

**EFFECT OF PROCUREMENT PRACTICES ON PERFORMANCE OF COUNTY  
GOVERNMENTS IN KENYA; A CASE OF EMBU COUNTY**

**BY**

**NEWTON MUGENDI NJAOMBE**

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**DECLARATION**

I hereby declare that this research project is my original work and that it has not been presented in any other learning institution for academic purposes or any other reason except for the references.

**Student Name: Newton Njaombe**

**Reg. No. 17/01267**

Sign:..... Date.....

I do hereby confirm that I have examined the master’s dissertation and have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed

Sign:..... Date.....

**Dr. Jackson Ndolo**

**Supervisor**

## ABSTRACT

The government of Kenya acknowledges that inefficient public sector performance, notably in the management of public resources, has hindered the country's ability to fulfil long-term development objectives. The success or failure of a company is heavily influenced by its procurement strategies. Procurement methods are designed with the objective of improving customer service, lowering lead times and costs, and meeting market demand. The purpose of the study was to examine effect of procurement practices on performance of county governments in Kenya with an aim of making recommendations on its proper use among county governments. The study aimed at establishing how inventory management, procurement planning, supplier management and contract management influence performance of county governments in Kenya. Descriptive research design was adopted to answer the research problem. The target population was the heads of procurement, chief officers and four (4) procurement officers from all the fourteen (14) ministries in the county. Pilot study was carried out to establish the reliability and validity of research instruments. A structured questionnaire was used to collect data. Data gathered from the questionnaires administered was analyzed by the help of SPSS version 21 and Microsoft Excel. The outputs were presented in form of statistical diagrams, tables and charts. The study used multiple linear regression and correlation analysis to show the relationship between the variables. The study was applied in the management of procurement practices in county governments in Kenya. The response rate of the study was 93%. The findings of the study indicated that inventory management, procurement planning, supplier management and contract management have a positive relationship with performance of county governments. Finally, the study recommended that county governments should embrace procurement practices so as to improve their performance and further researches should to be carried out in other institutions to find out if the same results can be obtained.

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## **DEDICATION**

I would like to dedicate this project to my family without their continued support and counsel I could not have completed this project. I sincerely thank them.

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## ABBREVIATIONS AND ACRONYMS

<b>CG:</b>	County Government
<b>GDP:</b>	Gross Domestic Product
<b>GOK:</b>	Government of Kenya
<b>IEA:</b>	Institute of Economic Affairs
<b>KIPPRA:</b>	Kenya Institute for Public Policy Research and Analysis
<b>KIPPRA:</b>	Kenya Institute for Public Policy Research and Analysis
<b>KNBS:</b>	Kenya National Bureau of Standards
<b>MDGs:</b>	Millennium Development Goals
<b>OECD:</b>	Organization for Economic Cooperation and Development
<b>PP:</b>	Public Procurement
<b>PPADA:</b>	Public Procurement and Asset Disposal Act
<b>PPDR:</b>	Public Procurement and Disposal Regulations
<b>PPOA:</b>	Public Procurement Oversight Authority
<b>SCM:</b>	Supply Chain Management
<b>SPSS:</b>	Statistical Package for Social Science
<b>UN:</b>	United Nations
<b>WB:</b>	World Bank

## OPERATIONAL DEFINITION OF TERMS

**Contract Management:** It is described as the continual evaluation and controlling of a supplier's performance in relation to the promised products or services, as well as ensuring compliance with all other contract terms and conditions, such as pricing and discounts. It entails monitoring the association between the supplier, the purchasing unit, the requisitioned, and/or the end-user, as well as providing feedback on the supplier's performance and resolving disputes (Kimutai, 2015).

**Inventory Management:** It entails keeping track of and optimizing inventories of a company. The objective of managing inventory is to maximize revenues with the least amount of inventory while maintaining high levels of customer satisfaction. Inventory control also involves understanding where all of company stock is and ensures that it is properly accounted for at all times (Mwanzia, 2014).

**Performance of County Governments:** It explains how to measure success using important indicators, techniques, and procedures. Performance is defined as the difference between an organization's actual outputs and its expected outputs. Three main areas of outcome are financial success, timely delivery, and customer happiness (Chege, 2011).

**Procurement Planning:** It is a procedure in which procurement professionals prepare ahead of time what, when, and also how acquisitions was made over a certain period. This strategy analyzes what was procured (goods, works, or services), which procurement technique was utilized based on predetermined thresholds, and when and how the processing stages was carried out (Mukasa, 2017).

**Procurement Practices:** A set of actions and procedures that a company must follow in order to obtain required items or services from leading vendors at the best price (Mattson, 2017).

**Supplier Management:** it refers to the practice of ensuring that an organization receives value for the money it spends on suppliers. Several actions are ensured by strategic supplier management, including: Creating policies to regulate providers (Imadsaid, 2015).

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Introduction**

This chapter of the study will introduce the topic under investigation by giving the background of the study, explaining the problem of the study, the objectives of the study, the significance of the study, scope and the limitations of the study.

### **1.2 Background of the Study**

If properly handled, procurement may play a critical part in a country's economic growth and development. A company's procurement team is one of its most important departments. The department's troubles will have an impact on the company's performance (Van Weele, 2010). Buying is defined as the process of obtaining or purchasing of goods or services and it involves; planning, standards determination, specification development, supplier research and selection, value analysis, financing, price negotiation, making the purchase, supply contract management, inventory control and stores and disposals, and other associated function.

Hughes (2005) explained that the process of procurement includes everything from identifying needs to the conclusion of a service contract or the end of an asset's useful life. It involves the creation and implementation of such works, goods, or services, as well as the quality assessment and assessments that leads to additional purchase. The main responsibility of procurement department's is to getting all essential supplies for an organization's daily operations. As per Mangan (2008), it is preferable that good and services are adequate and bought at the lowest feasible cost to fulfill the purchaser's demands in terms of quality and quantity, time, and cost. Procurement practices is a huge determinant for the prosperity or downfall of a business (Shafi, 2014). According to Pauly(2018), some of the design goals of procurement processes include improving customer service, lowering lead times and costs, and meeting market demand. As a result, Mittal (2014) defines procurement practices as supply chain solutions that help in the improvement of performance as well as its supervision over an extended supplier network using the most up-to-date methodologies and technology.

A firm with a robust procurement management strategy can increase the overall performance, which includes the profitability, sustainability, efficiency and effectiveness of the operations of the organization, which is contributed through efficient management of the

working capital, production and customer satisfaction (Dobler, 2014). Effective management of procurement in the organization ensures the transformation of the broad and general business objectives into the operational actions (Pirttila & Virolainen, 2012).

Effective procurement practices are at the core of supply chain management excellence. With the increasing focus in enhancing performance procurement optimization, Businesses are attempting to create and coordinate strategic, cost-effective, and global procurement procedures. Organizations must develop and execute excellent procurement procedures both individually and collectively in order to promote such procurement practices pedagogy, which are also compatible with environmental goals (Chalotra, 2013). For the firms to efficiently and effectively manage procurement practices, there is need for the organization to understand the supply chain processes, the market environment of its products and the operation processes in the organization (Muhayimana, 2015).

### **1.2.1 Procurement Practices**

Different studies on procurement practices have been done the world over. In his study on design of a supplier performance measurement and evaluation system in Netherlands, Beijer (2012) found a positive correlation between design and supplier performance. A study done in England by Breedon (2013) insist on the need for proper key performance indicators and having a staffed and competent procurement team in relation to procurement management. Kumar and Markeset (2007) discovered a clear link between procurement strategies and performance in a research on the creation of performance-based service strategies for the Indian oil and gas industry. Large-scale projects have been managed successfully in Hong Kong, where corruption is firmly regulated. Transparency International's evaluation of the project concluded that it had been carried out mainly on time and on budget, with little corruption (Cho & Pucick, 2015).

In the African context, in his study in Tanzania, Mlinga (2008) discovered that inefficient ways of managing procurement is caused by a lack of qualified individuals with the necessary skills and expertise to handle operations. He suggested that a procurement manager with sufficient abilities and expertise in the sector they are overseeing be hired. According to a study by Marco (2013), the contract management stage is considered to be a separate process from procurement, and procurement features are directly contributed by non-procurement professionals, implying most of the decisions made at this stage might not always conform with

procurement procedures when approving contracts to tenderers. A study by Oluka and Basheka (2012) in Uganda identified major determinants of procurement management as: lack of political will to monitor contracts; there is an absence of political will to supervise contracts, as well as a lack of competence in managing projects and stakeholder supervision, and a lack of credibility in the procurement cycle. These results provide a solid platform for improving policy and practice in this critical sector.

In a study in Kenya, Waigwa and Njeru (2016) concluded that purchase policy framework rules are critical to the successful implementation of contracts in government agencies, but they had the least impact compared to the other two components in their research in Kenya. The research also showed that adopting techniques like stakeholder management to improve service marketplaces helps public agencies manage their procurement more efficiently. Another study by Mulwa and Karanja (2015) found that training and motivation are strongly linked to procurement management success, implying that staff must possess the necessary skills and knowledge. The study found that efficient management of contracts, regardless of size or goal, is a necessity for all agencies operating in the public sector, and that in order to make that a reality, the agencies need to have policy frameworks that are effective.

### **1.2.2 Performance of County Governments**

As a result, procurement processes are a key strategic problem for county governments to address in order to streamline their activities. Counties being devolved units of governance have been developed in almost every country on the planet (World Bank, 2012). People are actually engaged in governing through the decentralization of power and resources from higher to lower tiers of devolved duties based on principles established by the public (Ojo, 2013). Managers and service providers are more likely to show leadership in a health-care organization when there is good governance in place. Empowered managers as well as service providers are better able to deal with changes, search out and open up opportunities, give a vision, encourage, excite, and engage employees, and produce additional leaders like them. Organizations may achieve strategic goals with the help of good governance, which gives purpose, resources, and responsibility to management (Kibua & Mwabu, 2016). Accountability, dedication, degree of empowerment, ability of emulation, competence level, level of motivation, and enthusiasm are all important aspects of organizational autonomy (Hubbard, Samuel & Heaps, 2014).

In Africa, countries have established counties to guarantee that economic growth is tied closely to residents and also that people profit from public services (Walls, Berrone & Phan, 2012). East African countries also assist states in preventing national governments from abusing power and wealth. When comparing nations who have successfully implemented devolution to those that have yet to do so, development has grown (Boyd, 2015).

The county government, Kenya's new governance system, has been empathized and organized to increase people engagement in management (Wafula, 2013). The majority of county governments have made it easier for persons in leadership positions and inhabitants in that county to share their views (Thompson & Martin, 2015). Many residents who are involved in the governing process have increased their trust in the county government (RoK, 2015). The Constitution of Kenya (COK 2010) has allotted 25% of overall income towards county development, which is being entrusted to governors, who are the county administrators (KIPPRA, 2015). The history of overconcentration of power in Kenya has led in economic stagnation and inequality, with all areas and people in Kenya having unequal access to governmental resources and services (World Bank, 2015). Bad governance practices have hampered growth and access to essential services over time, expressing themselves in favoritism, transparency in public spending, participatory governance, lack of accountability, and democratic deficits (Ntoiti, 2013).

### **1.2.3 County Governments of Kenya**

The counties of Kenya are geographical entities established under the Kenyan Constitution of 2010 as devolved public entities. The functions are outlined in Articles 191 and 192 of the Kenyan Constitution, as well as the fourth schedule of the Kenyan Constitution and the County Governments Act of 2012. The counties are single-member districts for parliamentarians in the Kenyan Senate and special women members of parliament in the Kenyan National Assembly. As of the 2013 general elections, there are 47 counties, each with its own size and boundaries based on Kenya's 47 officially recognized districts.

