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MATERIAL MANAGEMENT DRIVERS ON THE PERFORMANCE OF PARASTATALS IN NAIROBI CITY COUNTY, KENYA

[1] Githinji Eunice Nyarima, [2] Dr. Achuora John

[1] Master of Science in Procurement and Contract Management, Jomo Kenyatta University of Agriculture and Technology

[2] Lecturer, Jomo Kenyatta University of Agriculture and Technology

ABSTRACT

The purpose of the study was to determine the effects of Material Management Drivers on the performance of Parastatals in Nairobi City County, Kenya with an aim of making recommendations. The study sought to establish the effect of inventory categorization, Inventory Control Techniques. To achieve this, the researcher reviewed both theoretical and empirical literature and proposed the research methodology that addressed the gaps identified in literature as well as answer the stipulated research questions. The study employed a descriptive research design. The researcher preferred this method because it allows an in-depth study of the subject. Data was collected using self-administered questionnaires. The study employed stratified random sampling technique in coming up with a sample size. Pilot study was carried out to establish the validity and reliability of the research instruments. The instruments were designed appropriately according to the study objectives. The data collected was analyzed by use of descriptive and inferential statistics. The study used multiple regression and correlation analysis to show the relationship between the dependent variable and the independent variables. The data generated was keyed in and analyzed by use of Statistical Package of Social Sciences (SPSS) version 24 to generate information which was presented using charts, frequencies and percentages. The response rate of the study was 80%. The findings of the study indicated that; inventory control techniques and Inventory Control Techniques have a positive relationship with performance of Parastatals. Finally, the study recommended that public institutions should embrace inventory optimization practices so as to improve their performance and further researches should to be carried out in other public entities to find out if the same results can be obtained.

Key Words: Material Management Drivers, Performance of Parastatals, Inventory categorization, Inventory Control Techniques

Background of the Study

The study sets out to examine the effects of Material Management Drivers on the performance of Parastatals in Nairobi City County, Kenya. To this end, this chapter builds the case by introducing the problem warranting the study. This chapter presents; the background of the study, problem statement, objectives, research questions, importance of the study, the scope of the study and limitations of the study.

Inventory control is the operation of continuously arranging receipts and issues to ensure that inventory balances are adequate to support the current rate of consumption. It involves recording details of inventory movements and balances in value, full particulars of individual receipts, issues and balance of inventory, physical verification of the quantities and conditions of goods; also review of obsolete and surplus inventory, stores coding, materials pricing and costing (Lyson, 2016).

Material inventory control is the activity of determining the range and quantities of materials which should be inventory and the regulation of receipts and issues of these materials (Lamming, 2019). Hence, effective inventory control ensures that materials for use on building projects are made available at the right place, at the right time and in the correct quantity and quality according to a bill of quantities, schedule of materials, specification and construction program, so as to reduce materials shortage and wastage on construction sites as opined in Lamming, (2019).

To achieve these goals, necessary process of inventory control must be put in place. The inventory controller or inventory control manager's responsibilities should be made known to all concerned; he must be given proper authority and duly motivated for effective functioning. Furthermore, Lyson (2016) documented that there are many methods/systems meant for the control of inventory, both manual and automatic; also there are really only two basic approaches on which the method/systems are based.

These two approaches are commonly called the Action level and the Periodic Review approaches. Under the Action level method, the balance of inventory on hand is checked after every issue and as soon as the balance falls below the reorder level. The basic method of controlling inventory by quantity is by means of fixing for each commodity, inventory levels which are recorded in the inventory control system and subsequently used as a means of indicating when some action is necessary (Farrington, 2016).

Parastatals In Nairobi City County, Kenya have been investing in Material Management Drivers best practices as part of the ongoing reforms in the public sector leading to the decline in the costs in some key services. The more organizations can integrate processes and systems directly into their supply chain, the greater the cost savings and product improvements. There have been various developments in public procurement and disposal which had for long been challenged by a lack of a clear legal framework and inefficiencies in the entire process of procurement.

A process of continuous improvement in the sector since the late 90's has resulted in a better regulated public process through the public procurement and disposal Act (2005), The public procurement and disposal regulations (2006) and the supplier's practitioner's management Act (2007). The regulations have created several autonomous bodies that also form part of the developments of the public procurement system in Kenya over the years.

Statement of the Problem

Demand for better quality, faster delivery and better overall value increase is increasing; which has led to visionary leaders to consciously differentiate between the things that create value and those that do not (World Bank, 2018). This has lead to adoption of Material Management Drivers

in all areas that seek to help organizations in the public sector to have a competitive advantage over rivals and position themselves for future success (KPMG, 2012).

The Vision 2030 stipulates that the Parastatals In Nairobi City County, Kenya should account for 20% of GDP by 2030, achieving this ambitious goal largely depends on a competitive Material Management Drivers (GoK, 2019). However, the sector's contribution to the GDP has stagnated at an average of 10% for more than 10 years with a growth of 3.1%, significantly lower than the overall economic growth of 5% (WB, 2020).

