THE EFFECTS OF UNSERVICEABLE ASSET DISPOSAL ON PERFORMANCE OF GOVERNMENT MINISTRIES IN KENYA; A CASE OF THE NATIONAL TREASURY

ELIJAH WILLIAMS WAHOME

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Wahome, E., Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya

Marendi, P., Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya

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ABSTRACT

There is a major problem with government ministries in Kenya in managing unserviceable assets. A preliminary visit to the office complexes, compounds, stock yards, parking lots and main stores of most government ministries reveals unserviceable stores strewn all over the yard, unserviceable motor vehicles lining up the parking lots, and unserviceable office equipment and furniture piling in the main stores. This problem has been so severe in government ministries that government has incorporated asset management in Cabinet Secretaries performance contracts as a key performance indicator. When any equipment is unserviceable its keeping through maintenance costs, storage, parking insurance, etc., may well exceed the returns that can be derived from that piece of equipment and the investment of additional monies. Disposal is thus one of the prudent elements of managing procurement, supply and distribution in any sector, private or public in enhancing its performance. It is estimated that inefficiencies in the processes of public procurement and disposal cost Kenya about Kshs. 30 Billion annually. This is due to poor procurement and disposal planning. The objective of this study was to determine the effect of unserviceable asset disposal on the performance of government ministries in Kenya, a case of the National Treasury. The target population was the three hundred and forty members of staff at the ministry of The National Treasury in top, middle and lower management. A sample size of 51 was picked through stratified simple random sampling. The instrument of data collection was a questionnaire with open ended and closed questions. Primary data was collected through questionnaires from respondents while secondary data was collected from books, journals, reports, conference papers and other academic literature through literature review. The data collected was analyzed and presented in frequency tables. The findings from the study running the linear regression analysis indicated that if adequate control in inventory was used then the performance of government ministries would improve. The study recommended that frequent disposal of unserviceable assets would help reduce unnecessary costs whereas at the same time generate some additional revenue that could be used for alternative development agendas thereby improving the performance of government ministries.

Key Words: Unserviceable Assets, Performance

INTRODUCTION

Government procurement, the purchase of goods, construction services (works) and other services required by government bodies, accounts for a substantial proportion of the Gross Domestic Product (GDP) of any country in the world (Arrowsmith & Anderson, 2011). In the 1990s the World Bank embarked earnestly on a program to reform the public procurement systems of many developing countries around the world. One of the ways in which the World Bank drove its anti-corruption agenda was by steering public procurement reform in developing countries with the aim of reducing corruption in public procurement in those countries, (Williams-Elegbe, 2013).

Therefore, public procurement reforms have occupied a center stage in broad public sector reforms in Africa and other continents since the late 1990s (Thai, 2009). These reforms took place in developing countries like Philippines, Croatia, Kenya, South Africa, Nigeria, Ghana, Botswana, and Zambia among others. Good public procurement systems were seen as central to the effectiveness of development expenditure from both national and donor sources. The potential efficiency gains from better procurement were believed to make a significant additional contribution to financing achievements of the Millennium Development Goals (MDGs) (OECD, 2005). In the wake of these public procurement reforms, purchase of goods, works and services by governments, the world over, have nowadays become specialist activities undertaken by professionals. These activities are carried out by a specialized function known as Supply Chain Management function. The supply chain management function has the responsibility for receipt, custody, distribution and disposal of very large sums of money in the form of goods. Inventory represents the largest cost of a company especially for the trading firms, wholesalers and retailers. It is mentioned as "piles of money" on the shelf and in normal circumstances, it consists of 20% - 30% of the total investment (Moorthy, Yew & Chelliah, 2010). It is then imperative for the supply chain management function to be managed and operated in a highly effective and efficient way.

In Kenya's government ministries; assets, stores and equipment have been held for the government's day to day operations since time immemorial. However, disposing these stores and equipments has become a big challenge when they become unserviceable. Lack of procurement planning for disposal, lengthened disposal cycles and financial risks related to disposal like under-pricing goods for disposal are some of the major challenges bedeviling asset disposal in government ministries in Kenya (Susan &Namusonge, 2014). A study by Ogwengo (as cited in Susan & Namusonge, 2014) recommends that procedures of disposal in public organizations should be made shorter.

Statement of the Problem

When any equipment is unserviceable, its keeping through maintenance costs, storage, parking insurance, among others, may well exceed the returns that can be derived from that piece of equipment and the investment of additional monies (Susan & Namusonge, 2014). In essence, disposal is a function that is necessary to guarantee that public resources are not applied to useless unserviceable assets and equipment and that when assets are disposed of, they are sold at the best achievable value in the market (PPOA, 2009). However, there is a major problem with government ministries in Kenya in managing unserviceable assets. A study by Ondiek (as cited in Mensah, 2014) and another (Susan & Namusonge, 2014) reveal that government office complexes, compounds, stock yards, parking lots and main stores exhibit assets lying idle, unserviceable stores strewn all over the yards, unserviceable motor vehicles lining up the parking lots growing grass, and unserviceable office

equipment and furniture piling up in the main stores.