The decentralized government, which was suggested during the creation of the new constitution, is largely focused on two major goals. People should be more involved in government, allowing for greater oversight and execution of policies at the grassroots level. A county assembly and a county executive make up the county government. The responsibilities of county assemblies include; adopting legislation at the county level, serving as a check on

the county executive, and approving plans and policies for the efficient administration and management of resources and local institutions. Democratic values are upheld even at the county level. Representatives in county assemblies are elected at the Ward level. There are more spaces set out for nominations. This guarantees that participation is evenly divided among women, minorities, and those with disabilities. The County Speaker, who by law is not member of the assembly, leads the county assembly. On the other hand, the responsibility of county executive is exercising executive authority at the county level, enforcing county legislation, and performing other executive tasks (Kameri, 2010).

### **1.3 Statement of the Problem**

The efficacy of development spending is dependent on public procurement mechanisms. Budgets are mainly converted into operations through governmental buying of products, services, and construction. Public procurement is expected to account for 18.42 percent of the world's Gross Domestic Product (GDP) (World Bank, 2018). Furthermore, it is projected that public procurement contributes for 9 percent to 13 percent of GDP in emerging nations' economy. This data shows that public purchasing is critical to public administration, yet it suffers from limitations.

County governments in Kenya were intended to play a key part in the country's growth through providing public services, and they should have grown into a powerful institution in Kenya (Rotich, 2015). Kenyan county administrations have been plagued by a slew of issues, including sloppy work, low-quality goods and services, inefficiency, corruption and lack of professionalism leading to waste of huge amounts of public resources (Wanyama, 2015). An audit report by Auditor General for FY 2014/2015 in Embu County revealed losses of Ksh 60 Million through irregular procurement. Bungoma County also experienced 40% losses in FY 2012/2013 due to misappropriation of public funds according to PPRA (2018).

A significant area for corruption-busting reform, according to an OECD report (2018), is county administrations, which waste government assets and a hotbed of corruption, particularly when paired with inadequate supervision, poor management, and insufficient control processes. The current state of affairs is one of loss, fraud, theft, and terrible mishandling, which are all impeding enhanced and long-term efficiency and service provision. County governments ought to be mindful of their obligations indicated in Articles 47 and 113 which compel them to develop performance management strategies for assessing county public service performance as well as implementing county programs.

Several studies have been done internationally, Pollock (2017) did a study on procurement practices, he concluded that procurement accounts for 73% to 84% of a company's total costs and argues that companies can save up to 20% from their annual procurement bill by implementing an efficient procurement practices. Locally, Studies have also been done on procurement practices UNHCR (2015) noted that, UNHCR procurement in Kenya increased from \$84 million to \$146 million 50% increase from the previous year.

According to the report the increased volume did not match with quality of the services and goods supplied provided as the costs were far much higher than what was supplied this was attributed to poor procurement practices that the concerned procurement professionals used. All the above studies have been done in different contexts with varying outcomes and impacting on differently depending on the industry and the environment. It is against this back drop that this study seeks to examine the effect of procurement practices on the performance of county governments in Kenya.

## **1.4 Objectives of the Study**

### **1.4.1 The General Objective of the Study**

The main objective of the study was to examine the effect of procurement practices on the performance of county governments in Kenya; a case of Embu County.

### **1.4.2 Specific Objectives**

- i. To establish the effect of inventory management on performance of county governments in Kenya.
- ii. To find out how procurement planning affects performance of county governments in Kenya.
- iii. To assess the effect of supplier management on performance of county governments in Kenya.
- iv. To determine the effect of contract management on performance of county governments in Kenya.

## **1.5 Research Questions**

These research questions helped the researcher in his quest to collect the relevant information on the research topic:

- i. How does inventory management affect the performance of county governments?
- ii. What is the effect of procurement planning on the performance of county governments?
- iii. To what extent does supplier management affect the performance of county governments?
- iv. What is the effect of contract management on the performance of county governments?

## **1.6 Significance of the Study**

This study will highlight the opportunities and challenges regarding procurement practices and performance of county governments, it's hoped that the study findings will specifically benefit:

### **1.6.1 Government of Kenya**

The policy makers in the public sector in Kenya as well will know the impact of procurement practices on performance of county governments. Understanding on the concept of procurement practices is expected to be of importance to the government in formulating policies relating to procurement practices in the country (Kothari, 2014).

### **1.6.2 The Procurement Departments in Counties**

The study was of great benefit to the management and employees in the counties who will gain insight into procurement practices. The study will enhance the understanding of the importance of adopting procurement practices and improve the long-term performance of the counties (Orodho, 2017).

### **1.6.3 Stakeholders and other Interested Parties**

These include industry professionals, institutions and suppliers in the procurement practices; the study provides useful, relevant and up to date information on the best procurement practices practices, limitations and challenges. It also provides recommendations which will come in handy during implementation by the stakeholders (Telewa, 2014).

### **1.6.4 Researchers and Students**

The future researchers will also benefit in that they was able to increase their understanding of the pertinent issues concerning procurement practices. The study will act as a reference or guide to other interested parties carrying out a research on the same topic. This study will add to the body of knowledge on procurement practices (Walton, 2016).

## **1.7 Scope of the Study**

The study's scope was in assessing the effect of procurement practices on performance of county governments in Kenya; A case study of Embu County. The study was conducted in Embu County, Kenya. The target population was the heads of procurement, chief officers and three (3) procurement officers from all the fourteen (14) ministries in the county. The study considered only four core aspects of procurement practices which include inventory management, procurement planning, supplier management and contract management. They are the key procurement practices aspects that influence performance of county governments in Kenya.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter involves literature review where a deeper look in the subject matter is done. It comprises of; theoretical review, empirical review, conceptual framework, critique of literature, summary and research gaps.

#### **2.2 Theoretical Review**

This includes concepts, descriptions, and references to pertinent scholarly literature, as well as established theory that is applied to a specific research (Kasomo, 2018). A proof of knowledge of theories and concepts pertinent to the research paper's topic and related to the larger areas of knowledge being reviewed is provided here (Sandelowski, 2015). As a result, it is a set of interconnected assertions or principles that describes the key ideas in connection to the influence of procurement procedures on county government performance in Kenya; an Embu County case study.

##### **2.2.1 Stochastic Inventory Model**

Harris and Marschak (1951) created the stochastic inventory model, which deals with the management of inventory levels of commodities with the goal of successfully satisfying demand for such items. A higher amount of quantity purchased reduces ordering frequency, resulting in lower buying costs, but also raises cost of storage and necessitates more storage area. Certain costs decrease while inventory is held, while others rise, indicating that the entire inventory-related cost curve has a lowest value (Lwiki, 2013).

Kalpakam and Sapna (2015) studied a base stock strategy with a stochastic lead time that is associated with the risk of losing demands. Resulting in failure or demand, items are removed from the system. If the likelihood of being in a future state is dependent on the current state in which the state is discovered, then the stochastic process is in a dependent state. Markov processes involve use of this idea. If some parameters of a stochastic process are dependent on the prior system state, but not directly, but indirectly on the previous state and the forecast at the moment, the process is said to have serial dependency.

It is a very helpful strategy when analyzing time series data. The parameter of location, same case with similar models, or the spread variable, as in heteroscedastic structures, might be the source of such relationships. If the distributions of successive responses of similar length in time are equivalent, a stochastic process is considered to be absolutely stable. This indicates that the values of statistical parameters are expected to be constant throughout time. The stochastic inventory modeling technique is used to determine the best quantities to reduce overall inventory costs. The stochastic inventory theory, which may be used to completed goods inventory, work-in-progress inventories, and raw material inventories, is a highly valuable technique for determining stock safety levels. It manages the acquisition and storing of stock in order to maintain a consistent flow of production while limiting overstocking investments (Kumar, 2016). Stochastic inventory model is based on the premise that the order of inventory has a significant effect on quality of inventories.

### **2.2.2 Goal Setting Theory**

The Goal Setting Theory says that individuals are driven by defined objectives and adequate feedback (Aitken, Childerhouse & Towill, 2008). Working for a goal is a powerful motivator. Goals that are both challenging and specific, as well as feedback, contribute to greater levels of time delivery. The idea behind the theory is that setting precise, tough objectives and plans leads to better results than merely doing one's best (Artley & Stroh, 2019). Such objectives have a beneficial impact on an individual's performance and focus people's efforts and energies in a certain direction. There was a link between the difficulty and specificity of a goal and how well people performed on an activity. Objectives that are difficult and precise lead to higher task performance than goals that are vague and simple. Belz and Wuensche (2019) discovered that in order for objectives to be motivating, they must have the following features: They should be precise in terms of cycle as well as delivery schedule, which necessitates extensive preparation (Cheung, Wang & Lo, 2014).

The basis of procurement planning is the concepts of goal theory, with particular objectives relating to strategic objectives of the business. They also are measurable, achievable, reasonable, and time constrained in nature, providing suppliers with clarity. Because the goals and targets are incremental in nature, the difficulty and complexity of accomplishing them increases with each cycle of delivery, resulting in greater performance and effectiveness (Sylvia, 2018).

Using quarterly performance assessment reports and a complete review at the conclusion of the contract period, the entities are given frequent input on their progress. The feedback allows the businesses to evaluate itself and change their plans and efforts in order to accomplish the objectives. Third parties are responsible in the goal-setting process as well as talks with the procurement organization about performance and desired attainment (Simatupang & Sridharan, 2018). This results in acceptance and ownership of the process, which increases commitment and tenacity in achieving the goals and objectives.

### **2.2.3 Resource-Based Theory**

While working on the "The theory of the evolution of the company," Penrose (1959), came up with the Resource Based View (RBV) theory (Watt, Kayis & Willey, 2010). This theory views a company as a vast pool of resources. Brand, in-house technological expertise, skilled staff recruitment, trade connections, equipment, effective operations, and capital are all examples of company resources. As a result, a firm's resources include both tangible and intangible assets.

However, precious assets that majority of businesses possess are unable to provide either a competitive edge or a sustained competitive advantage. Those assets which other companies can't readily produce, own, or get would become difficult-to-copy. Lastly, non-substitutable assets are those with no strategic counterparts, like firm-specific expertise or relationships built on trust (Taylor, 2012).

This approach stresses the firm's resources as the primary drivers of competitive advantage, with highly qualified human capital and management at the forefront (Busi & McIvor, 2018). The resource-based approach is an explanation of procurement performance disparities based on efficiency. Organizational performance, according to Gabbard (2014), is attributed to resources such as levels of technology and working techniques, credible supplier indexing, and having intrinsically different levels of efficiency in the sense that they enable firms to deliver to their customers at different levels of performance.

According to RBV theory, a company's information resources are source of sustainable competitive advantage, and the significance of an organisation's internal assets may be improved and sustained provided they satisfy the conditions listed above (Huang & Chen, 2013). According to Barney's theory, a firm's core resources and skills are critical instruments for the company in obtaining and maintaining a competitive edge. As a result, the requirements

for making the final selection included not just meeting the buyer's demands in terms of products as well as performances, but also aligning with both parties' aims and ambitions (Henard & McFadyen, 2012). Huang (2013) explained that resources include all assets, competencies, processes of the organization, organizational characteristics, knowledge, and expertise under the control of a company that may help it enhance its efficiency and productivity. The RBV hypothesis educates businesses on the significance of valuing their processes and resources as a competitive advantage. Similarly, the method by which a company develops its supplier assessment criteria should regard the process as a significant resource that determines success levels.