A number of reports appearing in the print media reveal operational constraints in areas of operations management, fleet management, management information, and aspects which include uncertainty of customer demands, long supplier leads times, and inaccurate procurement needs estimation (Rotich, 2018). In warehouse management, the cost of materials accounts for nearly two thirds of the total costs. In both production and construction the determining factor is obvious the efficiency of the materials' management and apparently this factor has given rise to need of inventory control (PPOA, 2020).

Increasing size of business establishment is the other factor, it could have been possible for an enterprise in the past to maintain a reasonable margin of profits even if there had been a poor control practices (KIPPRA, 2019). But the increasing business and industrial activities call for an effective inventory control practice system. Moreover, the big size, itself calls for more economic operation so as to affect savings thereby driving the advantage of large scale business. The wide variety and complexity of modern requirement is also a factor which gives rise to the need of inventory control (Kipchilat, 2012).

A number of studies have been conducted on Material Management Drivers globally. For instance, Cousins (2019) conducted a survey on 121 energy firms in the UK and found out that though 92% claimed inventory control seemed to have reduced transaction costs. The studies found that the investigated energy firms looked at inventory control instead of focusing on streamlining the inter-organizational processes. This study was however, conducted in a developed country and not in Kenya.

Several studies have been done locally; Kioko and Were (2020) did a study on factors affecting efficiency in Material Management Drivers of the procurement function at the private sector in Kenya. These studies however, did not look at effects of Material Management Drivers on the performance of Parastatals. It is against this back drop that this study seeks to examine the effects of Material Management Drivers on the performance of Parastatals In Nairobi City County, Kenya.

Objectives of the Study

i. To establish the effect of inventory categorization on the performance of Parastatals in Nairobi City County, Kenya.
ii. To determine the effect of inventory control techniques on the performance of Parastatals in Nairobi City County, Kenya.

LITERATURE REVIEW

Theoretical Review

The Theory of Constraints

Theory of constraints is an approach to the management of operations and it was developed by Goldratt. It provides a supply chain management theory of how organizations should be run especially the inventory categorization. The concept was extended to theory of constraints (TOC) with a publication which views any manageable system as being limited in achieving more of its objectives by a very small number of constraints.

There is always one constraint and the TOC uses a focusing process to identify the constraint and restructure the supply base around it (Kotabe & Murray, 2018) TOC emphasizes on the optimization of performance within a defined set of constraints of the existing process and it provides an action framework which combines the activities of the managers and the visible system elements (Hansen, Schaumburg-Muller & Pottenger, 2018).

TOC views inventory categorization as systems consisting of resources, which are linked by the processes they perform. The goal of the supply base serves as the primary judge of success. Within that system, a constraint is defined as anything that limits the inventory categorization from achieving higher performance relative to its purpose (Tummala, Phillips & Johnson, 2016). Just as the strength of a chain is governed by its single weakest link, the TOC perspective is that the ability of any supply base to achieve its goal is governed by a single, or at most very few, constraints (European Commission, 2016).

The theory of constraints defines a set of tools that change agents can use to manage constraints, thereby increasing profits. Most businesses can be viewed as a linked set of processes that transform inputs into saleable outputs. TOC conceptually models this system as a chain, and advocates the familiar adage that a chain is only as strong as its weakest link (Busi & McIvor, 2018). This theory incorporates the idea that the goal or mission of an organization exists, and organizations can be measured and controlled by variations on three measures having A, B and C class items clearly categorized (Eskola, 2019).

Innovation Diffusion Theory

Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread. Everett Rogers, a professor of communication studies, popularized the theory in his book Diffusion of Innovations; the innovation must be widely adopted in order to self-sustain. Diffusion of Innovation (DOI) theory is a popular model used in information systems research to explain user adoption of new technologies. Rogers defines diffusion as 'the process by which an innovation is communicated through certain channels over time among the members of a social society' (Ming-Ling & Shaw, 2019). An innovation is an idea or object that is perceived to be new.

According to DOI, the rate of diffusion is affected by an innovation's relative advantage, complexity, compatibility, trialability and observability. Johnson, Scholes and Whittington (2019) define relative advantage as 'the degree to which an innovation is seen as being superior to its predecessor'. Complexity, which is comparable to perceived ease of use construct, is 'the degree to which an innovation is seen by the potential adopter as being relatively difficult to use and understand'.

Compatibility refers to 'the degree to which an innovation is seen to be compatible with existing values, beliefs, experiences and needs of adopters'. Trialability is the 'degree to which an idea can be experimented with on a limited basis'. Finally, observability is the 'degree to which the results of an innovation are visible' (Gunasekaran, 2018). The advantage of the improved system is that it has allowed for better communication between suppliers and the Parastatals In Nairobi City County, Kenyasince they have to communicate to ensure that less time is taken to replenish inventory.

Parastatals, aided by technological developments, have responded to the challenges they face by adopting a new strategy, which emphasizes on attempting to build customer satisfaction through offering better products and services and at the same time to minimize operation costs. The diffusion theory is relevant because it explains the reason why Parastatals In Nairobi City County, Kenya adopt technical innovations.

Conceptual Framework

Conceptual framework is a detailed description of the phenomenon under the study accompanied by the graphical or visual depiction of the major variable of the study (Kothari, 2020). According to Dunn (2016) conceptual framework is diagrammatical representation that shows the relationship between dependent variable and independent variables.