This problem has been so severe in government ministries that government has incorporated asset management in Cabinet Secretaries performance contracts as a key performance indicator. Clause C1 in cabinet secretaries' performance contracts provides that idle assets will be identified, a report prepared and the method to be used for disposal identified (G.o.K, 2013). The problem is further compounded by the fact that there is no concrete data available from government or the Kenya Bureau of Statistics on the amount or value of disposal of unserviceable assets.

Susan and Namusonge (2014) in their study concluded that public sector organizations within Yatta sub–county, which is in Kenya, had exhibited low rates of disposal. The study revealed that the rate of disposal in the sub-county was 35.7% which was quite low. Further, 100% of procurement personnel agreed that their departments had items that were unserviceable and needed disposal. Ondiek and Ochieng (2013), with a mean of 3.5 on linkert's scale, found that the public procurement legal framework in Kenya prevents loose management of new items, it doesn't allow immediate scrap disposal and neither does it maintain economy in inventory costs. These studies clearly bring out the problem to the fore by showing that that there are assets in public entities that require disposal yet the disposal rate is very low. Therefore, this research sought to determine the effect of unserviceable asset disposal on performance of government ministries in Kenya with emphasis on ministry of the National Treasury.

Objectives of the Study

The main objective of this research was to determine the effect of unserviceable asset disposal on performance of government ministries in Kenya with specific consideration of the effect of inventory control on the performance of government ministries in Kenya.

Research Questions

What is the effect of inventory control on the performance of government ministries in Kenya?

Scope of the Study

The study was conducted in Nairobi at The National Treasury using quantitative and qualitative research techniques. The researcher used stratified random sampling to pick respondents for this study which targeted officers at the top management, middle level management and lower level management at the ministry. A sample size of 51 employees was drawn proportionately targeting male and female employees from each level. The data was collected using questionnaires. The National Treasury Ministry was chosen by the researcher to represent other government ministries due its wealth of information on the subject under study. The unserviceable asset disposal produced the independent variable investigated which was inventory control against the dependent variable, performance of government ministries in Kenya with reference to the National Treasury.

THEORETICAL REVIEW

According to Bernath and Vidal (2007), a theory is a unit of knowledge that comprises facts, assumptions and hypotheses. This unit shows how facts can be subordinated to general principles or laws and how they relate to them. A scientific theory must be consistent with the facts, otherwise it is mere fiction. Therefore, a theory includes a set of basic assumptions and axioms as the foundation and the body of the theory is composed of logically interrelated, empirically verifiable positions. Camp (2001) observes that theoretical frameworks are explanations about the phenomena.

Inventory Theory

The cardinal purpose of inventory theory is to determine rules that management of organizations can use to minimize the costs associated with maintaining inventory and meeting customer demand (Zappone, 2006). Therefore, inventory is studied in order to help companies save large amounts of money.

Holding inventory costs money which includes carrying, acquisition and opportunity costs and therefore reduces profitability for profit oriented organizations. Some level of inventory is essential in order to provide continuity of service and to avoid costly down time and service disruption and non-availability, but inventory reduction and, therefore, the release of cash and reduced operating costs remain essential concerns of inventory management (Baily, Farmer, Crocker, Jessop & Jones, 2008).

Inventory is the stock of any item or resource used in an organization. Inventory includes: raw materials, finished products, component parts, supplies, and work-in-process. An inventory system is the set of policies and controls that monitors levels of inventory and determines what levels should be maintained, when stock should be replenished, and how large orders should be (Muller, 2003). Companies save money by formulating mathematical models describing the inventory system and then proceeding to derive an optimal inventory policy. Fundamentally, there are two models, deterministic continuous review models and stochastic models (Zappone, 2006).

The demand is said to be deterministic if it does not admit any variation. For instance, if the monthly demand is 100 items, then it will be 100 each month if it is deterministic. Conversely, demand is said to be stochastic when there is variation in demand (Silver & Peterson, 1995). These models, deterministic and stochastic, can also be classified by the way the inventory is reviewed, either continuously or periodic. In a continuous model, an order is placed as soon as the stock level falls below the prescribed reorder point. In a periodic review, the inventory level is checked at discrete intervals and ordering decisions are made only at these times even if inventory dips below the reorder point between review times (Hillier, Fredrick & Lieberman, 1995).

One of the key reasons for holding inventory is to maintain independence of operations. When materials are supplied to a work center, this allows that center flexibility in operations. For instance, because there are costs for making each new production setup, this inventory allows management to reduce the number of setups. Another reason for holding stock is to cushion the organization against fluctuating demand. When there is demand variability it is difficult to predict with certainty how much inventory will be required to satisfy customer demand, therefore, it is important to hold stock to avoid backorders (Muller, 2003). According to Baily *et al.* (2008) other reasons for holding stock include: cost reduction through purchase e.g. by economies of scale or production of optimum quantities, protection against the effects of forecast error, inaccurate records or planning mistakes and the convenience of having things available as and when required without making special arrangements.