#### **2.2.4 Stewardship Theory**

Donaldson and Davis (1991) and Davis (1993) respectively established this hypothesis. The desire to do well is the perfect motivator for managers to complete their tasks. This notion is founded on the idea that administrators are custodians whose actions are in line with the principals' goals. It indicates that when a company's performance increases and the company achieves success, managers feel intrinsically satisfied. The idea implies that non-financial incentives such as demanding work, the opportunity to exercise responsibility and power, and obtaining recognition from peers and supervisors also motivate managers. Building a framework that allows for symphony between primary agents is important for the company (Abdula & Valentine, 2009). Contract management responsibilities might benefit from a consistent leadership style, as well as a sense of direction and authority.

Besides continuing to support CEO duality, proponents of the stakeholder theory argue that majority of insider directors have superior knowledge of procurement functions in an organization and thus take less time to make decisions; they are more effective at evaluating top managers' performance and use their expertise to guarantee quality purchasing performance and effectiveness. More executive directors on company boards, according to Letting (2012), would enhance the effectiveness and efficiency of decisions, including supplier management. The theory of stewardship augurs well with the contract management variable in this study.

### **2.3 Empirical Review**

Few researches showing how procurement practices may impact organizational performance exist. Donald (2016) noticed that organizations confront the difficulty of reaching

high performance objectives while utilizing less resources to offer efficient and effective services to the people.

### **2.3.1 Inventory Management and Performance of County Governments**

With stakeholders increasingly stressing sustainability problems in transparent inventories (Zyglidopoulos & Fleming, 2011), the concept of safety inventory has gained traction (Mol, 2014). Though often addressed in academic literature, the term "safety stock level" is commonly misunderstood (Egels-Zandén et al., 2014). Nonetheless, available literature outlines two key aspects of safety stock level. For starters, some researchers associate safety stock levels with visibility, or the capacity to follow a product's flow all through the manufacturing process and inventories.

Doorey (2011) and Laudal (2010), for example, address safety stock levels in perspective of revealing the identities of the suppliers engaged in the production of products. Scholars emphasize that maintaining a safe inventory levels is about revealing supplier sustainability circumstances (Cramer, 2018). Despite none of these companies disclosing neither the identities of all inventory suppliers nor the production line evaluations of all revealed suppliers, i.e., none of of them is fully transparent. Some of these factors encompass the need for smooth production goals, ensuring accountability as well as personal responsibility, and optimizing resources.

In a vendor managed inventory (VMI) system, Li and Li (2009) proposed a dynamic model of the safety stock. Only demand-driven variability is included in this approach, as supplier-related variability is eliminated in the VMI system. Using a simulation technique, Zhao, Lai, and Lee (2011) investigated different approaches for determining the safety stock level in multilevel MRP systems. Additionally, the findings of several ways of evaluating the relationship between both the safety stock multipliers and other system performance indicators including such quality of service, scheduling instability, and overall cost have been presented. Desmet, Aghezzaf, and Vanmaele (2010) proposed a model for approximating safe levels of inventory in a two-echelon distribution system that takes into account the variance in replenishment lead time between the central warehouse and the retailers. This model also takes into account the fluctuation in order service time at the warehouse, which has a significant impact on the system's lead time variance. Because determining the quantity and placement of

safety stock in a stochastic supply chain is a difficult process, there are several unique assumptions in the models and techniques given in this field to make it easier.

### **2.3.2 Procurement Planning and Performance of County Governments**

A study titled Procurement Planning in Developing Nations: A Review, Edgar and Niegel (2011) found that According to Uganda's experience, procurement accounts for 70% of the national budget, but 90 percent of people complaining regarding corruption in the workplace are linked to procurement related to unethical procedures due to deficiency of appropriate procurement planning, as per the government's inspector general. Organizations must be able to enhance their performance by altering their methods of doing things, putting in place the proper procurement planning policies, and concentrating on key performance drivers in order to remain competitive in the market. The need realization and identification of needs, according to (PPOA, 2009), are the first steps in the purchase planning phase. Levels of inventory, project plans, production planning, project schedules, investment and operating budgets, as well as procurement strategies all contribute to this. The basis for carrying out a market survey to determine characteristics like pricing, new goods or alternate or replacement products, new supply source, the intensity of competition, including climatic factors that might influence the supply market is the identification of needs.

Non-compliance with procurement plans was identified by Karin (2012) as a key obstacle to procurement growth in Kenya. They didn't, however, say at when point in the procurement process this occurred. While the studies above emphasize the need of good needs assessment as a basis for efficient procurement, they fail to emphasize the relationship between need evaluation and organizational outcomes. Recent theorists have also emphasized the relevance of planning phase in procurement as an ethical and moral issue, recognizing that procurement administration activity is influenced by moral decisions (Schlosser, 2013).

### **2.3.3 Supplier Management and Performance of County Governments**

Kamenya (2014) discovered that there is a favorable link between performance and supplier management in big food and beverage manufacturing businesses in Nairobi. According to the findings, companies must evaluate the supplier's competencies as well as pricing variables that have a major impact on procurement success. Financial health, quality concerns, and the supplier's organizational culture, as well as the supplier's production capacity, desire, and reserve, were shown to have no meaningful impact on performance.

Mwikali and Kavale (2012) investigated the variables influencing supplier selection and found that cost, technical capability, quality evaluation, organizational profile, service levels, supplier profile, and risk considerations are the most important aspects influencing supplier selection. They found that a cost criteria is an important component in supplier selection since it determines, among other things, profit margins. Technical competency, quality, as well as the supplier's characteristics are all taken into account.

Aseka (2010) investigated the criteria for selecting suppliers and the performance of manufacturing companies listed on the Nairobi Stock Exchange. According to the findings, there is a link between successful supplier selection and organizational performance. It showed that companies valued quantitative variables like a supplier's technical knowledge, dedication to quality, and capacity to fulfill delivery deadlines more than qualitative factors like a supplier's readiness to disclose sensitive information when making supplier decisions. Mburu (2015) carried a research on the impact of supplier management (supply capacity) on performance of supply chain. Research results obtained from survey data gathered of 153 manufacturing professionals, it was discovered that businesses that considered their suppliers' capability were viewed as having enhanced supply chain efficiency (Leung & Tang, 2014).

#### **2.3.4 Contract Management and Performance of County Governments**

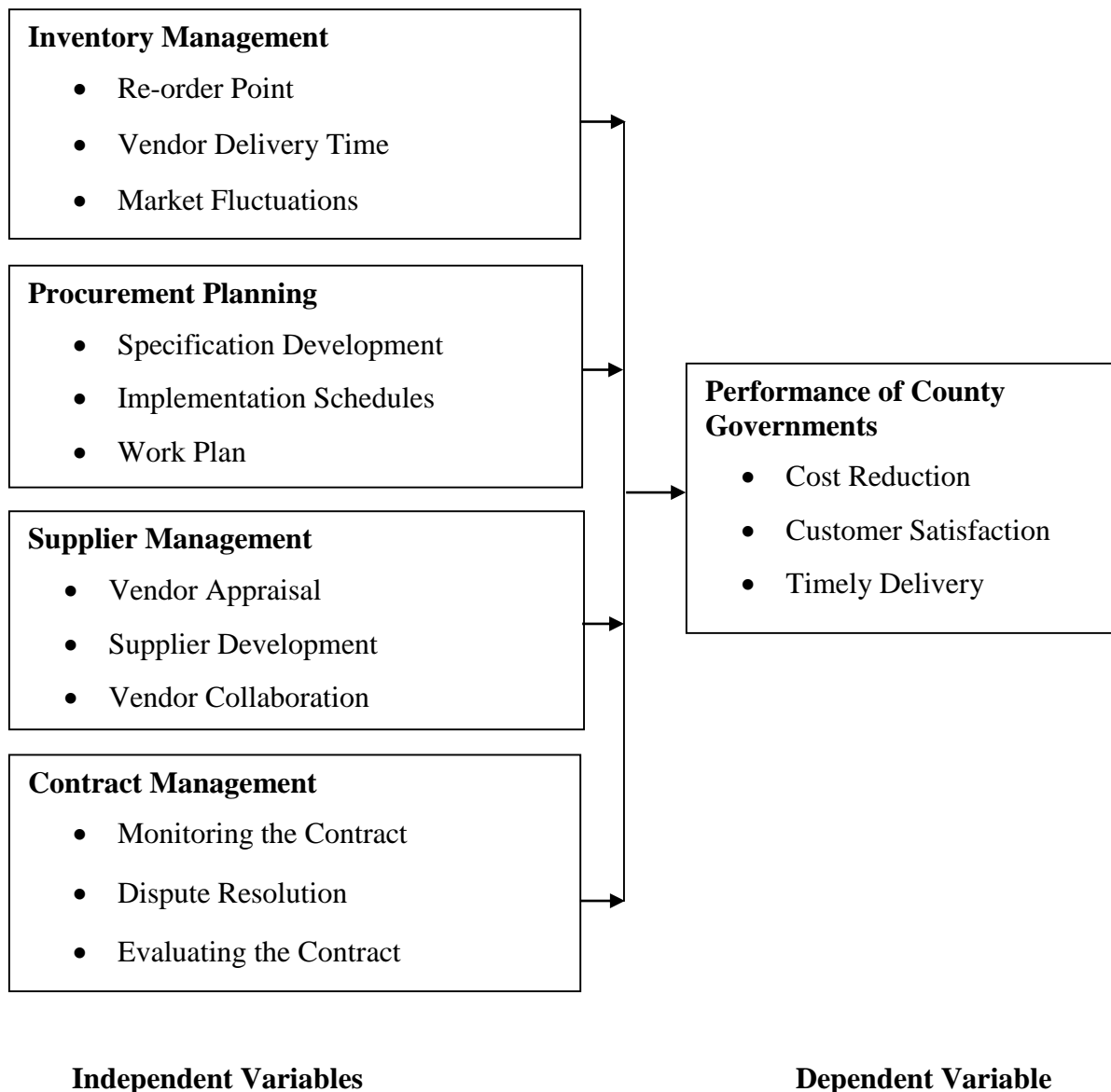
According to Kirungu (2011), in his research conducted on factors affecting implementation of donor-funded projects on procurement systems of the financial and legal sector technical assistance project under the ministry of finance, 11 percent of respondents believe contract management policies have a significant influence on the progress of donor-funded initiatives implementation, and 20% assume contract administration initiatives have a significant impact on the execution of donor-funded developments. She believes that contract management rules and donor standards are the most significant implementation hurdles for donor-funded programs, owing to bureaucracy, resulting in poor distribution of donor monies. The premise that both donors and GoK procurement regulations and standards are being implemented at the same time simply adds to an already bad scenario.

Rutere (2010) also appears to accuse the contractual management mechanism for the North Imenti constituency's postponed CDF projects. Wambugu (2013), for one, claims that political intervention impeded the delivery of CDF projects in the Dagoretti constituency.

Malala (2011) contends in her study of the impact of contract management on CDF project performance in Kenya that the government can only disregard CDF project management at its risk. Lack of effective contract management systems for sourcing CDF-funded project supplies, as well as low involvement of local providers in available supply possibilities at constituency level, not only delays progress, but also has a disastrous influence on Kenya's Vision 2030. The long-term consequences of failing Programme implementation would be inadequate road infrastructures, poor education, sanitation and health-care facilities, and, most importantly, persistently high poverty levels for the majority of Kenyans.

