Kiragu (2012), obtainments ought to be founded on an incentive for cash (characterized as the ideal blend of entire life expenses and satisfaction of client’s necessities) as opposed to beginning price tag. Successful and effective acquisition frameworks and communitarian connections are fundamental to the accomplishment of authoritative objectives, cost decrease and production network execution.

Obtainment execution is a proportion of recognizing the degree to which the acquisition capacity can arrive at the targets and objectives on with least costs (Van-Weele, 2014). Van-Weele (2014) noticed that there are two fundamental parts of the obtainment execution: adequacy and effectiveness. Obtainment viability as characterized by Van-Weele (2014) is the degree to which the recently expressed objectives and goals are being met. It alludes to the connection among genuine and arranged execution of any human action. Furthermore, Van-Weele (2014) clarified that acquirement
effectiveness is the connection among arranged and genuine assets required to understand the set-up objectives and goals and their related exercises, alluding to the arranged and real expenses. Therefore, provider execution is the most significant obtainment execution driver. For any association to change its concentration and become progressively focused, Amaratunga and Baldry (2015) proposed that acquisition execution is a key driver to improving nature of administrations while its nonappearance or utilization of wrong methods can go about as a hindrance to change and may prompt decay of the acquiring capacity.

7. Research Methodology

7.1. Research Design

Research design is the pattern that the researcher intends to follow in conducting the research study (Mugenda & Mugenda, 2004). Since the study was based on determining the influence of inventory management techniques on procurement performance from literature review, a cross sectional research survey will be adopted. Oso, (2011) has stated that cross sectional research survey is best fitted for the population which are heterogeneous in nature but homogeneous in location. Thus, a cross sectional research survey was based on single examination of a cross-section of population at one point in time for better results, in this case the research papers of inventory management. Additionally, high reliability is easy to obtain by presenting all subjects with a standardized stimulus which ensures that observer subjectivity is greatly eliminated as reiterated by Mugenda and Mugenda, (2004).

7.2. Data Collection, Analysis and Presentation

Data was collected by cross examination of the relevant research journals. The relevancy was based on topic, variables, research design and year of publication. After the collection, all the relevant research journals were analyzed and the findings presented on tables.

8. Research Findings

A total of forty-six relevant research journals were reviewed based on the study objectives. Findings were discussed as illustrated below.

8.1. Findings on ABC Technique

The research journals showed that there was a relationship between ABC technique of inventory management and the procurement performance. For instance, Lysons, (2013) indicated that ABC inventory control technique is based on the principle that a small portion of the items may typically represent the bulk of money value of the total inventory used in the production process, while a relatively large number of items may form a small part of the money value of stores. Onwubolu, and Dube, (2016), observed that high value goods/items are more closely controlled than low cost items. Further, Lyson, (2013) observed that ABC evaluation is a nicely-set up categorization method based at the Pareto precept for determining which objects have to get priority in the management of a corporation’s stock. Since stock reflects the tied cost, this technique (ABC Technique) was found to have a strong influence on procurement performance.

8.2. Findings on Vendor Managed Inventory Technique

The relevant journals reviewed showed significant relationship between vendor managed inventory and procurement performance in the cases analyzed. For instance, Zhao, Wu and Yuan, (2016) found out that VMI on the retail outlets brought a high efficiency in procurement function. Relevantly, Njura, (2015) an increase in revenue collection and stock efficiency when VNM strategy is used. Wisner, Tan and Leong, (2014) found that the Vendor Managed Inventory system can diminish the bullwhip effect that is linked up with incorrect forecast of demand, improve the set-up time of machines, help to better planning of production, decrease administrative costs of customers, increase the service level, truckload rate and decrease risk of stock out. It is also able to reduce the time needed for managing the inventory level, set up the minimum order to optimize loading, improve plans to minimize costs or disruptions in the whole supply chain, detect deficiencies or surplus in the goal financial statements and give more trust in the relationship of both sides (Ross, 2016). Literature therefore showed an evidence that VMI affects inventory performance significantly.

8.3. Findings on Periodic Approach

Literature reviewed has shown that periodic review can often be found in managing inventory cases such as smaller retail stores, drug stores and grocery stores (Taylor, 2015). Whitin, (2014) indicated that periodic stock control approach considers lead time as a prescribed deterministic quantity or a random variable. Significantly, Saxena, (2013) poised that the application of periodic review ensures that the by the time inventory reaches the minimum level the quantity ordered is received. On receipt of the ordered quantity of the material, the inventory, which had reached the minimum level, increases to the maximum level and consumption cycle restarts. On the periodic review approach, the reorder point is checked by keeping in view the lead time for obtaining the items and making the same available for use (Hadley & Whitin, 2014).

Hadley and Whitin, (2014) has further indicated that the periodic review approach helps to avoid stock-outs with its costs and overstocking which again may tie-up working capital and may also lead to deterioration of stock and obsolescence in the stores. The findings therefore indicated a significant influence of periodic approach on procurement performance in an organization.
8.4. Findings on Procurement Performance

Since according Van-Weele, (2014), procurement performance is a measure of identifying the extent to which the procurement function is able to reach the objectives and goals on with minimum, literature has shown that the performance must be based on set measures as key indicators. Van-Weele (2014) noted that there are two main aspects of the procurement performance: effectiveness and efficiency. Procurement effectiveness as defined by Van-Weele (2014) is the extent to which the previously stated goals and objectives are being met. It refers to the relationship between actual and planned performance of any human activity. Additionally, literature by Hadley and Whitin, (2014) found out that procurement efficiency is the relationship between planned and actual resources required to realize the established goals and objectives and their related activities, referring to the planned and actual costs. As a result, supplier performance is the most important procurement performance driver. Thus, in ensuring an efficient and effective procurement function in organization, there must be combined application of ABC technique, VMI technique and periodic review approach in managing inventory.

9. Conclusions, Recommendations and Future Research

9.1. Conclusions

In reference to the study objectives, the conclusions were based on each objective. The first study objective was to determine the effects ABC technique of inventory management on procurement performance. Literature review showed a significant influence of ABC technique on the efficiency and effectiveness of procurement function in an organization. Based on the research question which was on whether ABC technique affect procurement performance, it was therefore concluded that ABC technique significantly affect procurement function in an organization. The second objective was to determine the effect of VMI on procurement performance. A review of literature showed a significant influence of VMI on procurement performance. The research question was based on how does VMI affects procurement performance using the case of empirical evidence. It was therefore concluded that VMI significantly affects procurement performance. The third objective of the study was to determine the effects of periodic review approach on procurement performance, the case of empirical review. Based on the research question which was on how does period review approach affects procurement performance. It was concluded that periodic review approach affects procurement performance significantly.

9.2. Recommendations

Recommendations was made based on the selected study objectives. The first recommendation was that since ABC technique was found to be significantly affects procurement performance, organizations should appropriately define and separate stock items into either class A, B or C for better inventory management. The second recommendation was that VMI is an important technique in inventory and therefore organization should adopt it for efferent procurement function. Lastly, since the study found out a significant effect of periodic review approach on procurement performance, organizations should adopt the period approach while managing inventory so as to ensure procurement efficiency.

9.3. Future Research

Future research could consider testing the same variables (ABC Technique, VMI and periodic approach) on different setup to see whether the same results can be attained. Further, since this research only concentrated on empirical evidence, future research study can consider using other research design.

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