Inventory is the life-blood of any organization and therefore a crucial element in its survival. Failure to efficiently and effectively manage inventory could spell doom for an organization in terms of declining performance and even losing customers for profit oriented organizations. In emphasizing on the importance of inventory on the balance of companies, Coyle, Bardi and Langley (2003) state that “inventory as an asset on the balance sheet of companies has taken an increased significance because of the strategy for many firms to reduce their investment in fixed assets that is plants, warehouses, office buildings, equipment and

machinery…." This theory therefore significantly underpinned this study.

Conceptual Framework

Independent Variable **Dependent Variable**

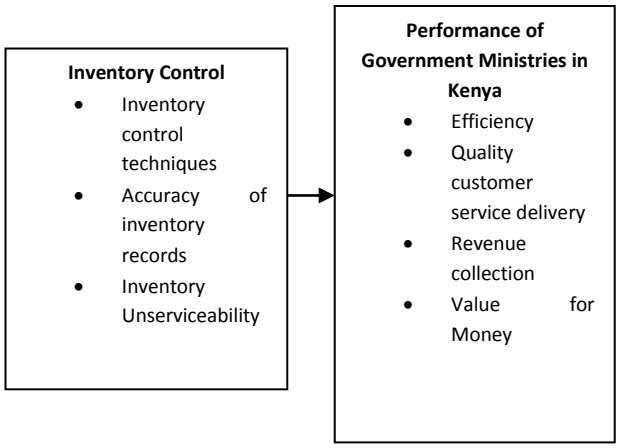

Figure1: Conceptual Framework

Inventory Control

Baily *et al*. (2008) define inventory control as "the policies and procedures which systematically determine and regulate which things are kept in stock and what quantities of them are stocked". According to Ballou (2004), inventories are stock piles of raw materials, suppliers, components, work in process and finished goods that appear at numerous points throughout a firm's production and logistics channel.

Empirical Review

Inventory Control

Baily *et al*. (2008) define inventory control as "the policies and procedures which systematically determine and regulate which things are kept in stock and what quantities of them are stocked". According to Ballou (2004), inventories are stock piles of raw materials, suppliers, components, work in process and finished goods that appear at numerous points throughout a firm's production and logistics channel. Saleemi (2007) posits that inventory control ensure reduced costs of inventory obsolescence and enable the organization to become truly responsive to customers real needs. Therefore, failure to properly carry out inventory control may result to unserviceable and surplus assets.

Stock and Lambert (2001) observe that inventories can be categorized in into six distinct forms that are: cycle stock which is inventory that results from the replenishment process and is required in order to meet demand under conditions of certainty, in-transit inventories which are items that are en route from one location to another, safety or buffer stock which is stock held in excess of cycle stock because of uncertainty in demand or lead time, speculation stock which is inventory held for reasons other than satisfying current demand, seasonal stock which is a form of speculative stock that involves the accumulation of inventory before a season begins so as to maintain stable labor force and production runs, and dead stock which is inventory that no one wants because they are no longer functioning or fit for their use, for example expired drugs in a hospital. The major objectives of inventory control are to minimize the possibility of disruption in the production schedule of a firm for want of raw material, stock and spares and to keep down capital investment in inventories. Therefore, the purpose of inventory management is to ensure availability of materials in sufficient quantity as and when required and also to minimize investment in inventories (Jose, Jayakumar & Sijo, 2013).

Kang and Gershwin (2004) observe that many firms have automated their inventory management processes and rely on an information system to make very critical decisions in inventory control. However, if the information churned out by the system is inaccurate, the ability of the system to provide high availability of

products at the minimal operating cost can be compromised. In a study Raman et al. (as cited in Uckun, Karaesma & Sava, 2008) concluded that more that 65% of inventory records of many organizations do not match with the physical inventory. To cope with these inventory inaccuracies they posit that different compensation methods can be used, for instance periodical review of inventory and tracking of inventory by use of radio frequency identification (RFID).

An inventory record typically consists of a stock number, a location identifier, an on-hand quantity or balances, and fields indicating the condition of the item and value. This however differs from one organization to another depending on the inventory systems in use in those organizations. This is because some systems are manual while others are automated. Inventory record accuracy is vital to any company with high levels of inventory. Failure to keep accurate inventory records can result in loss of product, time wasted correcting records, product not in stock for consumers, and overstock of items. Inventory accuracy is realized when the actual on hand inventory equals recorded inventory. Kang and Gershwin (2004) observe that some the most common reasons for discrepancies in inventory records include stock loss or shrinkage which encompasses all forms of loss of products for sale or issue for use for instance through theft, transaction error during inbound and outbound activities like inaccurate shipment records, inaccessible inventory which may be within the store but cannot be found and incorrect product identification, for example through wrong labels.

