



## **FACTORS AFFECTING THE MANAGEMENT OF INVENTORY IN THE NATIONAL GOVERNMENT OF KENYA (A CASE OF KENYA POLICE SERVICE IN NAIROBI COUNTY)**

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**Abstract:** Proper procurement of public goods and services is imperative for good economic management and addressing leakages of government funds. As a result, the public procurement and disposal of public assets should not be taken lightly. The disposal of goods and equipment are important parameters for gauging the efficiency of service delivery and development interventions in a country. This study sought to explore the factors affecting management of inventory in the national government of Kenya. The study also sought to determine how disposal methods, management style, information technology and staff competency affect the management of inventory in the Kenya Police Service in Nairobi County. The study also reviewed relevant theories and empirical data. Descriptive research design was adopted. The targeted population was 97 procurement and accounts officers working in the headquarters of Kenya police Service and the 11 divisions located in Nairobi County. A census survey was used, where all the 97 personnel were involved in the study. Data was collected using semi structured questionnaires, which was properly designed to variables under this study. Data collected was analyzed using descriptive and inferential statistics with the help of SPSS version 22. Inferential statistics included multivariate regression analysis. The results were presented using frequency tables, figures, pie charts and bar graphs. The study found that disposal methods have a positive and significant influence on the management of inventory in the Kenya Police Service in Nairobi County ( $\beta_1=0.288$ ,  $p\text{-value}=0.000$ ). The study also found that management style has a positive and significant and the management of inventory in the Kenya Police Service in Nairobi County ( $\beta_2=0.176$ ,  $p\text{-value}=0.100$ ). The study further established that information technology has a positive and significant influence on the management of inventory in the Kenya Police Service in Nairobi County ( $\beta_3=0.289$ ,  $p\text{-value}=0.019$ ). In addition, the study established that staff competency has a positive and significant influence on the management of inventory in the Kenya Police Service in Nairobi County ( $\beta_4=0.263$ ,  $p\text{-value}=0.025$ ). The study recommends that the Kenya Police Service in Nairobi County should lower their costs to improve on the auction process and increase number of customers. The study also recommends that leaders in the Kenya Police Service should embrace participative leadership by involving the staff in decision making involving procurement and inventory management. Also, Kenya Police Service in Nairobi County should adopt electronic data interchange to improve inventory tracking by use of information technology in improving inventory management.

**Key Words:** Disposal methods, Inventory Management, Information technology, Staff competency

## Introduction

Historically, inventory management globally has often meant too much inventory and too little management or too little inventory and too much management. There can be severe penalties for excesses in either direction. Inventory problems have proliferated as technological progress has increased the organization's ability to produce good in greater quantities, faster and with multiple design variations (Famutimi, 2014). The public has compounded the problem by its receptiveness to variations and frequent design. Disposal of stores is one of the most important functions of materials management in any organization. This has become necessary as the equipment and other items tend to become surplus, obsolete, and unserviceable, over a period of time due to its long usage. The disposal of this type of stores is needed to be done on periodic basis. Goods to be disposed of still have value for money in them and even when they undergo wear and tear and may still have financial value for the institution in question (Ayad, 2011).

Since the mid1980s, the strategic benefits of inventory management and production planning and scheduling have become obvious. The business press has highlighted the success of Japanese, European, North American firms in achieving unparalleled effectiveness and efficiency in manufacturing and distribution. In recent years, many of the firms have 'raised the bar', yet again by coordinating with other firms in their supply's chains. For instance, instead of responding to unknown and variable demand, they share information so that the variability of the demand they observe is significantly lower (Garcia, Ibeas, Herrera & Vilanoya, 2012). Too much inventory and not high enough customer service is very common, but unnecessary. Inventories should neither be excessive nor inadequate, the objective of inventory management is therefore to determine and maintain the optimum level of investment in inventories which help in achieving the required objective identified supply chain practices as; inventory turn, gross margin and profit, average in-stock inventory and ability to measure inventory while identified four major primary constructs of competitive advantage as inventory management, customer satisfaction, profitability and customer base identification.

Improvement in the welfare condition of the police especially in emerging democratic societies like Nigeria have been associated as an important prerequisite that can ensure effective performance with regards to crime prevention , detection, control and law enforcement. An under-resourced police agency is incapable of effectively policing a country as big, populous as Nigeria not to talk of carrying out such duties in a humane fashion. The problem of poor welfare in the Nigeria police was highlighted by the recent request in 2012 of the Nigeria Federal lawmakers from the lower chamber (The House of Representatives) which directed its Committee on Police Affairs to investigate the poor quality of kits and general welfare of the men and officers of the Nigeria Police Force. This request was due to concern that the Nigeria Police personnel welfare condition is poor compared to their counterparts in West Africa (Famutimi, 2014).