## 2.4 Conceptual Framework

A conceptual framework is a set of concepts that the study operationalizes to meet certain goals (Chakraborty, 2017). It is the primary framework that provides the study its form and shape, as well as holding all of the parts in the logical arrangement together (Mugenda & Mugenda, 2012). It demonstrates how a study conceptualizes and displays the link between the variables in the study (Kothari, 2015).



**Figure 2.1: Conceptual Framework**

### **2.4.1 Inventory Management**

The predicted chance of not reaching a stock-out in the next restocking cycle, or the likelihood of not losing sales, is the service level in inventory management. The proportion of stocks in a firm determines the level of service. As a result, the safety inventory level has to be adequate to fulfill vendor supply delays, as well as consumer demand, but not really that excessive that your firm makes a loss due to excessive carrying costs. The major reason for this is that demand fluctuates and there is insufficient consistency to forecast future volatility (De-Toni & Tonchia, 2011).

Inventory management that is efficient is a step toward boosting inventory turnover in businesses. According to the concept of turnover, lowering inventory levels aids in increasing turns. Reduced stock, on the other side, will cause uncertainty and, as a result, stock outs (Natarjan & Goyal, 2014). As a result, a safety stock is required to defend against such risks. Nevertheless, one of the most significant drivers of inventory, good safety inventory control is becoming a crucial goal for leanness and efficiency stock control.

As a result, a county government example has been chosen in this article, which seeks to manage its inventory efficiently across the chain, and a safety stock optimization approach has been presented to maximize the quantities and placements of stock levels inside its chain. County governments are attempting to record a high degree of public satisfaction. Maintaining a high amount of stock, on the other hand, is costly and comes with a variety of hazards, including storage and expiry. The greater the stock amount, the bigger the risks and expenses was. In the retail industry, maintaining a good quality of service is critical. Businesses which put their targets at 95% do so because customer service is a critical component in ensuring client loyalty (Donald & Delno 2019).

### **2.4.2 Procurement Planning**

Poor planning and management of the procurement process, which includes demands that are not adequately defined and approximated, unrealistic budgets, and insufficiency of procurement personnel abilities, is one of the key setbacks in procurement. When correctly planned and performed, planning may be an effective tool for gathering, allocating, and assigning funds (Chandra, 2010).

Complex projects that exceed a particular cutoff point of scale should continue on the premise of a good planning foundation, rather than small projects with few activities, as a comprehensive planning concept. The foundation for arranging project work and delegating tasks to individuals is sound formalized plan (Brown & Hyer, 2010). It serves as a form of coordination and communication among all parties engaged in the procurement process, as well as motivating employees to think ahead and creating a feeling of urgency and time awareness. Preparedness, above everything, is the foundation for monitoring and management.

Selecting the goal, scoping, identifying customer's needs (user needs), identifying tasks (important procurement procedures), forecasting time and cost (goods and service delivery time), allocating work, and other activities are all part of the planning process. What does the company aim to achieve by executing this project successfully? What is the intended outcome for the organization? (Frese, 2013)

Scholars argue that great advance planning is required for successful project implementation, which involves comprehensive planning of process implementation phases and milestones, task punctuality, backup positions, as well as re-planning. This implies that preliminary planning is insufficient (Chandra, 2010). Projects frequently go astray, or early solutions turn out to be baseless, forcing re-planning and a return to the drawing table. As a result, a procurement strategy may be subjected to periodic review as needed. According to Freeze (2017), planning is a dynamic process that necessitates rapid re-thinking when the given environment evolves.

### **2.4.3 Supplier Management**

An evaluation is an in-depth review and confirmation of a company's technical capability in giving inputs for new product development (Nagy & Cenker, 2018). A technical evaluation is a narrative review of a supplier's strategy and technical capacity to meet the firm's needs that is properly worded. The evaluation process must look into and report the planned labor, material, as well as other relevant information (Dumitrescu, 2014).

The ultimate goal of technical evaluation is to help the company determine if the suggested cost/price is reasonable and fair. The technical evaluation should determine the supplier's ability to deliver on the firm's expectations in terms of technological expertise. An

analysis of labor capability, service quality, delivery efficiency, and delivery speed are all key parameters in this phase (Nagy & Cenker, 2018).

When conducting assessment tests to identify technical competence among a variety of choices, the company should be extremely proactive. The labor force capacity parameter should be backed up by rigorous background checks on the accuracy of the reported individual capacities. As a verification method to verify individual capacities, a clear delineation and cross check on personal profiles should be carried out in accordance with existing databases of professional bodies (Nagy & Cenker, 2018). Once the agreement is legally inked, the technical ability should form the basis of value addition, with the company benefiting from skill change within their own internal personnel. Finally, in order to improve the firm's competitive advantage, quality standards should be set at a level that is acceptable as a worldwide benchmark. The British Standards meaning of quality is the sum of a product's or service's features and qualities that influence its ability to meet a specific requirement (Mihret & Yismaw, 2011).

A buyer must evaluate and confirm that a distributor's methods and procedures for managing and monitoring its outputs are sound. Quality control refers to methods for detecting and correcting faults, while quality assurance refers to procedures for preventing defects, and a buyer should verify if the supplier has these in order (Morgan, 2019).

#### **2.4.4 Contract Management**

The customer department's responsibilities in terms of project contract management include, among other things, reporting any deviations from contract's terms of service to the procuring entity, forwarding details of any required contract variations to the procurement unit for deliberation and intervention, and finally maintaining and archiving contract management and undertaking conformion records (Kapila, 2012).

All of these acts are critical components of procurement program monitoring and management process, which is enshrined in the acquisition legal framework and designed to help in project delivery. Throughout project procurement procedures, time (schedule), money (budget), and scope are the most important elements to plan, monitor, and regulate (performance). As previously mentioned, the first two are extremely significant aspects of the recommended procurement plan framework. The contract administration procedure may be

viewed as a closed-loop system, with changed plans and schedules (if necessary) after corrective measures (Meredith & Mantel, 2012).

This procedure must be built as an integrated component of program's management structure, it is not something separate and imposed on it, or worse, in opposition to it. It's critical to first establish the major elements to be managed: scope, cost, and time, as well as the parameters within which they'll be handled. Time, milestones, personnel, as well as equipment schedule must all be continuously monitored and measured for successful project delivery (Dryden, 2012). Schedule control done correctly will offer the first sign that original planning isn't proceeding as planned. By catching these signals early, one may put in place a fallback option and/or re-plan to get back on course (Frese 2010).

#### **2.4.5 Performance of County Governments**

Over time, performance has come to cover a broader definition and concepts, such as the financial effect of marketing. This is based on the idea that businesses are accountable for more than just producing economic value, and the triple bottom line is a good example of this (Lysons, 2013). This is a novel method for assessing organizational performance. The triple bottom line takes into account excellence in all three areas of sustainable reporting (economic, social and environmental).

In Australia, modern performance assessment considers the balanced score card as well as the triple bottom line, resulting in a sustainable balanced score card. This article makes the case that numerous factors, including e-procurement, influence performance, but that this influence may be modified by a company's performance contracting strategy (Callendar & Mathews, 2010).

As per Kakwezi and Nyeko (2010), purchase lead-time refers to the time spent between the receiving the order and the actual delivery of products to the client. According to Ugandan researchers, reducing order cycle time reduces supply chain response time, which is an important performance measure and source of competitive advantage. This can only be enhanced by an integrated supply chain function that includes e-procurement as a component and interacts directly with customer support in deciding competitive advantage..

Performance metrics in Kenya were dependent on price fluctuation, which is obsolete, as well as rejections on receipt and on-time delivery. For many years, product selection was primarily centered on competition in the market, with less emphasis placed on other factors such as market share and dependability (Rotich, 2011). The assessment of supply chain performance (efficiency, flow, integration, customer base, timeliness, and client satisfaction) includes strategic, operational, and tactical measurements. Lead time versus entire industry activities, level of quality, cost-cutting efforts, and supplier prices versus market are all strategic level measures (Githumbi, 2013).

The effectiveness of purchasing process cycle time at departmental levels, booking in processes, working capital, quality control methods, and resource flexibility are all tactical and operational metrics (Korir, 2009). Capacity in day-to-day professional representations, adherence to a defined timetable, ability to prevent complaints, and attainment of defect-free deliveries are all operational level metrics. Procurement and supply chain management should evaluate their performance capabilities on a regular basis in order to satisfy the company's long-term requirements.

Performance metrics, often known as key performance indicators, are the most important tools for evaluating procurement performance (Reinhardt, 2019). They are process characteristics that are measured to see if the process is carried out according to pre-determined criteria. Comparing process values to typical, standard values is the best method to use indicators. In fact, if there are bad outcomes or poor performance, the process must be improved. Indicators are mostly used to compare actual values to predicted values. These are the process's command and control mechanism (Bask, 2011).

Financial success (profits, return on assets, return on investment), market performance (sales, market share), and client satisfaction contributed, as per Eisenhardt and Martin (2010), include three particular aspects of business outcomes. Firm performance was defined as an organization's actual output or results as compared to its intended outputs (or goals and objectives), as well as the recurring activities of setting organizational goals, monitoring progress toward those goals, and making adjustments to achieve those goals efficiently and effectively (Hertz, 2013).

## **2.5 Critique of Literature Reviewed**

From the literature reviewed, it is clear from different authors that traditionally companies were not keen with procurement practices. But from the literature we observe that they instead should be keenly managed. More can be gained by efficient and effective procurement practices than by forcing cost-cutting on materials and labour.

Kitheka (2012) found a favorable linear link between inventory optimization automation and supermarket performance in western Kenya in a research. The study was limited to supermarkets only leaving out the context of state corporations in Kenya. Inventory optimization has helped the Kenyan corporations improve their inventory management and become more competitive. Because of the availability of technology, organizations may now operate on a daily basis with less inventory. Increased transportation competitiveness has given shippers more options for purchasing high-quality, tailored services, decreasing the need to keep huge inventories.

Research carried out by Gakuru (2012) on strategic procurement management and organizational performance shows that the independent factors of strategic supplier partnership, quality of information, outsourcing extent, and lean techniques all explain a substantial link between strategic procurement management and procurement performance. The investigation was limited to Nairobi's city council services. As a result, the researcher suggests that more study be conducted on other services that are not situated in Nairobi and are not administered by the city government. Future study could expand on the topic of strategic procurement management by examining new aspects and aim to use numerous respondents to improve research findings, according to the researcher.

Inventory management practices, according to John and Ime (2014), can improve a firm's operational performance by increasing capital utilization efficiency, increasing service level, and reducing lead time, and firms that use inventory management models can handle supply chain disruptions, merchandise safety stocks, and constituent pile up. This study therefore seeks to expound further on the effects of procurement practices using other variables; procurement planning, evaluation of bids, inventory management and contract management.

## **2.6 Summary of Literature Reviewed**

From the above studies, it can be noted that many scholars have theorized and established a model in which policy makers and managers make their decisions on procurement practices. The current study has been anchored on the goal setting theory, the resource based view model, the stochastic inventory model and the stewardship theory.

It also creates constructs, which serve as the foundation for the study's conceptual framework. The variables are operationalized in the study by a thorough review of relevant literature, which provides a solid framework for the empirical investigation and contextual understanding of the research topic.

There have been a number of empirical studies on procurement practices and most of them concentrated on the process and methods in Kenya and some countries in Africa like Ghana, Nigeria and Malaysia. These studies provided further research gap as from the theoretical and empirical review, it is evident that procurement practices in county governments has not been expounded at length and hence this forms a fertile ground for the academicians to explore on in their studies.

## **2.7 Research Gap**

The Literature reviewed clearly showed that the aspects of procurement practices among firms in Kenya majorly concentrated on the procurement process while there are so many variables under procurement practices. The current study hence attempted to elaborate further on these variables.