Critique of the Literature

According to Waters (2004) procurement encompasses the whole process of acquiring property and/or services. It begins when an agency has identified a need and decided on its procurement requirement. Procurement continues through the processes of risk assessment, seeking and evaluating alternative solutions, contract award, delivery of and payment for the property and/or services and, where relevant, the ongoing management of a contract and consideration of options related to the contract. Procurement also extends to the ultimate disposal of property at the end of its useful life (Waters, 2004).

However, Leenders *et al*. (2006) have captured record maintenance as the last step in the asset acquisition process and therefore clearly failing to recognize a very important last step in the procurement process which is the disposal of the asset once it becomes surplus to the organization. The Public Procurement and Disposal Act 2005 section 3 (1) defines disposal as a means of divestiture of public assets by such means as sale, rental, lease franchise, auction or a combination thereof. However, section 129 (3) of the Act does not provide for any of the foregoing disposal methods as being applicable in surplus assets disposal in Kenya. This is a serious omission since these methods, if implemented, could earn MDAs considerable revenue and improve their performance in public asset management.

The public procurement performance reviews carried out by the Public Procurement Oversight Authority on MDAs revealed wanting efficiency and effectiveness levels of public procurement in Kenya. However, the reports have failed to bring out clearly the role of unserviceable or surplus asset disposal or lack of it, in enhancing the performance of MDAs (PPOA-MOH, 2008; PPOA-MOR, 2009; PPOA-MOE, 2009). The report ought to have given statistics in terms of the value of all assets disposed, the procedures used and the statistics of surplus assets yet to be disposed. This would have helped to interrogate the contribution of disposal of surplus assets in MDAs performance. A report by the U.K. Comptroller and Auditor General (2007) states that operating costs in excess of 40% can be achieved through

best asset and equipment management practices. However, the report has not identified or discussed the said best practices and therefore it cannot not be ascertained whether surplus asset disposal is one of these best practices.

Research gap

Whereas a handful of literature pertinent to the relationship between unserviceable asset disposal and organizational performance exists from the global context, the same is inadequate regionally, in fellow developing countries, and much less locally. From the global scene, the variables investigated in the present study have been explored either independently or in relation to other factors other than performance of government ministries.

For instance, Thai (2009), Zappone (2006), Baily (2008), Muller (2003) and Coyle et al. (2003) in their studies they have underscored that the cardinal purpose of inventory theory is to determine rules that organizations can use to minimize costs of maintaining inventory. However, none of the authors has demonstrated, by use of statistics or empirical evidence, how disposal of unserviceable assets contributes to reduction of inventory maintenance costs and thus enhancing an organization's performance. Further, locally existing related literature largely focuses on procurement processes in the public sector as well as determinants and critical success factors in supply chain management performance, leaving unserviceable asset disposal and organizational performance largely unexplored. This is the major reason why this study was carried out so to bridge the identified research gap.

METHODOLOGY

Research Design

This study adopted a descriptive design. Mugenda and Mugenda (2003) observe that a descriptive design determines and reports the things as they are. Further, according to Creswell (2003) descriptive research design is used when data is collected to describe persons, organizations, settings and phenomena. Kothari (2008) observes that descriptive research design has enough provision for protection of bias and maximized reliability

Target Population

In this study, the target population was ministry of The National Treasury according to a provisional Human Resource data from The National Treasury, there are about three hundred and forty (340) members of staff working in various levels. 40 are in top management, 130 in middle management and 170 in the operational level.

Sampling Frame and Technique

This study applied stratified random sampling technique to select a sample size of 51 respondents that will be done proportionately from each stratum. Dempsey (2003) posits that stratified sampling is considered appropriate because it gives all respondents an equal chance of being selected to form a sample of study respondent. Therefore it has no bias and inferences of the population characteristics can be drawn from the sample statistics. Stratified random sampling was used to group employees of the ministry of The National Treasury into three strata namely top management, middle management and low level management. The study used simple random sampling to select a sample of 15% of the population in each stratum which consisted of 51 employees.

In this study the main data collection instrument was a questionnaire containing both open ended and closed questions.

Data collection Procedure

Primary data represents the actual information that was obtained for the purpose of the research study. This type of data was collected using questionnaires and then analyzed to get the important and relevant information for this study. Secondary data is data collected for other purposes but was be usable in this type of research. This type of data was collected from reference materials with emphasis on information considered helpful to this research study. Collection of secondary data was obtained through desk research form past reference materials and other published materials all of which will inform the literature review of this study.