In Kenya, more and more institutions including small-scale enterprises are increasingly adopting inventory management systems with the aim of achieving competitive advantage and enhancing their performance (Nyabwanga & Ojera, 2012). Nyabwanga and Ojera (2012) conducted a research study in Kisii County and found that more and more small scale enterprise were adopting inventory management systems into their operations. The findings further revealed that inventory management enhances business performance. Mustaffa and Potter (2009) argue that Kenyan supermarkets are increasingly adopting inventory management systems in order to

enhance their operational efficiency, customer service and performance. Inventories should neither be excessive nor inadequate. If inventories are kept at a high level, higher interest and storage costs would be incurred; on the other hand, a low level of inventories may result in frequent interruption in the production schedule resulting in underutilization of capacity and lower sales. The objective of inventory management is therefore to determine and maintain the optimum level of investment in inventories which help in achieving the required objective.

### **Statement of the Problem**

Management of inventory in the national government of Kenya has been a tedious issue for quite some time. Nyabwanga and Ojera (2012) argue that in the past inventory management has shown difficulties in the ability of the police service in Kenya to maintain the required levels as stipulated in the law. The continued rising of obsolete, redundant and uncounted inventory is a matter of concern in the recent times. Ondiek and Ochieng (2013) argue that the performance in the police force in Kenya has been deteriorating. In a Public Perception and Satisfaction Survey, National police service commission (2016) reported that 47% of the general public was not satisfied with the police service in the country. Insecurity in Kenya, though blamed on the police, is argued to be a product of poor working conditions. According to Independent Policing Oversight Authority (2013) report, 23% of the police officers surveyed indicated that lack of resources to effectively fight crime was affecting police performance in Kenya. Other factors include transport/supplies and logistics as indicated by 15% and lack of ICT infrastructure as indicated by 11.6%. Service delivery by the police service depends on the management of inventory. Poor inventory management would mean poor service delivery in the police service in Kenya. Given that the police risk their lives in providing security to the country, the right inventory is necessary to motivate and support the police service operations during emergency period.

Although various studies have been conducted in Kenya on factors affecting the management of inventory, these studies have been limited to specific institutions and organizations. For instance, Githu and Waiganjo (2015) conducted a study on the factors Affecting Stores Management in the Administration Police Service and Kariuki (2013) conducted an assessment of the factors influencing effectiveness of inventory control in the Ministry Internal Security in Kenya. This study therefore sought to establish the factors affecting the management of inventory in the national government of Kenya by focusing on the Kenya Police Service in Nairobi County.

The specific objectives of this study were;

- i. To find out how disposal methods affect the management of inventory in the Kenya Police Service in Nairobi County
- ii. To analyze how management style affects the management of inventory in the Kenya Police Service in Nairobi County
- iii. To determine the effect of information technology on the management of inventory in the Kenya Police Service in Nairobi County
- iv. To establish how staff competency affects the management of inventory in the Kenya Police Service in Nairobi County

## **Theoretical Review**

Theoretical framework is an examination of the existing or self-formulated theories in relation to the research objectives. This section review theoretical foundations relevant to inventory management in the national government. These theories include relationship marketing theory, grounded theory, theory of inventory and production and Strategic Choice Theory (SCT).

### **Relationship Marketing Theory**

Relationship marketing theory is considered to be relevant in understanding the effect of disposal methods on public procurement framework for the disposal of obsolete stock in Kenya and hence giving a theoretical background for this study. According to Ketchen and Hult (2007), this is a theory that is used in the various fields such as supply chain management, international marketing, relationships, networks, databases, information as well as in transactional analysis. This theory offers various dimensions such as commitment and cooperation that are useful in studying the various relationships that exists between different phenomenon that are related to the relationship between the buyer and the seller especially in aspects of information sharing. The relationship marketing theory explains the various buyer-supplier relationships and its information sharing as well as offers explanation of the various streams in the said relationships, the various dimensions in the relationship as well as the rationale or the justification for the relationship such as the structure and the process of the relationship.

### **Grounded theory**

Grounded theory is considered to be relevant in understanding the effect of information technology on public procurement framework for the disposal of obsolete stock in Kenya and hence giving a theoretical background for this stud. Boyd and Gupta (2004) argue that this is a method used in Information Technology to develop theory that is grounded in data systematically gathered and analyzed. It is a discovery method that allows the researcher to develop theoretical accounts based on concepts, categories and prepositions. It characterizes the organizations' experiences of Information Technology innovations and applications in terms of processes of incremental or radical organizational changes out of the rapid technology changes. It is and has been used to develop theoretical framework for conceptualizing the organizational issues around the adoption and use of Information Technology innovations and applications. With this approach there are no worries about the formality of the usage and hence resulting theories are explicit emergent and it does not test a hypothesis. The approach's weakness lies in its sensitivity to the thoroughness and skills of researchers in interpreting data. As such it does not favor novice researcher. This theory supports the variable management style by creating the link between information technology and inventory management.