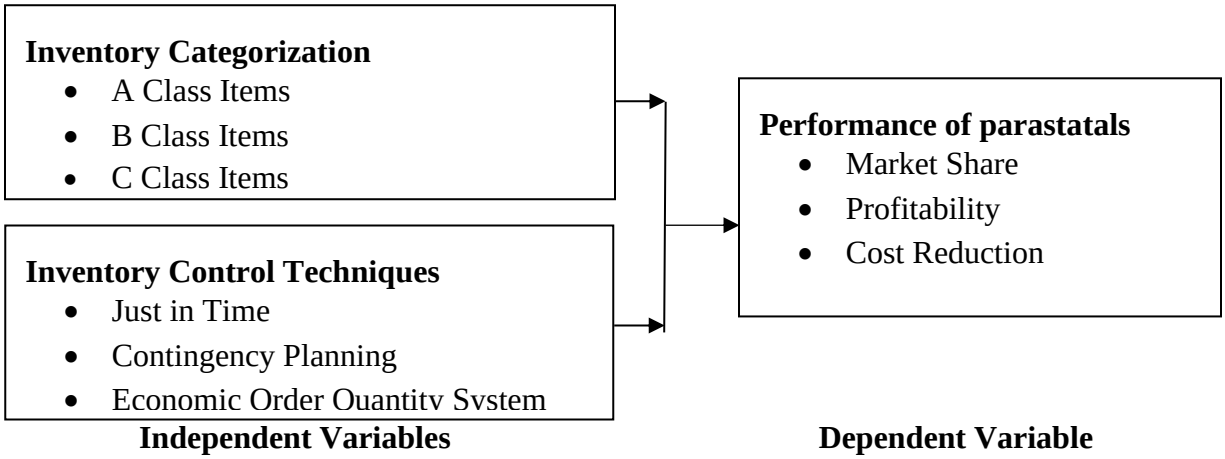

Figure 1: Conceptual Framework

Inventory Categorization

The rule was formulated by the Italian economist Vilfred Pareto (1848-1923). It is also called the ABC analysis (Handfield, 2020). The proposition of the rule is that in any series of elements to be controlled, a selected small factor in terms of number of elements (20%) almost always accounts for a large factor in terms of effort (80%). The Pareto principle is very useful tool in inventory categorization as it helps leverage the buyer's time, effort and resources for the biggest benefits (CIPS, 2012).

The CIPS further posits that the 20/80 rule in inventory categorization can be interpreted as 80% of spend, risk, or value resides in 20% of suppliers or supplies. According to Handfield (2020) the inventory categorization identifies those few items (20%) that cause the bulk of spend or cause the most quality problems or risks and are then considered for elimination. Handfield adds that this approach is usually used when firms require a rapid reduction in number of items. The CIPS (2012) is in agreement with Handfield. They argue that the Pareto principle can be used to separate the critical few items that supply important high value items.

The Pareto 80/20 rule is commonly used (and also ignored at considerable cost) in many aspects of organizational and business management. It is helpful in specialized quality management such as six sigma, planning, decision-making, and general performance management. Pareto theory is also an extremely helpful reference or 'check' in business/organizational planning and project management too. Leadership is a lot easier and effective when Pareto principles are kept in mind, and this applies to every form of leadership theory and approach (Schapper & Paul, 2019). The Pareto principle is extremely helpful in bringing swift and easy clarity to complex situations and problems, especially when deciding where to focus effort and resources.

Pareto's Law is dramatically effective when applied to selling and marketing situations - because it encourages a focus of activity and energy that usually produces very fast and substantial improvements (for example when applied to target audiences, existing customers, product ranges, pricing, etc., and other major profit levers). Really, it's impossible to overstate the effectiveness

of the theory in these areas, despite which the use of Pareto theory in sales and marketing is commonly overlooked completely (Wanjohi, 2012).

Inventory Control Techniques

The attributes of inventory control techniques which were taken into consideration in this study are: just in time technique, contingency planning and economic order quantity. Lean production principle was pioneered by Mclaren (2020). This principle was linked with reduced inventories. The argument is that as inventory is reduced there will be profit improvement due to interest savings as well as a reduction in storage fees, handling and waste. These savings have been estimated by literature to be in the range of 20 -30 percent (Nikosia & Moore, 2016). Lean management is getting more and more attention in today's highly competitive environment. The proponents of lean inventory system argue that excess inventory will adversely affect the net cash flows of a firm.

On the cost side, most obvious are the costs of holding inventory, which include the capital costs (interest or opportunity) and the physical cost (storage, insurance and spoilage). In recent years, a number of systems have been developed in the field of operations management to deal with excess inventory problem. Management oriented systems include the Just-In-Time (JIT), and enterprise resource planning (ERP). Just-In-Time refers to a collection of practices that eliminate waste. These organization wide practices encompass the entire supply chain.

The elements of JIT include shared product design with suppliers and customers, movement towards single sourcing proximate suppliers, reduced machine set- up times and total preventive maintenance (Otto & Kotzab, 2020). It is an inventory strategy that is implemented to improve the return on investment of a business by reducing inventory and its associated carrying costs. Quick communication of the consumption of old stock, which triggers new stock to be ordered, is key to JIT and inventory reduction. This saves warehouse space and costs. The basic philosophy of JIT is that inventory is defined as waste.