Data Processing and Analysis

The study gathered qualitative and quantitative data. Descriptive statistics such as mean, standard deviation, frequency and percentages were used in analyzing quantitative data (Kothari, 2004). On the other hand, qualitative data was analyzed using content analysis. Data was presented using frequency tables and bar graphs. To enhance data handling the Statistical Package for Social Sciences (SPSS) was used due to its ability to handle both small and voluminous data (Dempsey, 2003). Descriptive statistics was used to analyze and present the data in the form of frequency distribution and bar graphs along with an explanation of the study findings. Inferential statistics was also carried out to establish the nature of the relationship that exists between variables. In this case Performance of Government Ministries (y) was the dependent variable. Independent variable was Inventory Control (x_1), a linear regression equation for predicting government ministries performance was expressed as follows:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \varepsilon}$$

Where:

Y = Performance

β_0 = Constant

X_1 = Inventory Control

ε = Is the Error

Inferential statistics such as non-parametric test which include variance analysis will be used to test the significance of the overall model at 95% level of significance. According to Mugenda and Mugenda (2003) variance analysis is used because it makes use of the F – test in terms of squares residual.

FINDING AND DISCUSSIONS

Response Rate

A response rate of 96.1% was established with 49 respondents reached, out of the 51 targeted. This was deemed adequate and in tandem with Mugenda and Mugenda (2003) who assert that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. The high response rate was attributed to the fact that the researcher employed two research assistants to personally administer the questionnaires and ensure they are filled in by the respondents.

Reliability Analysis

Before the actual data collection, the study entailed a pilot study conducted with a view to determine reliability of the data collection

instruments, that is, the questionnaires. The Cronbach's Alpha measure of internal consistency was the statistical operation conducted to this end. The inventory control variable had (α=0.756) and so reliable.

Background Information of the Respondents

In this section the researcher sought to establish the background information of the respondents and looked at their age, education level, professional qualifications and membership to a professional body.

The study found out that, a majority of respondents, 61.2%, were aged between 35 years and below while 38.5% of the respondents were aged between 36 years and above.

Respondents were further asked to indicate their highest levels of education. The study found out that majority (59.2%) of the respondents indicating that they had attained university education and 30.6% of the respondents either had a diploma or a certificate.

The study further sought to establish whether or not respondents had any professional qualification in the field of supply chain management. The findings were that a majority, 57.1%, of respondents did not have any professional qualification in supply chain management whereas 42.9% of the respondents indicated that they had professional qualifications in supply chain management.

Membership to a supply chain management professional body was considered a key factor in assessing respondents' background information. It was established, that a majority, 53.1% of the respondents indicated that they were members of a supply chain management professional body while 46.9% of the respondents indicated that they were not members of the any supply chain management professional body

Study Variables

The study set out to determine the effect of unserviceable asset disposal on performance of government ministries in Kenya with reference to the National Treasury. To this end, one variable was conceptualized as component of unserviceable asset disposal affecting performance thereof.

Inventory Control

In this section the researcher sought to establish the effect of inventory control on the performance of government ministries in Kenya. The section looked at the inventory control technique used, if stock audits are done in the ministry and their frequency, presence of an up-to-date asset register, rate the effect of inventory control of unserviceable asset disposal on performance of government ministries and rate the effect of revenue generation of unserviceable asset disposal on performance of government ministries. Their responses are highlighted in the sections below.

In this section the researcher focused on the inventory control techniques used, if stock/asset audits are done and the frequency, presence of an up-to-date register and revenue generation from the disposal method in use. Their responses are highlighted in table 4.6.

Table 1 Stock/Inventory Control (n=49)

Statement	Frequency	Percentage
Inventory control techniques used		
Action level approach	16	32.7
Periodic review approach	33	67.3
If stock/asset audits are done		
Yes	49	100.0
No	0	0
Frequency of stock/asset audits		
No response	2	4.1
Daily	0	0
Weekly	0	0
Monthly	6	12.2
Quarterly	34	69.4
Semi-annually	1	2.0
Annually	6	12.2
Presence of an up-to-date asset register		
No response	2	4.1
Yes	27	55.1
No	20	40.8
If current disposal method generates income		
No response	6	12.2
Yes	36	73.5
No	7	14.3

The study sought to establish the inventory control techniques respondents used as whether action level approach or periodic. From table 1, a majority of respondents, 67.3%, indicated that the inventory control technique used in their ministry was periodic review approach whereas 32.7% of the respondents indicated that the inventory control technique used in their ministry was action level approach. It follows then that the periodic review approach is the most used inventory control technique in the study area as compared to the action level approach. This is of key implication to the study since based on the performance, a determination may be made on the more effective inventory control technique between periodic review and action level approaches. This finding agreed with that of Bailey *et al.* (2008) which stated that target stocks set under periodic review was enough to last until the next periodic review.

The study also sought to find out from the respondents whether or not the government ministry/department did stock/asset audits, to which all respondents in agreed that the same is indeed done. This indicates that the study area is keen to carry out auditing of their stocks/asset. The finding further implies that the government department excise systems control in its supply chain management which is of significant implication to performance thereof. The study further sought to establish the frequency of the audits. As presented, a majority, 69.4%, indicated that this was done quarterly, 12.2% of the respondents indicated that the audits were done monthly, 12.2% of the respondents indicated that the audits were done annually while 2.0% of the respondents indicated that the audits were done semi-annually. It was thus established from the finding that under the periodic review technique, the sane largely entailed the use of quarters in the practice as opposed to other units of frequency including monthly and annually. This may be deemed adequate as it distributes the auditing practice fairly across the year in considerable time intervals. This may enhance decision making and therefore performance as adequate time is

provided to note any possible trends and emerging issues.