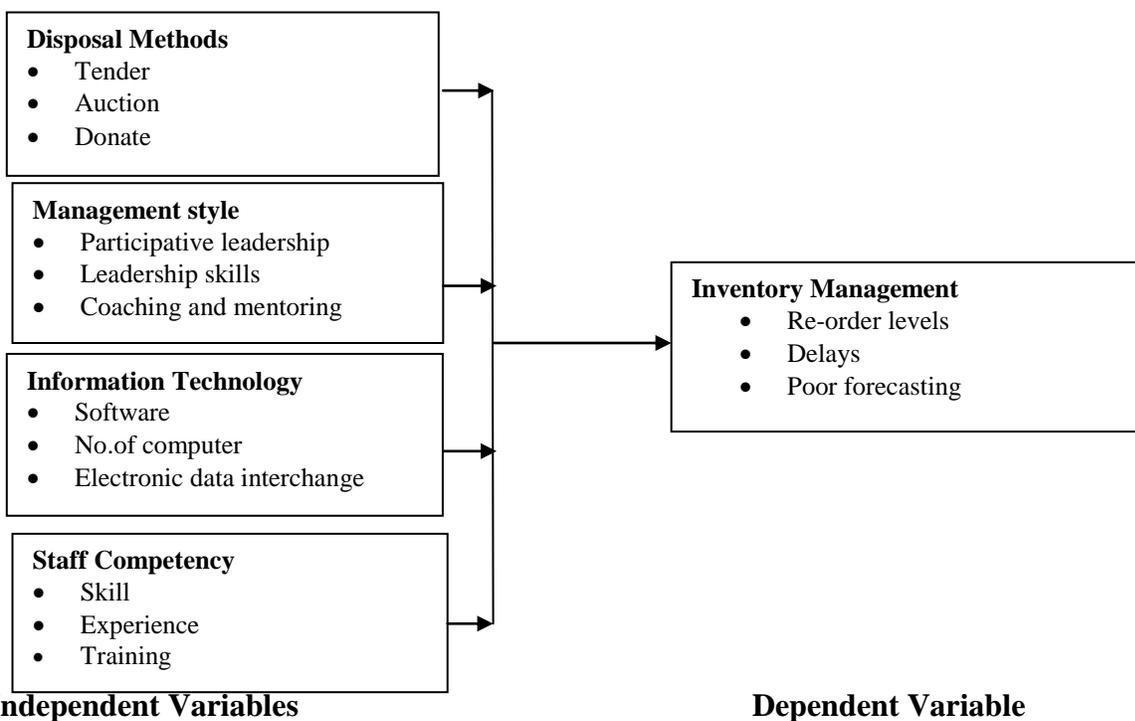
### **Strategic Choice Theory (SCT)**

Strategic choice theory is considered to be relevant in understanding the effect of staff competency on the disposal of obsolete stock in the public sector in Kenya and hence provides the theoretical background for this study. Ketchen and Hult (2007) argue that strategic choice theory shows the relationship between top management choices and organization performance as well as interaction of the internal and external organization. The theory stresses the importance of management decisions on organizational performance. Carton (2004) argues that to establish a

strategic choice model that depicts the interdependence among the environment and organizations, we need actions and overall firm performance. Using new technology in inventory management such as RFID, bar codes and ERP systems are some technological changes that require decision making at corporate level with support from both business and functional level. This theory supports in understanding how staff competency is as a challenge affecting inventory management in the national government in Kenya and how it is critically important.

### Conceptual Framework

A conceptual framework is a pictorial/diagrammatic representation of the relationship between independent variables and dependent variables. The study sought to determine the factors affecting management of inventory in the national government in Kenya. The independent variables for this study are disposal method, management style, and information technology and staff competency. On the other hand, the dependent variable is employee performance in the Kenya police service.



**Figure 1: Conceptual Framework**

The Disposal Committee (DC) would decide one of the following modes of disposal: by gift to education institute within the state; by transfer to other government entity; by public action; by limited tendering and by press tender. according to PPAD act (2015) disposal options are: (i) transfer to government departments or other public entities, with or without financial adjustment; disposal of obsolete and surplus items shall be by (ii) sale by public tender to the highest tendered, subject to reserve price; (iii) sale by public auction, subject to a reserve price; or (iv) destruction, dumping, or burying as appropriate (Eroglu & Hofer, 2011).