The technique was first used by Ford Motor company. It was subsequently adopted and publicized by Toyota Motor Corporation of Japan in the 1950s. ERP system is defined as product- oriented computerized technology aimed at minimizing inventory and maintaining delivery schedules. It relates the dependent requirements for materials and components comprising an end product to time periods over planned horizon on the basis of forecasts provided by marketing and sales and other input information (Zhang, Yin & Boukas, 2016).

This system is based on the recognition that demands for an item may be dependent on the demand for other inventory items. The emphasis is one the end product into which related parts are incorporated (William, 2018). The inventory quantities required are specified on the basis of future demand. The demand for inventory items is precisely determined from the master production schedule for the end products. The operation of a lean inventory system such as JIT and ERP result in relatively low inventory levels. The warehousing costs and material handling costs are significantly reduced. This increases return on assets through decreased conversion costs.

Performance of Parastatals

There are financial and non-financial performance measures and all the measures have importance in SCM which include: support for better decision making, support for better communication, provide performance feedback and motivate and direct behavior (Lyons, 2020).

There are a hundreds of performance measure which include: price performance, cost-effectiveness, revenue, quality, time/ responsiveness, innovation, physical environment and safety, administration efficiency, internal customer satisfaction, supplier performance and strategic

performance (Handfield, 2018). SCM can evaluate price performance by looking at how effectively it spends purchase dollars.

The common price performance is looking at actual purchase price against planned purchase price (CIPS, 2012). These measures fall under two categories: cost changes and cost avoidance. A cost change is the increase or decrease in cost resulting from a change in purchasing strategy. Cost avoidance represents the difference between a price paid and a potentially higher price which might have occurred if a purchase had not been obtained at a lower price (Handfield, 2020).

A number of measures are available to evaluate quality of a supply chain these include: parts per million, customer defects per supplier and field failure rates by purchase item and by supplier (Lysons, 2020). Parts per million expresses a maximum number of levels of defects allowable for any particular product, assembly, or service. Customer defects per supplier on the other hand measures the number of defects from individual suppliers to indicate comparative quality performance among competing suppliers. This measures the amount of time in weeks or months from concept to first shipment or delivery of final product to the market. The aim is continuous reduction of time to the market (Christine, 2016).

The measures here include: on time delivery, cycle time reduction, responsiveness to schedule changes, mix changes and design or service changes and achieving new product introduction (Carter, 2016). As an important part of SCM, the performance of the production process also needs to be measured, managed, improved, and suitable metrics for it should be established (Gunaserakan, 2020).

Empirical Review

Inventory Categorization and Performance of Parastatals In Nairobi City County, Kenya

According to Perzyk (2012) case study in foundry industry by, Pareto chart shows that the foundry staff should concentrate on reducing defects like 'sand inclusions' and 'gas holes', which make up 72% of all defects. Pareto diagrams can therefore be particularly useful in defining the targets. Pareto charts show the most frequently occurring factors and help to make the best use of limited resources by pointing at the most important problems to analyze.

Chandna and Chandra (2020) studied forging operation that produce six cylinder crankshafts used in trucks and buses. With the help of Pareto diagrams critical areas are identified and forging defects of crankshaft have been prioritized by arranging them in decreasing order of importance. Then Cause and Effect Diagram (CED) is applied to explore possible causes of defects through brain storming session and to determine the causes, which have the greatest effect. The corrective measures reduce the rejection rate from 2.4% to 0.2%.

Khekalei *et al.,* (2016) presented another case of wastage reduction in a belt manufacturing industry located in the Virabha, India which produces world class automotive belts and hoses. The main raw material for producing this automotive belt is rubber. Others raw materials are biased fabric and cord. From many years consumption of raw material was not taken seriously as rubber is reusable. But other raw material that is biased fabric and cord consumption was increased drastically which resulted in increased in the production cost of belt and reduced profit margin.

Wastages in the belt manufacturing process are cord wastages, fabric wastages, in-process wastages. Cord and fabric wastages occurred during drum building process while in-process wastages occurred during cutting operation. Mohiuddin and Ahmad (2016) works for minimization of defects in lamp production process by application of Pareto analysis and Cause and Effect Diagram. They worked for zero waste and zero defect aim. They studied all lamp production process with its production data.

They also work for data collection of all steps involved for lamp production with month wise rejection in group production system. The author applies Pareto analysis to all defects and finds major and minor contributors. So finally author applies cause and effect diagrams to each defect and find out main factor. So they suggest cause and effect diagram is very use full in indicating the appearance of abnormalities of process in the form of excessive variations of process parameters.

Inventory Control Techniques and Performance of Parastatals

Lyson (2016) argues that inventory control techniques have to be managed well to achieve the performance goals. A noticeable trend in Material Management Drivers research is the increasing application of mathematical models / computer technology, raising awareness on the economic benefits of robust Material Management Drivers, but significant research directed at comprehensively characterizing Material Management Drivers techniques (IMTs) has been rather sparse, despite its importance for sustainable financial management.