The study further sought to establish the presence of an up-to-date asset registers with a view to further assess their inventory control practice. A majority, 55.1%, of respondents indicated that indeed the ministry/department had an up-to-date register while 40.8% of the respondents indicated that the ministry/department did not have an up-to-date register. It can be deduced that as part of the inventory control process, the study area keep an up to date register. This is a best practice key in taking stock of pertinent assets and stocks in the supply chain as it ideally helps account for key assets essential in assuring performance in the government department.

Respondents were further asked to indicate whether or not the current disposal method in use by the ministry/department was able to generate revenue. In this regard, a majority, 73.5%, of respondents indicated that the current disposal method in use by the ministry/department was able to generate revenue while as 14.3% of the respondents indicated that the current disposal method in use by the ministry/department was not able to generate revenue. It can be established that indeed the current asset disposal method in the study area generates revenue in the study area, as indicated by a majority of respondents. Thus, other than facilitating supply chain management, additional utility can be acquired from the current method of asset disposal in the study area. Whereas this is positive in enhancing service delivery, it is essential to determine its contribution to performance in the government department.

According to Hillier, Fredrick & Lieberman (1995), in a periodic review, the inventory level is checked at discrete intervals and ordering decisions are made only at these times even if inventory dips below the reorder point between review times. Kabadayi (2012) adds that the control procedure of periodic review method is that at a specified interval of time, enough inventories are ordered to raise the inventory position to a predetermined level which is desirable when demand pattern is changing with time.

The literature provides key insights into inventory control best practice in the public sector. From the literature, the government department is in line with best practice. However, additional efforts need to be made in pertinent areas to further enhance performance, key among which is determining and investing in the appropriate inventory control technique, consistent asset auditing, keeping an up-to-date asset register as well as capitalizing on the current asset disposal method for additional utility.

(i) Effect of Inventory Control of Unserviceable Assets on Performance of Government Ministries

In this section the respondents were requested to indicate the level of agreement to the following statements relating to inventory control's contribution to surplus assets disposal in government ministries' performance in Kenya. It is imperative to state the criteria for analysis of the data that was used to answer this investigative question. For each best practice identified the respondents were required to indicate how each of the named factors influences the performance of government ministries. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.4. Table 4.7 present the findings.

Table 2: Effect of Inventory Control of Unserviceable Assets on Performance of Government Ministries (n=49)

Statements	Mean	S.D
Poor inventory control practices in your ministry/department contributes to accumulation of unserviceable assets	3.86	1.369
Inventories should be categorized into broad categories as high value, moderate value and low value for effective control	4.18	1.054
Strict set-up and adherence to inventory control techniques in government ministries/departments has failed due lack of qualified supply chain personnel	2.31	1.475
Most government ministries do not keep accurate and up to date stock records.	2.69	1.432

Average Mean = 3.26

Form the table 2, respondents highly agreed that inventories should be categorized into broad categories as high value, moderate value and low value for effective control (4.18) and poor inventory control practices in ministries/departments contribute to accumulation of unserviceable assets (3.86) were factors related to inventory control on unserviceable assets disposal that did affect the performance of government ministries. A majority were however in moderate agreement with the view that strict set-up and adherence to inventory control techniques in government ministries/departments has failed due lack of qualified supply chain personnel (2.31). A majority did not agree with the view that most government ministries do not keep accurate and up to date stock records (2.69). These were factors related to inventory control on unserviceable assets disposal that affect the performance of government ministries.

From the foregoing, it is notable that in respondents' opinion, there is need to broadly categorize inventories into either, high value, moderate value or low value in an effort to effectively excise inventory control. It is also noted from the findings that the accumulation of unserviceable assets in ministries/departments contribute can be attributed to poor inventory control practices. It is further noted that according to a majority, most government ministries do t keep accurate and up to date stock records. The finding is in line with Tanwari, Qayoom and Shaikh (200) that observed that classification of stock according to the importance of their contribution to the annual cost to the organization was an appropriate technique.

(ii) Effect of Revenue Generation by Unserviceable Assets on Performance of Government Ministries

In this section the respondents were requested to indicate the level of agreement to the following statements relating to revenue generation by unserviceable assets disposal on performance of government ministries in Kenya. It is imperative to state the criteria used to analyze the data used to answer this investigative question. For each best practice identified the respondents were required to indicate how each of the named factors influences the performance of government ministries. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.4. Table 4.8 present the findings.