The study conducted by Ngumi (2015) on procurement practices and productivity of large manufacturing firms in Nairobi, Kenya mentioned that, procurement planning should be regarded as a top management function although the study did not give insights on the role of the top management in procurement planning and instead the researcher expounded on the following variables which affect procurement planning; Activity Based Costing and work schedules. The study also described IT as an emerging issue in the procurement planning in large manufacturing firms which should be researched further by the future researchers.

The above literature notwithstanding, it is clear that no detailed study has been carried out to specifically determine the role procurement practices variables such as; inventory management, procurement planning, supplier management and contract management play in the performance of county governments in Kenya. None of those studies carried out so far have focused on procurement practices and its role in performance especially in the developing countries and more so the county governments in Kenya. These constitute the research gaps that this research study investigated and quantify to understand the influence of procurement practices on the performance of county governments in Kenya.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methodology that was used in data collection and analysis. Specifically, it presents the research design, target population, sampling design and sample size, data collection methods and data analysis methods.

#### **3.2 Research Design**

The overall approach for integrating the many components of the study in a cohesive and logical fashion to successfully solve the research topic is referred to as research design. It is the plan on how to answer research questions (Dunn, 2010). The different types of research designs include: exploratory design, descriptive design, case study, experimental research design, longitudinal studies among others (Kasomo, 2011). Because the study collected quantitative and qualitative data that explains the nature and features of the influence of procurement procedures on county government performance in Kenya; a case study of Embu County, the study therefore used a descriptive research approach. According to Neuman (2010), a descriptive survey research design is one that is used to gather data on the current state of a phenomenon in order to explain what is present in terms of variables or circumstances in a scenario.

This design is deemed acceptable by the researchers since it allows for the collection of trustworthy data that explains connections between the independent and dependent variables. It also aids in the development of quantitative measures that aid in the inference of probable connections among study variables (Patron, 2012).

#### **3.3 Target Population**

A population is the sum of all the people or things that have specific traits that a researcher is interested in. The target population, according to Kasomo (2011), is a full set of individual instances objects with certain common features to which researchers seek to generalize the study's findings. Mugenda and Mugenda (2012) highly recommend that a researcher identifies and defines the target population, sample population, the unit of analysis and observation. The target population was the heads of procurement, chief officers and three (3) procurement officers from all the fourteen (14) ministries in the county.

**Table 3.1: Target Population**

<b>Stratum</b>	<b>Population</b>	<b>Percentage, %</b>
Heads of Procurement	14	16.7%
Chief Officers	14	16.7%
Procurement officers	56	66.6%
<b>Total</b>	<b>84</b>	<b>100.00</b>

### **3.4 Sample Size and Sampling Procedure**

The smallest portion of a population that adequately reflects the full group is called a sample (Saunders et al., 2015). Sampling is the process of selecting and analyzing a small number of persons, items, or events in order to determine a characteristic of the total population (Woods, 2015). According to Gay (2015) a sample of 10% is representative however he indicated that a sample more than 10% is better.

No sampling procedures was utilized because the study used a census methodology to collect data from the respondents. A census is a tally of all population elements, as per Kombo and Tromp (2013). When a population is sufficiently small, it is not necessary to sample (Kothari, 2014).

### **3.5 Data Collection Instruments**

The study's primary data collecting tool was questionnaires, which will include both open and closed-ended questions. Questionnaires are used since they are efficient data collecting tools allowing respondents to express a large portion of their thoughts on the study topic (Dempsey, 2013).

As per Kothari (2014), data acquired using questionnaires is devoid of bias and researcher interference, resulting in reliable and genuine data. The questionnaire is preferred because it allows participants to give their thoughts or ideas in a much more honest way. According to Agresti (2010), the questionnaire method of data collection is beneficial because the streamlined and indifferent configurations of a questionnaire provide homogeneity and aid in the impartial data collection; participants' privacy and confidentiality are ensured, and they are capable of completing them at their leisure (Kasomo, 2011). Data on the impact of

procurement procedures on county government performance in Kenya was gathered using questionnaires, with an emphasis on Embu County.

### **3.6 Data Collection Procedures**

Depending on the study's aims, primary and secondary data was collected. Data collecting procedure, according to Neuman (2010), is the process of obtaining bits of information which are required for the research project. The researcher collected data by getting a letter from the university presenting him to the county. The letter would be used to complement the data collecting forms and interview instructions.

Both the substance of the question and the overall presentation needed of the research assistants was taught. During the pilot project, the research assistants follow the researcher to get a hands-on training on how to use the research equipment. Each questionnaire was accompanied by a cover letter outlining the study's goals and ensuring respondents' anonymity in order to obtain the data as well as information needed.

### **3.7 Pilot Testing**

The questionnaires were pre-tested by the researcher to evaluate the data's reliability and validity. The purpose of this exercise is to determine the respondents' degree of knowledge of the specifics in the questionnaire, as well as to see if the feedback from the pre-test supplied the sort of information required or if any of the questions were misinterpreted. Some questionnaire items was removed after this exercise, while others would be enhanced. A pilot test is used to discover flaws in the design and equipment, as well as to give proxy data for probabilistic sampling procedure (Cooper & Schindler, 2014).

#### **3.7.1 Reliability of the Research Instruments**

The extent to which scores received with a tool are reliable measurements of whatever the instrument measures is referred to as reliability (Mugenda & Mugenda, 2014). To reduce mistakes, the study employed the test-and-retest approach to assess the research instruments' dependability. This process showed any questions that are unclear and may cause respondents to interpret them differently, requiring changes. Questions that are unclear or confusing was rewritten in order to obtain the information needed.

The instruments' dependability was determined using an internal consistency approach. This was determined based on the results of a single test given to a group of people. The results of one item was compared to the results of other items in the instrument. Finally, the Cronbach Alpha Reliability coefficient value was calculated, yielding an alpha that may be used to identify how items correlate with one another.

The equipment was kept or changed to satisfy performance criteria based on the findings of piloting procedure before being utilized for data collecting (Byaman & Bell, 2017). An alpha value of 0.7 or above implies that the collected data is trustworthy since it has an excellent internal consistency and may be extrapolated to reflect the views of all respondents in the target group.

### **3.7.2 Validity of the Research Instrument**

Validity is the extent to which conclusions produced through data analysis really reflect the phenomena under investigation (Mugenda & Mugenda, 2014). The instrument's validity is determined by asking the appropriate question in the least confusing manner possible. Validity, according to Creswell (2017), is the conformity between researcher's conclusions and actuality. There are two types of validity: construct and content validity.

The data obtained from the pilot sample was used to determine construct validity, which determined whether the data is correct and meaningfully reflected in the theoretical ideas. Professionals in the field, such as university supervisors, assessed the content validity. The questionnaire's validity was assessed using a content validity coefficient value of 0.7. (Orodho, 2018). Furthermore, content validity was verified using a pre-test and re-test technique prior to the real study to verify the questionnaires' validity (Denscombe, 2015).

### **3.8 Data Analysis and Presentation**

A researcher can analyze data using a variety of approaches, including descriptive analysis and inferential analysis. The research yielded both quantitative and qualitative results. The numerical data obtained was analyzed using both descriptive and inferential statistics (Kothari, 2014).

In order to identify how independent factors impact the dependent variable, descriptive statistics allowed the computation of measures of central tendency, measures of skewness, and

measures of variation (Neuman, 2010). Inferential statistics was used in computation of: the confidence levels to be applied; normality test, test for heteroscedasticity, correlation matrix and the multiple regression process.

For the analysis of research variables, the Statistical Package for Social Sciences (SPSS) application version 21 was utilized. It contains descriptive statistical capabilities that help with variable response comparability and show response frequency clearly. It has a lot of data handling capabilities and a lot of statistical analyzing processes that can analyze tiny to huge data statistics, and it's more stable (Orodho, 2010). This method provides concise summaries of the sample data as well as manageable quantitative descriptions.

Correlation analysis was used to determine the link between the independent and dependent variables. The goal of correlation is to enable the researcher to forecast how a measure will vary from the norm. The size and orientation of the link between a single independent variable in the model was determined using Karl Pearson's correlation coefficient (r) (Ngechu, 2017). Correlation coefficient values are always between -1 and +1. A correlation coefficient of +1 shows that the two parameters are perfectly related in a positive linear sense, whereas a correlation coefficient of 0 indicates that there is no relationship.

By fitting a linear equation to the observed data, multiple linear regression aims to describe the connection between two or more explanatory factors and a response variable, where each value of the independent variable is linked with a value of the dependent variable (Ogula, 2015). As a result, this research is a good match for the approach and test. The proportion of variation in the predicted variable explained by variance in the predictor variables is known as R<sup>2</sup>, and the greater it is, the better (Kombo & Tromp, 2013).

The model is presented as follows:

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

Where:

**Y**= Performance of County Governments

**$\beta_0$** = Constant Coefficient

**$X_1$** = Inventory Management

$X_2$ = Procurement Planning

$X_3$ = Supplier Management

$X_4$ = Contract Management

$\epsilon$  = Random Error Term

### **3.8.1 Diagnostic Tests**

Before carrying a regression analysis, the researcher conducted diagnostic tests to determine the suitability of data set for regressing. The diagnostic tests were used to test if the general information of the respondents how it affects the main objective of the study. These diagnostic tests included Multicollinearity, Normality and Heteroskedasticity.

Normality test was done using Kurtosis and Skewness. Data analysis proceeded if the kurtosis and skewness is between +2 and -2 as this was an indicator that the data has a Normal distribution (Kothari, 2014). Multicollinearity was checked using the Variance Inflation Factor (VIF), to show how the variables were correlated. When VIF is between 1-5, the variables are not be correlated and hence the test is deemed valid. Heteroscedasticity test is useful in examining whether there is difference in residual variance of the observation period to another period of observation (Godfrey, 2018), and it was tested using scatter plots.

## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION

#### 4.1 Introduction

This chapter presented results arising from the analysis of data collected using questionnaires. The main Purpose of the study was to examine the effect of procurement practices on the performance of county governments in Kenya; a case of Embu County. The data collected was analysed using descriptive and inferential statistics and the findings presented in tabular summaries and their implications discussed.

#### 4.2 Response Rate

A sample of 84 respondents were approached using questionnaires that allowed the researcher to drop the questionnaire to the respondents and then collect them at a later date when they had filled the questionnaires. Out of the population covered, 78 were responsive representing a response rate of 93%. This was above the 50% which is considered adequate in descriptive statistics according to (Mugenda, 2014).

**Table 4.1: Response Rate of Respondents**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Actual Response</b>	78	93
<b>Non-Response</b>	6	7
<b>Total</b>	<b>84</b>	<b>100%</b>

#### 4.3 Pilot Study

The cronbach's alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of thumb for cronbach's alpha is that the closer the alpha is to 1 the higher the reliability (Serekan, 2006). A value of at least 0.7 is recommended. Cronbach's alpha is the most commonly used coefficient of internal consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach's alpha was used to measure realibility. This was done on the four objectives of the study. The higher the coefficient, the more reliable is the test.

**Table 4.2 Reliability Results**

<b>Variable</b>	<b>No of Items</b>	<b>Respondents</b>	<b><math>\alpha</math>=Alpha</b>	<b>Comment</b>
Inventory Management	10	8	0.893	Reliable
Procurement Planning	10	8	0.987	Reliable
Supplier Management	10	8	0.974	Reliable
Contract Management	10	8	0.976	Reliable

#### **4.4 Demographic Information**

This section presented the personal details of the respondents and it provided data regarding the study and was necessary for the determination of whether the individuals in a particular study were a representative sample of the target population and testing appropriateness of respondent in answering the questions for generalisation. The study sought to determine the demographic characteristics of the respondents as they are considered as categorical variables which give some basic insight about the respondents. The characteristics considered in the study were; gender, their highest level of education attained and their work experience.