Markland *et al.*, (2020) used mathematical modeling to show that Material Management Drivers system performed better when operated under contingency planning and showed the potential of reducing the traditional inventory holding costs. Ming-Ling and Shaw (2019), analyzed the warehouse and Material Management Drivers system in Shell Petroleum Development Company (SPDC) in Nigeria and demonstrated the utility of ICT through enterprise resource planning (ERP) as a veritable value-added tool in Material Management Drivers practice. Robert (2016) also tried to justify the use of modified just in time (JIT) logistic-based approach to managing inventory of perishable products.

Sari (2018) used statistical process monitoring tools with inventory levels and stock-outs as key metrics in achieving proactive inventory policy intervention in the context of cooperative supply chains. Their results showed the possibility of detecting out-of-control supplier signals beforehand and significantly reducing stock-outs through dynamic adjustments of inventory levels. Similarly, Schmidt (2020) deployed probabilistic model to analyze secondary data over 2002 to 2012 of an indigenous towards developing Material Management Drivers policy (ordering and reordering levels) of electrodes packets used for welding oil and gas pipelines.

Similarly, Baker (2020) used financial statement data to establish the nexus between Material Management Drivers and firm profitability among U. S. manufacturing firms. The researchers found that a lower ratio of inventory to sales for a firm is associated with higher profit margin for the firm, but the specific IMTs that helped the enterprises to achieve profitability were not the focus of the study. In similar vein, Arrowsmith *et al.*, (2018), used the Material Management Drivers system to highlight the effectiveness (or ineffectiveness) of internal control of an entire organization.

Relatedly in the Nigerian context, Kannan *et al.*, (2018) used a combined case study and survey methods to provide some useful insights into how Nigerian manufacturers optimized Material Management Drivers in terms of lead-time delivery and reduced stock-outs of products, goods and materials. Kroenke (2018) used similar approach to evaluate the role of Material Management Drivers in fostering entrepreneurship. In both studies, the results suggest that robust Material Management Drivers leads to economy, efficiency, and cost-reduction, among other benefits.

RESEARCH METHODOLOGY

The study adopted a descriptive research design since the study gathered quantitative and qualitative data that described the nature and characteristics of the effects of Material Management Drivers on performance of Parastatals In Nairobi City County, Kenya. The target population was the 187 Parastatals In Nairobi City County, Kenya spread over different locations in Kenya. This

provided clear picture of the differences in the characteristics of the population under study. The unit of analysis was the individual Parastatals In Nairobi City County, Kenyawhile the unit of observation which defines the independent elements in a population was the heads of procurement within each of the selected Parastatals. A sampling frame is the source material or device from which a sample is drawn. According to Orodho (2020) a sampling frame is a list of all those within population who can be sampled. In this study, the sampling frame was a list of all the 187 Parastatals In Nairobi City County, Kenyaoperating in Kenya categorized according to their mandate that is, 55 commercial, 62 executive agencies, 25 independent regulatory agencies and 45 higher education, research and training institutions. The study employed a census approach to collect data from the respondents hence no sampling techniques was used. The study collected both primary and secondary data during the research.

For this study, primary data was collected by self-administering method. Self-administered method is faster and facilitates higher response rate (Alavi & Carlson, 2012). The study generated both quantitative and qualitative data. Both descriptive statistics and inferential statistics were applied to analyze numerical data gathered. Descriptive analyses are important since they provide the foundation upon which correlational and experimental studies emerge (Kothari, 2020). Inferential statistics were used in computation of: the confidence levels to be applied, correlation matrix and the multiple regression process for testing of the hypothesis. Statistical Package for Social Sciences (SPSS) program version 22 were used as a tool for analysis of study variables. Correlation analysis to establish the relationship between the independent and dependent variables were employed. Multiple linear regression attempts to model the relationship between two or more explanatory variables and a response variable by fitting a linear equation to the observed data, where every value of independent variable is associated with a value of the dependent variable (Ogula, 2019).

DATA ANALYSIS AND PRESENTATION

A total of 187 questionnares were distributed to heads of procurement. Out of the population covered, 150 were responsive respresenting a response rate of 80%. This was above the 50% which is considered adequate in descriptive statistics according to (Mugenda & Mugenda, 2012).

Descriptive Statistics

The study set out to examine the effect of Material Management Drivers on performance of Parastatals In Nairobi City County, Kenya. To this end, four variables were conceptualized as components of Material Management Drivers on performance of Parastatals in Nairobi City County, Kenya. These include; inventory categorization, and inventory control techniques.

Inventory Categorization

The first objective of the study was to assess the effect of inventory categorization on performance of Parastatals In Nairobi City County, Kenya. The respondents were asked to indicate to what extent did inventory categorization affect had on performance of Parastatals In Nairobi City County, Kenya. Results indicated that majority of the respondents 25% agreed that it was to a very great extent, 27% said that it was to a great extent, 35% said it was moderate, while little extent and not all were at 5 and 8% respectively.