Table 3: Effect of Revenue Generation by Unserviceable Assets on Performance of Government Ministries (n=49)

Statements	Mean	S.D
Sale by public tender disposal method has the probability of generating the highest revenue for a ministry/department if chosen	4.08	1.336
Sale by public auction disposal method has the probability of generating high revenue but not as high as that generated by sale by public tender	3.49	1.431
Trade-in only generates revenue in terms of the value of the asset received through trade-in. It is however lower than that obtained in sale by public tender and auction.	2.80	1.258
Transfer to another public entity, destruction, burying and dumping hardly generate any revenue to ministries/departments	3.86	1.620

Average Mean = 3.56

From table 3, respondents highly agreed that sale by public tender disposal method has the probability of generating the highest revenue for a ministry/department if chosen (4.08), transfer to another public entity, destruction, burying and that dumping hardly generate any revenue to ministries/departments (3.86). A majority however only moderately agree that sale by public auction disposal method has the probability of generating high revenue but not as high as that generated by sale by public tender (3.49). A majority further disagreed that trade-in only generates revenue in terms of the value of the asset received through trade-in. It is however lower than that obtained in sale by public tender and auction (2.80). It is notable from the findings that if chosen, the highest revenue for a ministry/department can be generated from sale by public tender disposal method. It is further established that no significant level of revenue is generated through transfer to another public entity, destruction, burying and dumping. This finding sheds some light on the preference by government ministries and departments of the current method of asset disposal over other methods of asset disposal, in that the additional utility, revenue generation, acquired from the current method of asset disposal makes it a more preferred method of asset disposal.

This finding was in agreement with the study of Tanwari, Qayoom and Shaik (2000) that found that classifying inventory items according to the importance of their contribution to the annual cost of the entire inventory system was an appropriate technique. These findings are further in line with those of Barbole, Yuvraj, and Santosh (2013) who postulated that it is necessary to improve profit margins or organizational performance by eliminating all forms of waste and unnecessary expenses without impairing the generation of revenues.

The literature further underscores the need to observe best practice in inventory control through the categorization of the practice as well as the need to dispose unserviceable assets in order to enhance inventory control. From the literature, it is further affirmed that the ability of public tender disposal to generate additional revenue for government ministries and departments is a contributing factor to the method being preferred over other methods. The method has the potential to be a key

Performance of Government Ministries

The study sought to as assess performance of government ministries in the disposal process with a view to investigate what needs to be done in order to improve the disposal process and consequently the performance of government ministries. The section rated the performance of government ministries/department in disposal of

unserviceable assets and also looked at whether the disposal process of unserviceable assets in use in the ministry/department should be improved. Their responses are highlighted in the sections below.

(i) Performance Rating

Respondents were asked to rate the performance of the ministry/department in the disposal of unserviceable assets as well as whether the disposal process of unserviceable assets in use in the ministry/department should be improved. Their responses are highlighted in table 4.12.

Table 4: Performance Rating (n=49)

Category	Frequency	Percentage
Performance of ministries in disposal of unserviceable assets (M=2.04, S.D=1.136)		
No response	6	12.2
Excellent	7	14.3
Good	20	40.8
Fair	11	22.4
Poor	5	10.2
Very Poor	0	0
Should disposal process of unserviceable assets in use in the ministry be improved?		
No response	4	8.2
Yes	45	91.8
No	0	0

From table 4, a majority of respondents, 40.8%, indicated that the performance of the ministries/departments in terms of disposal of unserviceable assets was good, 22.4% of the respondents indicated that the performance of the ministries/departments in terms of disposal of unserviceable assets was fair and 10.2% of the respondents indicated that the performance of the ministries/departments in terms of disposal of unserviceable assets was poor. The mean statistics (2.04) indicates the average performance of the ministry/department as far as disposal of unserviceable assets was concerned was fair.

91.8% of the respondents agreed that the disposal process of unserviceable assets in the ministries/departments should be improved. With a mean statistic of 2.04 overall, performance in the government department can be deemed fair. More particularly, this is reaffirmed by a majority of respondents rating performance of disposal of unserviceable assets as fair, followed by performance in the disposal of unserviceable assets as good, followed by a significant number rating the same as fair while only a few rated performance as poor. The conceptualized elements of unserviceable asset disposal including disposal methods, inventory control, cost reduction and disposal planning can thus be deemed moderately to highly affecting performance of government ministries in Kenya.

Pearson's Correlation Coefficient Analysis

In this section, the study measured the degree of association between the independent, unserviceable asset disposal variable (inventory control,) and the dependent, performance of government ministries in Kenya with reference to the National Treasury. Inventory control is strongly and positively correlated with performance of government ministries in Kenya at correlation coefficients of 0.7290.

Regression Analysis

In this section the researcher used a linear regression model to ascertain if there was a relationship between the dependent variable and independent variable. The researcher sought to make predictions factors affecting performance of government ministries (Y) using information on inventory control (X_1). A linear regression equation for predicting Y was expressed as follows;

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where:

Y = Performance

β_0 = Constant

X_1 = Inventory Control

β_0 - is the constant

ε - is the error

Regression analysis also produced coefficient of determination and analysis of variance (ANOVA). Coefficient of determination showed the strength of the relationship while Analysis of variance was done to show whether there is a significant mean difference between dependent and independent variables. The ANOVA was conducted at 95% confidence level.