Management style is a managerial parlance often used to describe the how of management. It is a function of behavior associated with personality. Management style can be understood as a way to manage an organization. According to Eroglu and Hofer (2011), management style is “the

adhesive that binds diverse operations and functions together". Effective management style is the extent to which a leader continually and progressively leads and directs followers to a predetermined destination agreed upon by the whole group. Fiedler (2012) considered management style as the distinctive way in which an organization makes decisions and discharges various functions of goal setting, formulation, implementation of strategy, corporate image building, dealing with key stakeholders and other basic management activities.

In this 21st century, the internet and internet-based technologies are impacting business in several ways. Various internet and internet technologies that are used in inventory management include e-mails for accessing and contacting clients, website technologies designed for distributing, searching, and retrieving documents over the Internet. These new technologies are promising to save costs, to improve customer and supplier relationships, business processes and performance, and to open new business opportunities (Hanke & Wichern, 2009). These technologies allow organizations to respond better to existing challenges and improve the anticipation of future developments.

According to Hanke and Wichern (2009) clarified that team leader competency refers to the interaction behavior, it is the behavioral approach that indicate and monitoring the ability to managing tasks by influencing others and it is the ability to move and to observe the task in a proper way. This competency is a risk taking, and observing the external and the internal environment. Competence is theorized in terms of job knowledge, skills and attitudes. Tripathi (2014) defines competency as a group of related job knowledge, attitudes, and skills. Furthermore, it refers to the underlying 'aspects of a person', such as their job knowledge, skills and attitudes, which 'enable them to be competent'. It is necessary to emphasize the essential values of competency, since nowadays competencies is a construct widely used, which is used in many aspects of HRM studies.

Inventories represent the second largest asset category for manufacturing companies, next only to plant and equipment. The proportion of inventories to total asset generally varies between 15 to 30 percent. Given substantial investment in inventories, the importance of inventory management cannot be overemphasized. An effective inventory management should: ensure a continuous supply of raw materials to facilitate uninterrupted production; maintain sufficient finished goods inventory for smooth sales operation and efficient customer services; minimize the carrying cost and time; and control investment in investment in inventories and keep it at an optimum level. In addition, a good inventory management permits a better utilization of available stocks by facilitating interdepartmental transfers with in a company and maintains sufficient stocks of raw materials in periods of short supply and anticipated price changes.

### **Research Methodology**

The study used descriptive, quantitative and qualitative research design. When properly used they enforce each other. The study used a descriptive research design because it allows the data analysis from a sizable population in an economical manner. The target population of this study was 97 accounts and procurement officers working in the headquarters of the Kenya police service and the 11 police divisions in Nairobi County. The 11 divisions include Central police, Makadara police, Starehe police, Kayole police, Gigiri police, Dagoreti police, Karen police, Ngong police, Kilimani police, Kasarani police and Buru Buru police. The unit of analysis in this

study was the accounts and the procurement officers. Census survey was used to select 97 staff from the two sections. The sample size of this study was therefore 97 respondents. The primary data was collected through census survey with the help of semi-structured questionnaire and secondary data through document review mainly organizational reports and company magazines. Questionnaire had been developed based on the objectives of the study. The administered questionnaire comprised of open-ended and closed ended. Questionnaire method of data collection was preferred because it is easy to administer and generate faster response. The questionnaires were administered and collected by two research assistants well trained for this purpose.

Data was analyzed with the help of Statistical Package for Social Sciences (SPSS) version 22. Data was presented after the analysis in a form of pie charts, graphs, figures and tables. The study further adopted multiple regression models at 5% level of significance to establish the strength and direction of the relationship between the independent variables and the dependent variable (employee turnover). A multiple regression analysis was used to determine the relationship between the dependent and the independent variables. The following multiple regression formula was applied:

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

Where;

Y = Dependent Variable (Inventory Management in KPS),  $\beta_0$  = the constant or coefficient of intercept. From  $X_1$  = disposal methods,  $X_2$  = management style,  $X_3$  = information technology,  $X_4$  = staff competency,  $\epsilon$  = Error factor,  $\beta_1 - \beta_4$  = Correlation coefficients

### **Data Findings, Analysis and Discussions**

The target population of this study was 97 accounts and procurement officers working in the headquarters of the Kenya police service and the 11 police divisions in Nairobi County. Out of 97 accounts and procurement officers 95 responses were obtained. This gives a response rate of 97.93%. A 100% response rate was not achieved as some of the questionnaires had some inconsistent information and some were half way filled and thus could not be used in the study. According to Kothari (2004) a response rate of 50% or more is adequate for analysis, which shows that 97.93% was an acceptable basis for drawing conclusions.

### **Effect of Disposal Methods on the Management of Inventory**

The first objective of this study was to find out how disposal methods affect the management of inventory in the Kenya Police Service in Nairobi County. The indicators of disposal methods comprised of tendering process, use of auctioneers and donation of inventory.