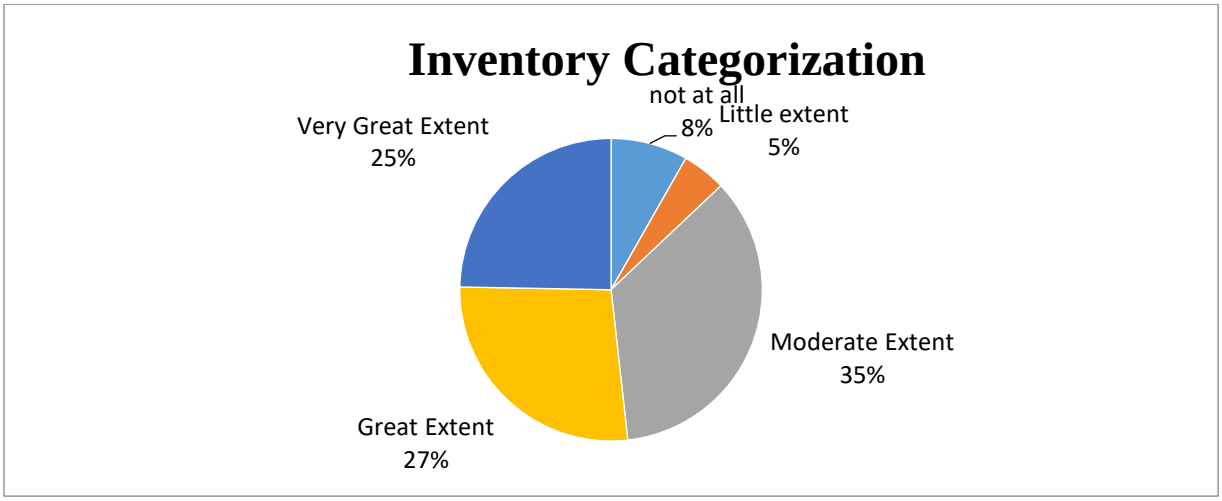

Figure 2: Inventory Categorization

The respondents were also asked to comment on statements regarding inventory categorization on performance of Parastatals In Nairobi City County, Kenya. The responses were rated on a likert scale and the results presented in Table 1 below. It was rated on a 5 point Likert scale ranging from; 1 = strongly disagree to 5 = strongly agree. The scores of ' strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon. The score of 'neutral' has been taken to represent a statement agreed upon. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon.

The respondents were asked to indicate the descriptive for safety stock. The result revealed that majority of the respondent (62%) agreed with the statement that A class items plays a great role in expanding market share. The result revealed that majority of the respondent (72.7%) agreed with the statement that B class items plays a great role in expanding market share. The result also revealed that majority of the respondent (64.7%) agreed with the statement that C class items play a great role in expanding market share.

Further, the results revealed that majority of the respondent (100%) agreed with the statement that A class items plays a great role in improving profitability. Results also revealed that majority of the respondent (98.7%) agreed with the statement that B class items plays a great role in improving profitability. The result revealed that majority of the respondent (99.3%) agreed with the statement that C class items play a great role in improving profitability.

Results further indicated that majority of the respondent (97.3%) agreed with the statement that A class items plays a great role in cost reduction. Results revealed that majority of the respondent (62.6%) agreed with the statement that B class items plays a great role in cost reduction. Finally, the results revealed that majority of the respondent (97.3%) agreed with the statement that C class items plays a great role in cost reduction. The average for the statements on inventory categorization was 4.25. The results imply that an organization benefits greatly when inventory categorization are embraced to reduce costs and work with the organization to streamline performance (Mackie, 2018).

Table 1: Inventory Categorization

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
A class items plays a great role in expanding market share	1.30%	1.30%	35.30%	29.30%	32.70%	3.91	0.92
B class items plays a great role in expanding market share	0.70%	2.00%	24.70%	36.00%	36.70%	4.06	0.87
C class items play a great role in expanding market share	1.30%	1.30%	32.70%	28.00%	36.70%	3.97	0.93
A class items plays a great role in improving profitability	0.00%	0.00%	0.00%	53.30%	46.70%	4.47	0.50
B class items plays a great role in improving profitability	1.30%	0.00%	0.00%	48.70%	50.00%	4.46	0.64
C class items play a great role in improving profitability	0.00%	0.70%	0.00%	51.30%	48.00%	4.47	0.54
A class items plays a great role in cost reduction	2.00%	0.70%	0.00%	43.30%	54.00%	4.47	0.73
B class items plays a great role in cost reduction	0.00%	0.00%	37.30%	29.30%	33.30%	3.96	0.84
C class items plays a great role in cost reduction	1.30%	1.30%	0.00%	45.30%	52.00%	4.45	0.70
Average						**4.25**	**0.74**

Inventory Control Techniques

The second objective of the study was to establish the effect of inventory control techniques on performance of Parastatals In Nairobi City County, Kenya. The respondents were asked to indicate to what extent inventory control techniques affected performance of Parastatals In Nairobi City County, Kenya. Results indicated that majority of the respondents 31% agreed that it was to a very great extent, 36% said that it was to a great extent, 23% said it was moderate, while little extent and not all tied at 5%.