The results showed a correlation value (R) of 0.771 which depicts that there is a good relationship between the dependent and independent variable of the study.

An adjusted R-squared of 0.532, shows that 53.2% variation in performance can be accounted for by units of change of the independent variable while 46.8% is explained by other factors not in the model of the study.

SUMMARY OF FINDINGS

Effect of Inventory Control on the Performance of Government Ministries in Kenya

Under this objective, to determine the effect of inventory control on the performance of government ministries in Kenya, 67.3% of the respondents indicated that the inventory control technique used in their ministry was periodic review approach while as 32.7% of the respondents indicated that the inventory control technique used in their ministry was action level approach. All the respondents indicated that indeed the government ministry/department did stock/asset audits and the frequency of the audits according to 69.4% of the respondents was done quarterly, 12.2% of the respondents indicated that the audits were done monthly, 12.2% of the respondents indicated that the audits were done annually while as 2.0% of the respondents indicated that the audits were done semi-annually. 55.1% of the respondents indicated that indeed the ministry/department had an up-to-date asset register while 40.8% of the respondents indicated that the ministry/department did not have an up-to-date register. 73.5% of the respondents indicated that the current disposal method in use by the ministry/department was able to generate revenue while 14.3% of the respondents indicated that the current disposal method in use by the ministry/department was not able to generate revenue.

Respondents agreed that inventories should be categorized into broad categories as high value, moderate value and low value for effective control and poor inventory control practices in ministries/department contributed to accumulation of unserviceable assets. These were factors related to inventory control and unserviceable assets disposal that did affect the performance of government ministries. However, the respondents were indifferent meaning they did not agree or disagree with the fact that strict set-up and adherence to inventory control techniques in government ministries/departments had failed due to lack of qualified supply chain personnel and most government ministries did not keep accurate and up to date stock records. Respondents agreed that sale by public tender disposal method had the probability of generating the highest revenue for a ministry/department if chosen, transfer to another public entity, destruction, burying and dumping hardly generate any revenue to ministries/departments and sale

by public auction disposal method had the probability of generating high revenue but not as high as that generated by sale by public tender were factors related to revenue generation of unserviceable assets disposal that did affect the performance of government ministries. Nevertheless, the respondents were indifferent meaning they did not agree or disagree with the fact that trade-in only generates revenue in terms of the value of the asset received through trade-in. It was however lower than that obtained in sale by public tender and auction as a factor related to revenue generation of unserviceable assets disposal that did affect the performance of government ministries.

The finding is in agreement with Hillier, Fredrick & Lieberman (1995), in a periodic review, the inventory level is checked at discrete intervals and ordering decisions are made only at these times even if inventory dips below the reorder point between review times. Kabadayi (2012) adds that the control procedure of periodic review method is that at a specified interval of time, enough inventories are ordered to raise the inventory position to a predetermined level which is desirable when demand pattern is changing with time. This finding was also in agreement with the study of Tanwari, Qayoom and Shaik (2000) that found that classifying inventory items according to the importance of their contribution to the annual cost of the entire inventory system was an appropriate technique. These findings are further in line with those of Barbole, Yuvraj, and Santosh (2013) who postulated that it is necessary to improve profit margins or organizational performance by eliminating all forms of waste and unnecessary expenses without impairing the generation of revenues.

Conclusion

From the foregoing, it is notable that in respondents' opinion, there is need to broadly categorize inventories into either, high value, moderate value or low value in an effort to effectively excise inventory control. It is also noted from the findings that the accumulation of unserviceable assets in ministries/departments contribute can be attributed to poor inventory control practices. It is further noted that according to a majority, most government ministries do keep accurate and up to date stock records.

Recommendation

Government ministries need to formulate systems describing the inventory system and then proceeding to derive an optimal inventory holding policy alternatively they could automate their inventory management processes and rely on an information system to make very critical decisions in inventory control so as to minimize costs and improve performance since failure to efficiently and effectively manage inventory could spell doom for an organization in terms of declining performance and even losing customers for profit oriented organizations.

The government ministries need to properly carry out inventory control to reduce unserviceable assets, obsolescence and enable the organization to become truly responsive to customers real needs. To cope with inventory inaccuracies, different compensation methods can be used for instance periodical review of inventory and tracking of inventory by use of radio frequency identification. It is also important to ensure that inventory records match with the physical inventory. Inventory record accuracy is vital to any company with high levels of inventory. Failure to keep accurate inventory records can result in loss of financial resources that could be otherwise deployed.

Areas for Further Research

Further research is recommended on the challenges facing the disposal of unserviceable assets in government ministries. In addition, further research could also be done on the factors affecting stock control/inventory control or stock

control measures in government ministries. This study also recommends that further research should be based on a survey of all public entities. Moreover, a replication of this study can be done in the private sector.

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