### **Tendering Process in the Kenya Police Service**

The respondents were asked to indicate their level of agreement with the statement that tendering process during inventory disposal in the Kenya police service. According to the findings, the accounts and procurement officers agreed as shown by a mean of 3.852 that the institution uses tendering process during inventory disposal. This implies that Kenya police service in Nairobi

County uses tendering process during inventory disposal. These findings agree with Nyabwanga and Ojera (2012) who argued that disposal methods should use the tendering process during inventory disposal and auctioneers.

**Table 1: Tendering Process in the Kenya Police Service**

	Mean	Std. Deviation
The institution uses tendering process during inventory disposal	3.852	1.051

### Use of Auctioneers in the Kenya Police Service

The respondents were asked to indicate their level of agreement with the statement that the institution used auctioneers during the disposal of inventory in the Kenya police service. According to the findings, the accounts and procurement officers disagreed with the statement that the institution uses auctioneers during the disposal of inventory as shown by a mean of 2.284. This shows that Kenya police service in Nairobi County does not use auctioneers during the disposal of inventory.

**Table 1: Use of Auctioneers in the Kenya Police Service**

	Mean	Std. Deviation
The institution uses auctioneers during the disposal of inventory	2.284	1.058

### Donation of Inventory in the Kenya Police Service

The respondents were asked to indicate their level of agreement with the statement that Kenya police service donates inventory to other public institutions. From the findings, the accounts and procurement officers agreed as shown by a mean of 4.289 that Kenya police service donates inventory to other public institutions. This implies that Kenya police service in Nairobi County donates inventory to other public institutions. These findings agree with Nyabwanga and Ojera (2012) who argued that approved disposal methods allow donations to other non-profit organizations.

**Table 3: Donation of Inventory in the Kenya Police Service**

	Mean	Std. Deviation
Kenya police service donates inventory to other public institutions	4.289	1.046

### The Effect of Management Style on the Management of Inventory

The second objective of this study was to analyze how management style affects the management of inventory in the Kenya Police Service in Nairobi County. The indicators of management style comprised of participative leadership, skilled leadership and coaching and mentorship.

### Participative Leadership in the Kenya Police Service

The respondents were requested to indicate the level of agreement with the statement that their leaders have embraced participative leadership. From the findings, the accounts and procurement officers disagreed that their leaders have embraced participative leadership as shown by a mean of 2.326. This implies that leaders in Kenya Police Service in Nairobi County have not embraced participative leadership. These findings are similar Garcia *et al.*, (2012) argument that in participative leadership has not been embraced in most public organizations.

**Table 4: Participative Leadership in the Kenya Police Service**

	Mean	Std. Deviation
Our leaders have embraced participative leadership	2.326	0.983

### Skilled Leadership in Inventory Management in the Kenya Police Service

The respondents were requested to indicate the level of agreement with the statement that their leaders are skilled in inventory management. From the findings, the accounts and procurement officers agreed as shown by a mean of 3.673 that their leaders are skilled in inventory management. This implies that leaders in Kenya Police Service in Nairobi County are skilled in inventory management. These findings agree with Birasnav (2013) who argued that leaders in inventory management are skilled and they facilitate the process chain management.

**Table 5: Skilled Leadership in Inventory Management in the Kenya Police Service**

	Mean	Std. Deviation
Our leaders are skilled in inventory management	3.673	0.970

### Coaching and Mentorship in the Kenya Police Service

The respondents were requested to indicate the level of agreement with the statement that leaders in their institution coach and mentor their followers. From the findings, the accounts and procurement officers agreed that leaders in their institution coach and mentor their followers as indicated by a mean of 3.957. This shows that that leaders in Kenya Police Service in Nairobi County coach and mentor their followers. These findings are similar Garcia *et al.*, (2012) argument that commonly exhibited styles of management include coaching and mentorship.

**Table 6: Coaching and Mentorship in the Kenya Police Service**

	Mean	Std. Deviation
Leaders in our institution coach and mentor their followers	3.957	0.874

### The Effect of Information Technology on the Management of Inventory

The third objective of this study was to determine the effect of information technology on the management of inventory in the Kenya Police Service in Nairobi County. The indicators of information technology comprised of Information system, sufficiency of computers and electronic data interchange.

### Information System in the Kenya Police Service

The respondents were requested to indicate the level of agreement with the statement that the organizations have adopted an information system to manage inventory. From the findings, the accounts and procurement officers agreed that the organization has adopted an information system to manage inventory as shown by a mean of 3.736. This shows that Kenya Police Service in Nairobi County have adopted an information system to manage inventory. These findings agree with Creswell (2009) argument that firms which have use information systems to manage inventory have grown faster as information technology redefines inventory management.