##### **4.4.1 Distribution of Respondents by Gender**

The study also determined the gender of the respondents. The results are submitted in table 4.1 where the majority 74.4% were male while a partly 25.6% were female.

**Table 4.3: Distribution of Respondents by Gender**

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Male	58	74.4
Female	20	25.6
<b>Total</b>	<b>78</b>	<b>100</b>

##### **4.4.2 Distribution of Respondents by Age**

The study determined the age distribution of the respondents. The results summarized in the table below. The findings indicate that the majority respondents belonged to age bracket of

41-50 years at 42.3%. Respondents in the age bracket of 50 years and above accounted for 34.6%. Respondents between 31-40 years accounted for 23.1%.

**Table 4.4: Distribution of Respondents by Age**

<b>Age</b>	<b>Frequency</b>	<b>Percent</b>
31-40	18	23.1
41-50	33	42.3
50 and above	27	34.6
<b>Total</b>	<b>78</b>	<b>100</b>

#### 4.4.3 Distribution of Respondents by Level of Education

The study determined the n Respondents by level of education. The respondents were asked to state their highest level of education and the results were as captured in tables 4.4. The results indicated that majority of the respondents 42.3% had acquired a diploma, and 30.8% had a masters while 26.9% had a degree.

**Table 4.5: Distribution of Respondents by Level of Education**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percent</b>
Diploma	33	42.3
Degree	21	26.9
Masters	24	30.8
<b>Total</b>	<b>78</b>	<b>100</b>

#### 4.4.4 Distribution of Respondents by Length of Service

The study determined the number of years the respondents had worked in their current office. From the findings the majority of the respondents had worked for 3-5 years at 32.1%, from the findings those who had worked for 6-8 years was also 32.1%, 9 and above length of service results were 35.9%. The results in this case could be relied because the work experience of the respondents was considered important for the study. This was so because the study

assumed that the more experienced staff would be well informed about issues under investigation and provides a deeper insight from their years of experience.

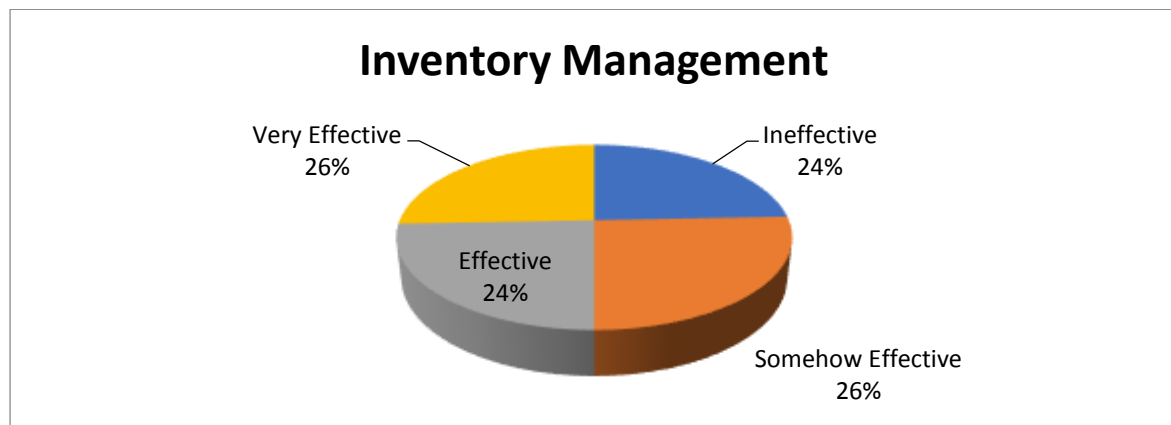
**Table 4.6: Distribution of Respondents by Length of Service**

Length of Service	Frequency	Percent
3-5	25	32.1
6-8	25	32.1
9 and above	28	35.9
<b>Total</b>	<b>78</b>	<b>100.0</b>

## 4.5 Descriptive Statistics

### 4.5.1 Inventory Management

The first objective of the study was to assess the influence of Inventory Management on the performance of county governments in Kenya; a case of Embu County. The respondents were asked to rate to what extent Inventory Management influenced performance of county governments in Kenya. Results indicated that majority of the respondents 24% said it was effective, 26% said that it was very effective, 24% said it was ineffective, while 26% also said it was somehow effective.



**Figure 4.1: Inventory Management**

The respondents were also asked to comment on statements regarding the influence of Inventory Management on the performance of county governments in Kenya. The responses were rated on a likert scale and the results presented in Table 4.7 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,

equivalent to mean score of 0 to 2.5. The score of 'neutral' has been taken to represent a statement agreed upon, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.

The result revealed that majority of the respondent with a mean of (4.83) agreed with the statement that Re-order point plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.283 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.91) agreed with the statement that the Vendor delivery time plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.271. indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.55) agreed with the statement that Market fluctuations plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.374. Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.47) agreed with the statement Re-order point plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.575 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (3.81) agreed with the statement Vendor delivery time plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.163 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (4.12) agreed with the statement that Market fluctuations play a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.619 Indicating the responses was varied.

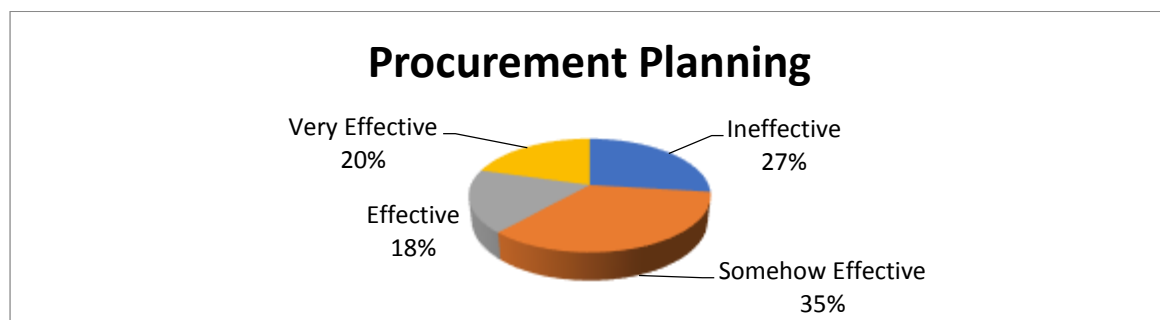
The result revealed that majority of the respondent with a mean of (3.88) agreed with the statement Re-order point plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.081 indicating the responses were varied. The result in table 4.5.1 revealed that majority of the respondent with a mean of (4.24) agreed with the statement Vendor delivery time plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.776 indicating the responses were varied. The result in table 4.7 revealed that majority of the respondent with a mean of (4.18) agreed with the statement market fluctuations plays a significant role in timely delivery. The measure of dispersion around the mean of the statements was 0.698 indicating the responses were varied.

**Table 4.7: Inventory Management**

<b>Statements</b>	<b>Mean</b>	<b>Std. Deviation</b>
Re-order point plays a significant role in cost reduction	4.83	1.283
Vendor delivery time plays a significant role in cost reduction	3.91	1.271
Market fluctuations plays a significant role in cost reduction	3.55	1.374
Re-order point plays a significant role in improving customer satisfaction	4.47	0.575
Vendor delivery time plays a significant role in improving customer satisfaction	3.81	1.163
Market fluctuations play a significant role in improving customer satisfaction	4.12	0.619
Re-order point plays a significant role in attaining timely delivery	3.88	1.081
Vendor delivery time plays a significant role in attaining timely delivery	4.24	0.776
Minimum energy consumption plays a significant role in environmental performance indicators	4.18	0.698

**4.5.2 Procurement Planning**

The second objective of the study was to establish the influence of Procurement Planning on the performance of county governments in Kenya. The respondents were asked to indicate to rate effectiveness of Procurement Planning on performance of county governments in Kenya. Results indicated that a majority of the respondents 18% agreed that it was very effective, 20% said that it was effective, 27% said it was ineffective, while somehow effective was at 35%.



**Figure 4.2: Procurement Planning**

The respondents were also asked to comment on statements regarding the influence of Procurement Planning on the performance of county governments in Kenya. The result revealed that majority of the respondent with a mean of (3.84) agreed with the statement that Specification development plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.434 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.59) agreed with the statement that Implementation schedules play a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.263. indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.38) agreed with the statement that Work plan plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.198 Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (3.73) agreed with the statement Specification development plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.147 indicating the responses were varied. The result in table 4.6 revealed that majority of the respondent with a mean of (4.26) agreed with the statement Implementation schedules play a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.844 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (4.26) agreed with the statement that Work plan plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.844 Indicating the responses was varied.

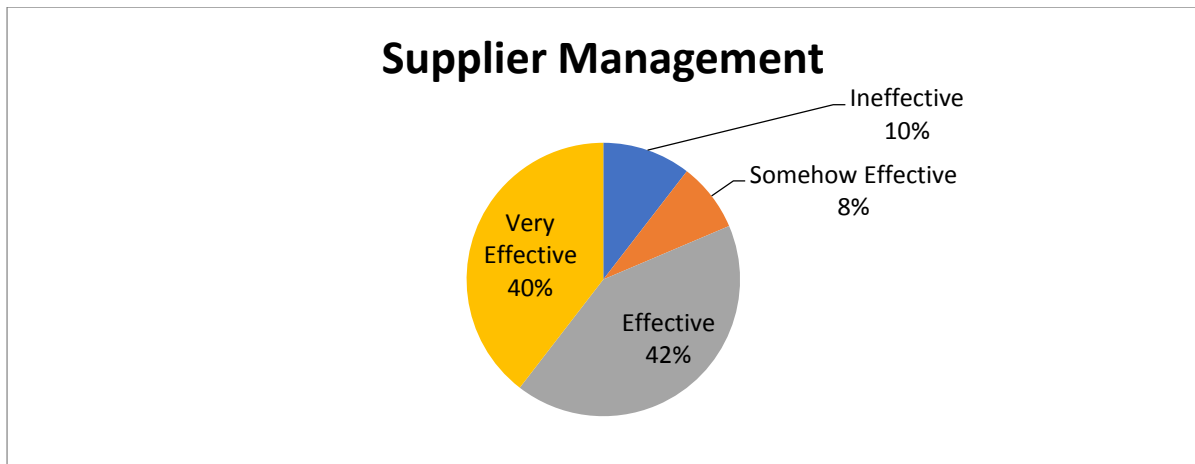
The result revealed that majority of the respondent with a mean of (3.59) agreed with the statement Specification development play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.368 indicating the responses were varied. The result in table 4.6. revealed that majority of the respondent with a mean of (4.03) agreed with the statement Implementation schedules play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.738 indicating the responses were varied. The result in table 4.8 revealed that majority of the respondent with a mean of (3.97) agreed with the statement Work plan plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.925 indicating the responses were varied.