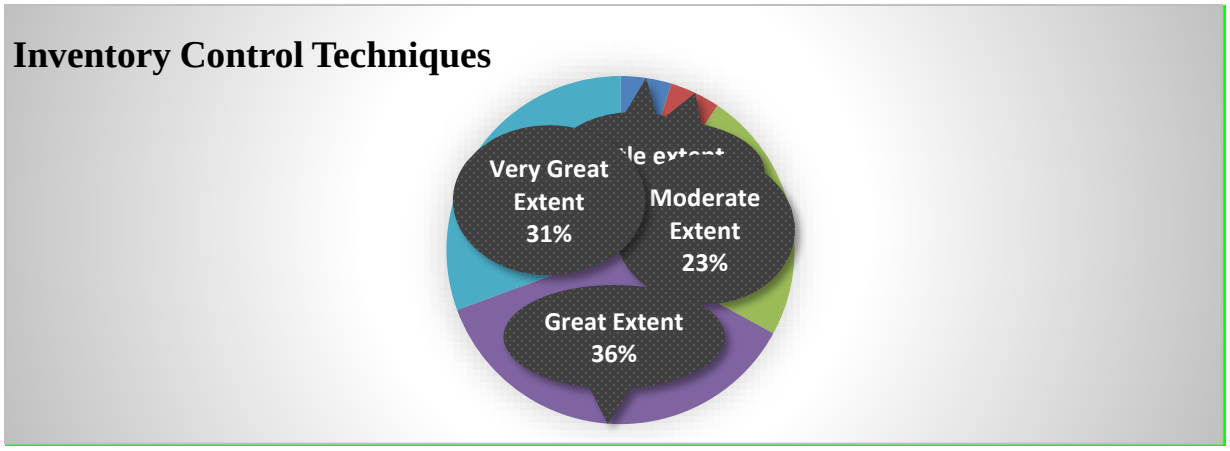

Figure 3: Inventory Control Techniques

The respondents were also asked to comment on statements regarding inventory control techniques effect on performance of Parastatals In Nairobi City County, Kenya. The respondents were asked to indicate descriptive responses for inventory control techniques. The result revealed that majority of the respondents (56.6%) indicated that they agreed with the statement that Just in time plays a great role in expanding market share. The result further revealed that majority of the respondents (73.3%) indicated that they agreed with the statement that contingency planning plays a great role

in expanding market share. The result revealed that majority of the respondents (69.3%) indicated that they agreed with the statement that economic order quantity system play a great role in expanding market share.

The result further revealed that majority of the respondents (100%) indicated that they agreed with the statement that just in time plays a great role in improving profitability. The result revealed that majority of the respondents (100%) indicated that they agreed with the statement that contingency planning plays a great role in improving profitability. The result further revealed that majority of the respondents (40.7%) indicated that they agreed with the statement that economic order quantity system play a great role in improving profitability.

The result revealed that majority of the respondents (46.6%) indicated that they agreed with the statement that just in time plays a great role in cost reduction. The result further revealed that majority of the respondents (48.7%) indicated that they agreed with the statement that contingency planning plays a great role in cost reduction. The result revealed that majority of the respondents (52.6%) indicated that they agreed with the statement that economic order quantity system plays a great role in cost reduction.

The average for the statements on inventory control techniques was 3.8. The results imply that an organization benefits greatly when inventory control techniques is embraced to reduce costs, introduce systems designed to address the organization's needs, and work with the organization to streamline performance (Lazear, 2016).

Table 2: Inventory Control Techniques

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Just in time plays a great role in expanding market share	0.0%	0.0%	43.3%	21.3%	35.3%	3.9	0.9
Contingency planning plays a great role in expanding market share	0.0%	0.0%	26.7%	36.0%	37.3%	4.1	0.8
Economic order quantity system play a great role in expanding market share	0.0%	0.0%	30.7%	37.3%	32.0%	4.0	0.8
Just in time plays a great role in improving profitability	0.0%	0.0%	0.0%	45.3%	54.7%	4.6	0.5
Contingency planning plays a great role in improving profitability	0.0%	0.0%	0.0%	50.0%	50.0%	4.5	0.5
Economic order quantity system play a great role in improving profitability	22.7%	18.0%	21.3%	18.7%	19.3%	2.9	1.4
Just in time plays a great role in cost reduction	15.3%	18.0%	20.0%	21.3%	25.3%	3.2	1.4
Contingency planning plays a great role in cost reduction	0.0%	22.0%	29.3%	28.7%	20.0%	3.5	1.0
Economic order quantity system plays a great role in cost reduction	0.0%	26.0%	21.3%	21.3%	31.3%	3.6	1.2
Average						**3.8**	**0.9**

Correlation Analysis

Correlation analysis was used to determine both the significance and degree of association of the variables and also predict the level of variation in the dependent variable caused by the independent variables.

Table 3: Summary of Pearson's Correlations

Correlations		Inventory Categorization	Inventory Control Techniques	Performance of Parastatals
Inventory Categorization	Pearson Correlation	1		
	Sig. (2-tailed)			
Inventory Control Techniques	Pearson Correlation	.598**	1	
	Sig. (2-tailed)	0		
Performance of Parastatals	Pearson Correlation	.806**	.684**	1
	Sig. (2-tailed)	0	0	

** Correlation is significant at the 0.05 Level (2-Tailed).

The correlation summary shown in Table 3 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The correlation analysis to determine the relationship between inventory categorization and performance of Parastatals in Nairobi City County, Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.806) between inventory categorization and performance of Parastatals In Nairobi City County, Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between inventory control techniques and performance of Parastatals In Nairobi City County, Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.684) between inventory control techniques and performance of Parastatals In Nairobi City County, Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

Regression Analysis

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (performance of Parastatals in Nairobi City County, Kenya) which can be predicted from the independent variables (inventory categorization, inventory control techniques).