**Table 7: Information System in the Kenya Police Service**

	Mean	Std. Deviation
The organizations has adopted an information system to manage inventory	3.736	0.963

### Sufficiency of Computers in the Kenya Police Service

The respondents were requested to indicate the level of agreement with the statement that there were enough computers in the accounts and procurement departments in the Kenya Police Service in Nairobi County. From the findings, the accounts and procurement officers agreed that there are enough computers in the accounts and procurement departments as shown by mean of 3.573. This implies that Kenya Police Service in Nairobi County have enough computers in the accounts and procurement departments. These findings agree with Creswell (2009) argument that most organizations have enough computers in the accounts and procurement departments to manage inventory.

**Table 8: Sufficiency of Computers in the Kenya Police Service**

	Mean	Std. Deviation
There are enough computers in the accounts and procurement departments	3.5733	0.981

### Electronic Data Interchange in the Kenya Police Service

The respondents were requested to indicate the level of agreement with the statement that the organization used electronic data interchange to communicate with suppliers. The accounts and procurement officers also indicated they disagreed that the organization uses electronic data interchange to communicate with suppliers as shown by a mean of 2.378. This shows that Kenya Police Service in Nairobi County do not use electronic data interchange to communicate with suppliers. These findings are similar to Dettoratus, Raman and Craig (2013) who argued that organizations lack electronic data interchange in their systems, which slow down the communication between the organization and suppliers.

**Table 9: Electronic Data Interchange in the Kenya Police Service**

	Mean	Std. Deviation
The organization uses electronic data interchange to communicate with suppliers	2.378	1.083

### **The Effect of Staff Competency on the Management of Inventory**

The fourth objective of this study was to establish how staff competency affects the management of inventory in the Kenya Police Service in Nairobi County. The indicators of staff competency comprised of skilled employees, experienced staff and regular training.

#### **Skilled Employees in the Kenya Police Service**

The respondents were requested to indicate the level of agreement with the statement that employees dealing with inventory have skills required in the Kenya Police Service in Nairobi County. According to the findings, the accounts and procurement officers agreed that employees dealing with inventory have skills required as shown by a mean of 3.552. This shows that employees dealing with inventory Kenya Police Service in Nairobi County have skills required. These findings agree with Dimitrios (2008) who argued that employees dealing with inventory are required to have skills on inventory management.

**Table 10: Skilled Employees in the Kenya Police Service**

	Mean	Std. Deviation
Employees dealing with inventory have skills required	3.552	0.993

#### **Experienced Staff in Kenya Police Service**

The respondents were requested to indicate the level of agreement with the statement that the staff in the procurement and accounts departments is experienced in the Kenya Police Service in Nairobi County. According to the findings, the accounts and procurement officers indicated they were neutral on the statement that the staff in the procurement and accounts is experienced as shown by a mean of 3.115. This implies that the staff in the procurement and accounts department in the Kenya Police Service in Nairobi County is experienced. These findings are similar to Aarti and Dhawal (2013) who argued that employees in each department in the Kenya Police Service are experienced in their area of specialization.

**Table 11: Experienced Staff in Kenya Police Service**

	Mean	Std. Deviation
The staff in the procurement and accounts are experienced	3.115	0.885

#### **Regular Training in the Kenya Police Service**

The respondents were requested to indicate the level of agreement with the statement that employees in procurement and accounts have been receiving regular training in the Kenya Police Service in Nairobi County. According to the findings, the accounts and procurement officers disagreed that employees in procurement and accounts have been receiving regular training as shown by a mean of 2.473. This shows that employees in procurement and accounts in the Kenya Police Service in Nairobi County do not receive regular training. These findings are contrary to Aarti and Dhawal (2013) who indicated that training of staff is vital if full use is to be made of their abilities and talents so as increase individual's efficiency in executing distinct tasks assigned.

**Table 12: Regular Training in the Kenya Police Service**

	Mean	Std. Deviation
Employees in procurement and accounts have been receiving regular training	2.4737	1.040

## Management of Inventory

### Observance of the Re-Order Levels on Management Inventory

The respondents were requested to indicate the level of agreement with the statement that Kenya police service always observe the re-order levels in Nairobi County. According to the findings, the accounts and procurement officers agreed that Kenya police service always observe the re-order levels as shown by a mean of 3.168. This implies that Kenya police service in Nairobi County always observe the re-order levels. These findings agree Ayad (2011) who argued that with observance of the re-order levels there will be adequate safety stock levels that permit business operations to proceed according to their plans.

**Table 13: Observance of the Re-Order Levels on Management Inventory**

	Mean	Std. Deviation
Kenya police service always observe the re-order levels	3.168	1.048

### Stock outs on Management Inventory

The respondents were requested to indicate the level of agreement with the statement that Kenya police service ensures that there is no stock out of inventories. According to the findings, the accounts and procurement officers disagreed with the statement that Kenya police service ensures that there is no stock out of inventories as shown by a mean of 2.473. This implies that Kenya police service in Nairobi County do not ensure that there is no stock out of inventories. However, these findings disagree with Ayad, (2011) who argued that adequate safety stock levels permit business operations to proceed according to their plans.