**Table 4.8: Procurement Planning**

<b>Statements</b>	<b>Mean</b>	<b>Std. Deviation</b>
Specification development plays a significant role in cost reduction	3.84	0.434
Implementation schedules play a significant role in cost reduction	3.59	1.263
Work plan plays a significant role in cost reduction	4.38	1.198
Specification development plays a significant role in improving customer satisfaction	3.73	1.147
Implementation schedules play a significant role in improving customer satisfaction	4.26	0.844
Work plan plays a significant role in improving customer satisfaction	4.26	0.844
Specification development play a significant role in attaining timely delivery	3.59	0.368
Implementation schedules play a significant role in attaining timely delivery	4.03	0.738
Work plan plays a significant role in attaining timely delivery	3.97	0.925

### **4.5.3 Supplier Management**

There was also need to determine the influence of Supplier management on performance of county governments in Kenya. The respondents were asked to comment on extent of Supplier management on performance of county governments in Kenya. Results indicated that majority of the respondents 40% agreed that it was very effective, 42% said that it was effective, while ineffective was at 10% and somehow effective was at 8%.



**Figure 4.3: Supplier Management**

The respondents were also asked to comment on statements regarding the influence of Supplier management on the performance of county governments in Kenya. The result revealed that majority of the respondent with a mean of (3.9) agreed with the statement that Vendor appraisal plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.799, indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.21) agreed with the statement that the Supplier development play a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.998 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.31) agreed with the statement that Vendor collaboration plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.997, indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.06) agreed with the statement Vendor appraisal plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.155 indicating the responses were varied. The result in table 4.5.1 revealed that majority of the respondent with a mean of (3.73) agreed with the statement Supplier development play a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.266 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (3.874359) agreed with the statement that Vendor collaboration plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.217239 indicating the responses was varied.

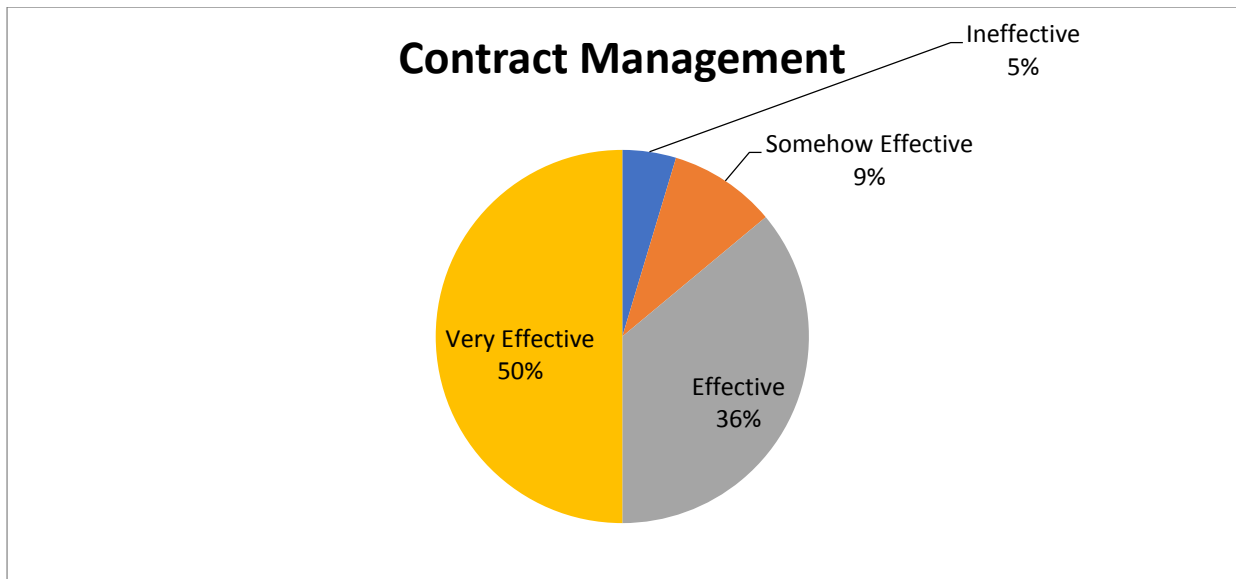
The result revealed that majority of the respondent with a mean of (3.55) agreed with the statement Vendor appraisal play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.383 indicating the responses were varied. The result in table 4.8 revealed that majority of the respondent with a mean of (3.51) agreed with the statement Supplier development play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.43. indicating the responses were varied. The result in table 4.9 revealed that majority of the respondent with a mean of (3.99) agreed with the statement Vendor collaboration plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.294 indicating the responses were varied.

**Table 4.9: Supplier Management**

<b>Statements</b>	<b>Mean</b>	<b>Std. Deviation</b>
Vendor appraisal plays a significant role in cost reduction	3.9	0.799
Supplier development play a significant role in cost reduction	4.21	0.998
Vendor collaboration plays a significant role in cost reduction	4.31	0.997
Vendor appraisal plays a significant role in improving customer satisfaction	4.06	1.155
Supplier development play a significant role in improving customer satisfaction	3.73	1.266
Vendor collaboration plays a significant role in improving customer satisfaction	3.87	1.21
Vendor appraisal play a significant role in attaining timely delivery	3.55	1.383
Supplier development play a significant role in attaining timely delivery	3.51	1.43
Vendor collaboration plays a significant role in attaining timely delivery	3.99	1.294

#### **4.5.4 Contract Management**

There was also need to evaluate the influence of Contract management on the performance of county governments in Kenya. The respondents were also asked to comment on statements regarding reverse logistics on performance of county governments in Kenya. Results showed that 50% of respondents indicated it was very effective, effective were at 36 %, somehow effective was 9%, while ineffective was at 5%.



**Figure 4.4: Contract Management**

There was also need to evaluate the staments on influence of Contract management on the performance of county governments in Kenya. The result revealed that majority of the respondent with a mean of (4.1) agreed with the statement that Monitoring the contract plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.1 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.2) agreed with the statement that the Dispute resolution plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.54 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.5) agreed with the statement that Evaluating the contract plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.5. Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.5) agreed with the statement Monitoring the contract plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.5 indicating the responses were varied. The result in table 4.9 revealed that majority of the respondent with a mean of (4.3) agreed with the statement Dispute resolution plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.9 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (4.5) agreed with the statement that Evaluating the contract play a significant role in

improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.7 indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.5) agreed with the statement Monitoring the contract plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.7. indicating the responses were varied. The result in table 4.6 revealed that majority of the respondent with a mean of 4.2) agreed with the statement Dispute resolution plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.0 indicating the responses were varied. The result in table 4.9 revealed that majority of the respondent with a mean of (4.2) agreed with the statement Evaluating the contract play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.0 indicating the responses.

**Table 4.10: Contract Management**

Statements	Mean	Std. Deviation
Monitoring the contract plays a significant role in cost reduction	4.1	1.1
Dispute resolution plays a significant role in cost reduction	3.2	1.5
Evaluating the contract plays a significant role in cost reduction	4.5	0.5
Monitoring the contract plays a significant role in improving customer satisfaction	4.5	0.5
Dispute resolution plays a significant role in improving customer satisfaction	4.3	0.9
Evaluating the contract play a significant role in improving customer satisfaction	4.5	0.7
Monitoring the contract plays a significant role in attaining timely delivery	4.5	0.7
Dispute resolution plays a significant role in attaining timely delivery	4.2	1.0
Evaluating the contract play a significant role in attaining timely delivery	4.2	1.0

#### 4.6 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 explanatory variables. The correlation technique is used to analyze the degree of relationship between two variables. The results of the correlation analysis are summarized in Table 4.11.

**Table 4.11: Summary of Pearson’s Correlations**

Correlations		Inventory Management	Procurement Planning	Supplier Management	Contract Management	Performance of County Governments
Inventory Management	Pearson Correlation	1	.377**	.604**	.492**	.662**
	Sig. (2-tailed)		0.001	0	0	0
	N	78	78	78	78	78
Procurement Planning	Pearson Correlation	.377**	1	.470**	.495**	.561**
	Sig. (2-tailed)	0.001		0	0	0
	N	78	78	78	78	78
Supplier Management	Pearson Correlation	.604**	.470**	1	.593**	.747**
	Sig. (2-tailed)	0	0		0	0
	N	78	78	78	78	78
Contract Management	Pearson Correlation	.492**	.495**	.593**	1	.702**
	Sig. (2-tailed)	0	0	0		0
	N	78	78	78	78	78
Performance of County Governments	Pearson Correlation	.662**	.561**	.747**	.702**	1
	Sig. (2-tailed)	0	0	0	0	
	N	78	78	78	78	78

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

The correlation analysis to determine the relationship between procurement practices on the performance of county governments in Kenya; a case of Embu County, Pearson correlation coefficient computed and tested at 5% significance level. The correlation summary shown in Table 4.11 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The results indicate that

there is a positive relationship ( $r = .662^{**}$ ) between Inventory Management on the performance of county governments in Kenya in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ( $p = 0.000, < 0.05$ ).

The results indicate that there is a positive relationship ( $r = .561^{**}$ ) between Procurement Planning and performance of county governments in 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 Supplier Management and performance of county governments in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ( $r = .747^{**}$ ). Contract Management and performance of county governments in Kenya. The results indicate that there is a positive relationship ( $r = .702^{**}$ ) Contract Management and performance of county governments in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ( $p = 0.000, < 0.05$ ).

#### **4.7 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 county governments in Kenya) which can be predicted from the independent variables (inventory management, procurement planning, supplier management and contract management). Table 4.12 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 0.849 indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.72 means that 72.1% of the corresponding variation in performance of county governments in Kenya can be explained or predicted by inventory management, procurement planning, supplier management and contract management.

**Table 4.12: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849a	0.72	0.705	0.45081

- a) Predictors: (constant), Inventory Management, Procurement Planning, Supplier Management and Contract Management  
b) Dependent Variable: Performance of County Governments

**Table 4.13: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.144	4	9.536	46.923	.000 <sup>b</sup>
	Residual	14.836	73	0.203		
	Total	52.979	77			

- a) Predictors: (constant), Inventory Management, Procurement Planning, Supplier Management and Contract Management  
b) Dependent Variable: Performance of County Governments

The significance value is 0.000 which is less than 0.05 thus the model is statistically significant in predicting how inventory management, procurement planning, supplier management and contract management influence Performance of County Governments. The study therefore establishes that; inventory management, procurement planning, supplier management and contract management were all important practices influencing Performance of County Governments.

**Table 4.14: Coefficients of Determination**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	0.421	0.316		1.331	0.187
Inventory Management	0.299	0.097	0.246	3.094	0.003
Procurement Planning	0.181	0.084	0.158	2.144	0.035
Supplier Management	0.313	0.078	0.349	3.985	0.00
Contract Management	0.293	0.082	0.295	3.594	0.001

- a) Predictors: (constant), Inventory Management, Procurement Planning, Supplier Management and Contract Management  
b) Dependent Variable: Performance of County Governments

The research used a multiple regression model

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

Y = Performance of County Governments

$\beta_0$  = Constant Coefficient

X<sub>1</sub> = Inventory Management

X<sub>2</sub> = Procurement Planning

X<sub>3</sub> = Supplier Management

X<sub>4</sub> = Contract Management

$\epsilon$  = Random Error Term level.