Table 4 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable and the independent variable. The independent variables reported R value of 0.876 indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.768 means that 76.8% of the corresponding variation in performance of Parastatals In Nairobi City County, Kenya can be explained or predicted by (inventory categorization, inventory control techniques) which indicated that the model fitted the study data. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at ($\beta = 0.761$), p=0.000 <0.05).

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.876[a]	.768	.761	.1148

a) Predictors: (constant), Inventory Categorization, Inventory Control Techniques
b) Dependent Variable: Performance of Parastatals

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.329	4	1.582	119.907	.000[b]
	Residual	1.913	145	0.013		
	Total	8.243	149			

a) Predictors: (constant), Inventory Categorization, Inventory Control Techniques
b) Dependent Variable: Performance of Parastatals

The significance value is 0.000 which is less that 0.05 thus the model is statistically significance in predicting how inventory categorization, inventory control techniques affect performance of Parastatals In Nairobi City County, Kenya. The F critical at 5% level of significance was 86.80. Since F calculated which can be noted from the ANOVA table above is 119.907 which is greater than the F critical (value=86.80), this shows that the overall model was significant.

The study therefore establishes that; inventory categorization, inventory control techniques affect performance of Parastatals In Nairobi City County, Kenya. These results agree with Gianakis (2012) results which indicated a positive and significant effect of Material Management Drivers on performance of Parastatals.

Table 6: Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.817	.229		3.576	.000
	Inventory Categorization	.537	.064	.472	8.439	.000
	Inventory Control Techniques	.097	.041	.159	2.391	.002

a) Predictors: (constant), Inventory Categorization, Inventory Control Techniques,
b) Dependent Variable: Performance of Parastatals

The regression equation will be;

$$\mathbf{Y=0.817+ 0.537X_1 + 0.097X_2}$$

The regression equation above has established that taking all factors into account (inventory categorization, inventory control techniques) constant at zero, performance of Parastatals In Nairobi City County, Kenya will be an index of 0.817. The findings presented also shows that taking all other independent variables at zero, a unit increase in inventory categorization will lead to a 0.537 increase in performance of Parastatals In Nairobi City County, Kenya. The P-value was 0.000 which is less 0.05 and thus the relationship was significant.

The study also found that a unit increase in inventory control techniques will lead to a 0.097 increase in performance of Parastatals In Nairobi City County, Kenya. The P-value was 0.002 and thus the relationship was significant.

Conclusion of the study

Based on the study findings, the study concludes that performance of Parastatals In Nairobi City County, Kenya can be improved by inventory categorization, inventory control techniques. First, in regard to inventory categorization, the regression coefficients of the study show that it has a significant effect on performance of Parastatals. This implies that increasing levels of inventory categorization by a unit would increase the levels of performance of Parastatals. This shows that inventory categorization has a positive effect on performance of Parastatals.

Second in regard to inventory control techniques, the regression coefficients of the study show that it has a significant effect on performance of Parastatals. This implies that increasing levels of inventory control techniques by a unit would increase the levels of performance of Parastatals. This shows that inventory control techniques have a positive effect on performance of Parastatals.

Drawing on this research, lack of inventory categorization, inventory control techniques, of Parastatals In Nairobi City County, Kenya is leading to poor performance. Though the Parastatals In Nairobi City County, Kenya are striving hard to improve their performance there are still issues of poor quality products, long lead time and high cost of projects/products. It was articulated that the current phenomenon of poor performance in the public sector can be reversed if the government and other stakeholders ensure inventory categorization, inventory control techniques are embraced in the procurement function. Thus, it is evident that all the independent variables identified in this study were all important Material Management Drivers aspects that affected the performance of Parastatals.

Recommendations of the Study

To ensure that Parastatals In Nairobi City County, Kenyahave better performance they should focus more on using inventory categorization techniques so as to ascertain the right position of every item in the stock and ensure that there is consistency of quality in goods supplied. In the same regard, they should engage more in categorization to enable them to come up with appraisals that articulate with their organization objectives.

With regard to the second objective, it would be salutary for Parastatals In Nairobi City County, Kenyato invest more in inventory control techniques to reduce the cost of procurement through unnecessary communication breakdowns causing delays in delivery and ensure suppliers are kept abreast. This should be done consistently with the training, improvement of their processes and capacity as well as enabling them financially to acquire the up to date inventory control tools.

Areas for Further Studies

The study is a milestone for further research in the field of Material Management Drivers and performance of Parastatals In Nairobi City County, Kenyain Africa and particularly in Kenya. The findings demonstrated the important Material Management Drivers practices to performance of Parastatals in Nairobi City County, Kenya to include; inventory categorization, inventory control techniques. The current study should therefore be expanded further in future in order to include Material Management Drivers practices that may as well have a positive significance to performance of Parastatals. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other institutions and public sector organizations in Kenya and other countries in order to establish whether the explored practices herein can be generalized to affect performance in public entities.

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