**Table 14: Stock outs on Management Inventory**

	Mean	Std. Deviation
Kenya police service ensures that there is no stock out of inventories	2.473	1.080

### Challenges on Management Inventory

The respondents were requested to indicate the level of agreement with the statement that Kenya police service challenges are as result of delay. From the findings, the accounts and procurement officers disagreed with the statement that Kenya police service challenges are as result of delay with a mean of 2.368. This implies that Kenya police service in Nairobi County challenges are not as result of delay. These findings agree Aarti and Dhawal (2013) who argued that most organizations are faced with challenges of inventory management due to stock outs and delay in ordering of stock.

**Table 15: Causes Challenges on Management Inventory**

	Mean	Std. Deviation
Kenya police service challenges are as result of delay	2.368	1.042

### Poor forecasting methods on Management Inventory

According to the findings, the accounts and procurement officers agreed that poor forecasting methods are the cause of redundant, pilferage, obsolete and fraudulent practice in KPS as indicated by a mean of 3.831. This shows that poor forecasting methods are the cause of redundant, pilferage, obsolete and fraudulent practices in Kenya police service in Nairobi County. These findings agree Kaiseler *et al.*, (2011) who argued that maintaining optimum levels

of inventory is important in an organization because excess inventory results in stock holding costs such as rental charges, opportunity costs, obsolescence costs, breakages and pilferage.

**Table 16: Poor forecasting methods on Management Inventory**

	Mean	Std. Deviation
Poor forecasting methods are the cause of redundant, pilferage, obsolete and fraudulent practice in KPS	3.8316	.95263

## Inferential Statistics

### Correlations Analysis

The study used Pearson product moment correlation to examine the association between the independent variables (disposal methods, management style, information technology and staff competency) and the dependent variable (management of inventory in the Kenya Police Service in Nairobi County). According to the findings, disposal methods has a positive influence on management of inventory in the Kenya Police Service in Nairobi County ( $r=0.970$ ,  $p$ -value=0.000). The study also found that there exist a positive association between management style and management of inventory in the Kenya Police Service in Nairobi County ( $r=0.973$ ,  $p$ -value=0.000). The findings further indicate that information technology has a positive influence on management of inventory in the Kenya Police Service in Nairobi County ( $r=0.975$   $p$ -value=0.000). Further, the findings show that staff competency has a positive influence on management of inventory in the Kenya Police Service in Nairobi County ( $r=0.979$ ,  $p$ -value=0.000).

**Table 17: Corelations Analysis**

		Disposal methods	Management style	information technology	Management competency	management of inventory
Disposal methods	Pearson Correlation Sig. (2-tailed)	1				
Management style	Pearson Correlation Sig. (2-tailed)	.970** .000	1			
information technology	Pearson Correlation Sig. (2-tailed)	.973** .000	.986** .000	1		
Management competency	Pearson Correlation Sig. (2-tailed)	.975** .000	.982** .000	.989** .000	1	
management of inventory	Pearson Correlation Sig. (2-tailed)	.979** .000	.980** .000	.984** .000	.984** .000	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Regression Analysis

A multivariate regression analysis was also carried out to determine the relationship between dependent variable and the four independent variables. The regression equation was;

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$$

Where;

Y = Dependent Variable (Inventory Management in KPS),  $\beta_0$  =the constant or coefficient of intercept. From  $X_1$  = disposal methods,  $X_2$ = management style,  $X_3$ = information technology,  $X_4$ = staff competency,  $\epsilon$  =Error factor,  $\beta_1 - \beta_4$ =Correlation coefficients

The R-Squared is used to show the proportion of variance in the dependent variable that can be explained by the independent variables. From the findings, the R-squared in this study was 0.7396, which shows that the four independent variables (disposal methods, management style, and information technology and staff competency) can explain 73.96% of the variation in the dependent variable. This clearly shows that other factors not considered in this study explain 26.04% of the variation in the dependent variable, management of inventory in the Kenya Police Service in Nairobi County.

**Table 18: Model Summary**

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	0.860	0.7396	0.7102		0.143

From the findings, the analysis of variance in this study was used to determine whether the model is a good fit for the data. The results indicate that the model was significant since the p-value (0.000) was less than 0.05 thus the model is statistically significant establishing how disposal methods, management style, information technology and staff competency affect management of inventory in Kenya Police Service in Nairobi County. Further, the F-calculated (1074.646) was found to be more than the F-critical (2.47 ) which shows that the models was fit in establishing the influence of the four independent variables on the dependent variable.

**Table 19: Analysis of Variance**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.050	4	22.263	1074.646	.000 <sup>b</sup>
	Residual	1.864	90	.021		
	Total	90.914	94			

The regression model was;

$$Y = 0.049 + 0.288X_1 + 0.176X_2 + 0.289X_3 + 0.263 X_4 + \epsilon$$

From the findings, there is a positive significant relationship between disposal methods and management of inventory in Kenya Police Service in Nairobi County with a regression coefficient of 0.288. This shows that a unit improvement in disposal methods would lead to a 0.288 improvement in the management of inventory in the Kenya Police Service in Nairobi

County. The p-value (0.000) was less than the significance level (0.05), hence the relationship was significant.

The results also show that there is a positive significant relationship between management style and management of inventory in the Kenya Police Service in Nairobi County with a regression coefficient of 0.176. This shows that a unit increase in management style would lead to a 0.176 improvement in the management of inventory in the Kenya Police Service in Nairobi County. The relationship was significant as the p-value (0.100) was less than the significance level (0.05). From the findings, the study found that there is a positive relationship between information technology and management of inventory in the Kenya Police Service in Nairobi County with a regression coefficient of 0.289. This indicates that a unit improvement in information technology would lead to a 0.289 improvement in the management of inventory in the Kenya Police Service in Nairobi County. The relationship was found to be significant as the p-value (.019) was less than the significance level (0.05).

Lastly, the study results show that there is a positive significant relationship between staff competency and management of inventory in the Kenya Police Service in Nairobi County with a regression coefficient of 0.263. This indicates that a unit improvement of staff competency would lead to a 0.263 improvement in the management of inventory in the Kenya Police Service in Nairobi County. This relationship was significant as the p-value (0.025) was less than the significance level (0.05).

**Table 20: Regression Coefficients**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	$\beta$	Std. Error	Beta		
(Constant)	0.049	0.075		0.659	0.512
Disposable methods management style	0.288	0.069	0.299	4.150	0.000
information technology	0.176	0.106	0.161	1.662	0.100
staff competency	0.289	0.121	0.286	2.380	0.019
	0.263	0.115	0.252	2.279	0.025

## Conclusion

The study concludes that disposal methods have a positive and significant influence on the management of inventory in the Kenya Police Service in Nairobi County. The study found that Kenya police service donates inventory to other public institutions and the institution uses tendering process during inventory disposal. Further the study found that the institution did not use auctioneers during the disposal of inventory. The study also concludes that management style has a positive and significant and the management of inventory in the Kenya Police Service in Nairobi County. The study found leaders in their institution coach and mentor their followers in the Kenya Police Service in Nairobi County. Also the study found out that Kenya police service leaders were skilled in inventory management. Lastly the study found out that leaders in the Kenya Police Service in Nairobi County did not embraced participative leadership.

The study further concludes that information technology has a positive and significant influence on the management of inventory in the Kenya Police Service in Nairobi County. The study found out that organizations have adopted an information system to manage inventory and there are enough computers in the accounts and procurement. In addition the study revealed that organization did not use electronic data interchange to communicate with suppliers. Lastly, the

study concludes that staff competency has a positive and significant influence on the management of inventory in the Kenya Police Service in Nairobi County. The study found out that the staff in the procurement and accounts is experienced and employees dealing with inventory have skills required. Further, the study established that the employees in procurement and accounts have not been receiving regular training.

### **Recommendations**

The study found that that the institution did not use auctioneers during the disposal of inventory in the Kenya Police Service in Nairobi County. The study therefore recommends that the Kenya Police Service in Nairobi County should lower their costs to improve on the auction process and increase number of customers.

The study also found that leaders have not embraced participative leadership in the Kenya Police Service in Nairobi County. The study therefore recommends that leaders in the Kenya Police Service should embrace participative leadership by involving the staff in decision making involving procurement and inventory management.

The study established that that organization did not use electronic data interchange to communicate with suppliers in the Kenya Police Service in Nairobi County. The study therefore recommends that the Kenya Police Service in Nairobi County should adopt electronic data interchange to improve inventory tracking by use of information technology in improving inventory management.

The study further found out that employees in procurement and accounts have not been receiving regular training in the Kenya Police Service in Nairobi County. The study recommends that the company should increase its frequency of employee training so as to improve the staff skills and knowledge on inventory management.

### **Areas for Further Research**

This study focused on Kenya Police Service in Nairobi County and hence its findings cannot be generalized to the rest of the Kenya Police Service. This study therefore suggests similar studies on the factors affecting management of inventory in other Counties in Kenya. In addition, similar studies can be conducted in other public institutions in Kenya like government parastatals. The study found that the factors studies could only explain 73.96% of the management of inventory in the Kenya Police Service. The study therefore suggests further studies to establish other factors affecting the management of inventory in the Kenya Police Service.

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