The regression equation will be;

$$Y = 0.421 + 0.299X_1 + 0.181X_2 + 0.313X_3 + 0.293X_4$$

The regression equation above has established that taking all factors into account (procurement practices) constant at zero, performance of county governments in Kenya will be an index of 0.421. The findings presented also shows that taking all other independent variables at constant, a unit increase in Inventory Management will lead to a 0.299 increase in Performance of County Governments. The P-value was 0.003 which is less 0.05 and thus the relationship was significant. The study also found that a unit increase in Procurement Planning will lead to a 0.181 increase in Performance of County Governments in Kenya. The P-value was 0.035 and thus the relationship was significant. In addition, the study found that a unit increase in Supplier Management will lead to a 0.313 increase in the Performance of County Governments in Kenya. The P-value was 0.00 and thus the relationship was significant. Lastly, the study found that a unit increase in Contract Management will lead to a 0.293 increase in the Performance of County Governments. The P-value was 0.001 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, supplier management contributed most to the Performance of County Governments.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The main aim of the study was to study was investigate the effect of procurement practices on performance of county governments in Kenya. It specifically sought to determine the effect of; inventory management, procurement planning, supplier management and contract management on performance of county governments. This chapter provides a detailed summary of the major findings of the actual study; it then draws conclusions and discusses implications emanating from these findings. Finally, it makes some recommendations and suggestions on areas of further study.

#### **5.2 Summary of Findings**

The study sought to examine the effect of procurement practices on performance of county governments in Kenya. The study targeted heads of procurement, chief officers and three (3) procurement officers from all the fourteen (14) ministries in the county. This specific study found out that majority of respondents highly agree that county governments had embraced inventory management with regard to their procurement activities, a majority of respondents were found to highly agree that county governments had embraced procurement planning with regard to their procurement activities, a majority of respondents were found to highly agree that county governments had embraced supplier management with regard to their procurement activities and lastly this study found out that majority of respondents highly agree that county governments had embraced contract management with regard to their procurement activities. The summary of the study findings presented herein followed the research objectives formulated in chapter one of the study.

##### **5.2.1 Inventory Management**

The study sought to assess the effect of inventory management on performance of county governments in Kenya as the first objective of the study. A majority of respondents were found to highly agree that county governments had embraced inventory management with regard to their procurement activities. Re-order points and market fluctuations were common among county governments. Correlation and regression results revealed that this was the most important variable that could perhaps be explained by the observation from the findings that

inventory management was an important factor influencing performance of county governments.

### **5.2.2 Procurement Planning**

The effect of procurement planning on performance of county governments in Kenya was the second objective of the study. A majority of respondents were found to highly agree that county governments had embraced procurement planning with regard to their procurement activities. Specification development was common among county governments. Correlation and regression results revealed that this was the third most important variable that could perhaps be explained by the observation from the findings that procurement planning was an important factor influencing performance of county governments.

### **5.2.3 Supplier Management**

The study endeared to assess effect of supplier management on performance of county governments in Kenya as the third objective of the study. A majority of respondents were found to highly agree that county governments had embraced supplier management with regard to their procurement activities. Supplier development was common among county governments. Correlation and regression results revealed that this was the fourth most important variable that could perhaps be explained by the observation from the findings that supplier development was an important factor influencing performance of county governments.

### **5.2.4 Contract Management**

The effect of contract management on performance of county governments in Kenya was the last objective of the study. A majority of respondents were found to highly agree that county governments had embraced contract management with regard to their procurement activities. Establishing dispute resolution was common among county governments. Correlation and regression results revealed that this was the second most important variable that could perhaps be explained by the observation from the findings that contract management was an important factor influencing performance of county governments.

### **5.2.5 Performance of County Governments**

The study endeared to determine effect of procurement practices on performance of county governments in Kenya. The regression results revealed that procurement practices identified in the study, that is, inventory management, procurement planning, supplier

management and contract management combined could explain approximately 72% of the variations in the performance of county governments. The other 28% may be attributed to other strategies not explained by the model or the variables. The strongest correlation was established between inventory management and performance of county governments. All the independent variables were found to have a statistically significant association with the dependent variable at ninety-five percent level of confidence.

### **5.3 Conclusion of the Study**

Based on the study findings, the study concludes that performance of county governments can be improved by inventory management, procurement planning, supplier management and contract management.

First, in regard to inventory management, the regression coefficients of the study show that it has a significant effect of 0.299 on performance of county governments. This implies that increasing levels of inventory management by a unit would increase the levels of performance of county governments by 0.299. This shows that inventory management has a positive effect on performance of county governments.

Second in regard to procurement planning, the regression coefficients of the study show that it has a significant effect of 0.181 on performance of county governments. This implies that increasing levels of procurement planning by a unit would increase the levels of performance of county governments by 0.181. This shows that procurement planning has a positive effect on performance of county governments.

With regard to the third objective, supplier management, the regression coefficients of the study show that it has a significant effect of 0.313 on performance of county governments. This implies that increasing levels of supplier management by a unit would increase the levels of performance of county governments by 0.313. This shows that supplier management has a positive effect on performance of county governments.

Lastly, concerning contract management as the last objective the regression coefficients of the study show that it has a significant effect of 0.059 on performance of county governments. This implies that increasing levels of contract management by a unit would

increase the levels of performance of county governments by 0.059. This shows that contract management have a positive effect on performance of county governments.

#### **5.4 Recommendations of the Study**

To ensure that county governments have better performance they should focus more on using their inventory management so as to establish re-order points, manage market fluctuations and ensure that there are value addition mechanisms.

With regard to the second objective, it would be salutary for county governments to invest more in procurement planning to reduce the cost of procurement through unnecessary proportions of defective goods and ensure suppliers get it right the first time. This should be done consistently with the training, improvement of their channels, processes and capacity as well as enabling them financially to acquire the up-to date equipment.

In relation to supplier management, the organizations should form strategic alliances with their suppliers so as to have a more improved working relationship characterized by a shared mindset and good financial and funds flow. If county governments embrace procurement planning among its suppliers, then there will be cost reduction and timing of delivery will improve.

Concerning contract management, there is need for county governments to always set aside a substantial part of their resources for activities that consume a huge amount of total costs, which is in dispute resolution. In the same regard, they should outsource consultants to enable them to come up with contract management strategies that articulate with their organization objectives.

The study recommends that procurement staff should ensure that they strictly follow procurement procedures to ensure that goods supplied are of the right quality, in the right quantity, at the right time, to the right place from the right source. This will aim at satisfaction of customers in terms of cost, quality, and timeliness of the delivered product or service, minimizing administrative operating costs, conducting business with integrity, fairness and openness. This can be attained by proper strategic planning.

### **5.5 Areas for Further Studies**

The study is a milestone for further research in the field of performance of county governments in Africa and particularly in Kenya. The findings demonstrated the important procurement practices to performance of county governments to include; inventory management, procurement planning, supplier management and contract management. The current study should therefore be expanded further in future in order to include other procurement practices that may as well have a positive significance to performance of county governments. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other institutions in Kenya and other countries in order to establish whether the explored practices herein can be generalized to effect performance in the institutions.

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## **APPENDICES**

### **Appendix I: Introduction Letter**

Dear Respondent,

I am a student at KCA University pursuing a graduate degree in Masters of Business Administration in Procurement and Supplies. I am conducting a research on the effect of procurement practices on performance of county governments in Kenya; A case study of Embu County. The results of this survey will be used for academic purposes only and shall be treated with utmost confidence and anonymity.

Your assistance in filling this questionnaire is highly appreciated.

Thank you.

Yours Faithfully,

**Newton Njaombe**

**Reg. No. 17/01267**

## Appendix II: Questionnaire

*This questionnaire has been set in relation to the objectives of the study. All the questions relate to effect of procurement practices on performance of county governments in Kenya; A case study of Embu County. Kindly read the questions carefully and answer them as honestly as possible by ticking (✓), rating, specifying or writing the correct answers precisely on the spaces provided.*

### SECTION 1: RESPONDENT'S INFORMATION

1. Department of the person filling the questionnaire .....

2. Gender (Please tick in the appropriate box)

Male  Female

3. What is your age? (Please tick in the appropriate box)

18-30  31-40  41-50  50 and above

4. What is your level of education? (Please tick in the appropriate box)

Diploma level  Degree level  Master level

5. Number of years served in your current office

0-2  3-5  6-8  9 and above

**SECTION 2: Inventory Management**

6. Explain how your department implements the established inventory management system

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

7. How would you rate the inventory management system implemented in your department?

- a) Very Effective
- b) Effective
- c) Somehow Effective
- d) Ineffective

8. Please indicate the extent to which you agree or disagree with the following statements (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).

		1	2	3	4	5
a)	Re-order point plays a significant role in cost reduction					
b)	Vendor delivery time plays a significant role in cost reduction					
c)	Market fluctuations plays a significant role in cost reduction					
d)	Re-order point plays a significant role in improving customer satisfaction					
e)	Vendor delivery time plays a significant role in improving customer satisfaction					
f)	Market fluctuations play a significant role in improving customer satisfaction					
g)	Re-order point plays a significant role in attaining timely delivery					
h)	Vendor delivery time plays a significant role in attaining timely delivery					
i)	Market fluctuations play a significant role in attaining timely delivery					

**SECTION 3: Procurement Planning**

9. Explain how your department implements the established procurement planning process?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

10. How would you rate the procurement planning process implemented in your department?

- a) Very Effective
- b) Effective
- c) Somehow Effective
- d) Ineffective

**11. Please indicate the extent to which you agree or disagree with the following statements (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).**

		1	2	3	4	5
a)	Specification development plays a significant role in cost reduction					
b)	Implementation schedules play a significant role in cost reduction					
c)	Work plan plays a significant role in cost reduction					
d)	Specification development plays a significant role in improving customer satisfaction					
e)	Implementation schedules play a significant role in improving customer satisfaction					
f)	Work plan plays a significant role in improving customer satisfaction					
g)	Specification development play a significant role in attaining timely delivery					
h)	Implementation schedules play a significant role in attaining timely delivery					
i)	Work plan plays a significant role in attaining timely delivery					

**SECTION 4: Supplier Management**

12. Explain how your department implements the established supplier management system?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

13. How would you rate the supplier management system implemented in your department?

- a) Very Effective
- b) Effective
- c) Somehow Effective
- d) Ineffective

14. **Please indicate the extent to which you agree or disagree with the following statements (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).**

		1	2	3	4	5
a)	Vendor appraisal plays a significant role in cost reduction					
b)	Supplier development play a significant role in cost reduction					
c)	Vendor collaboration plays a significant role in cost reduction					
d)	Vendor appraisal plays a significant role in improving customer satisfaction					
e)	Supplier development play a significant role in improving customer satisfaction					
f)	Vendor collaboration plays a significant role in improving customer satisfaction					
g)	Vendor appraisal play a significant role in attaining timely delivery					
h)	Supplier development play a significant role in attaining timely delivery					
i)	Vendor collaboration plays a significant role in attaining timely delivery					

**SECTION 5: Contract Management**

15. Explain how your department implements the established contract management process?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

16. How would you rate the contract management process implemented in your department?

- a) Very Effective
- b) Effective
- c) Somehow Effective
- d) Ineffective

17. **Please indicate the extent to which you agree or disagree with the following statements (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).**

		1	2	3	4	5
a)	Monitoring the contract plays a significant role in cost reduction					
b)	Dispute resolution plays a significant role in cost reduction					
c)	Evaluating the contract plays a significant role in cost reduction					
d)	Monitoring the contract plays a significant role in improving customer satisfaction					
e)	Dispute resolution plays a significant role in improving customer satisfaction					
f)	Evaluating the contract play a significant role in improving customer satisfaction					
g)	Monitoring the contract plays a significant role in attaining timely delivery					
h)	Dispute resolution plays a significant role in attaining timely delivery					
i)	Evaluating the contract play a significant role in attaining timely delivery					

## SECTION 6: Performance of County Governments

### 18. Cost Reduction

(Please indicate by ticking the margin of cost reduction attained over the last five years)

Category	2015	2016	2017	2018	2019
<b>Cost Reduction '000'</b>					
000-2000					
2000-3000					
3000-4000					
Over 4000					

### 19. Customer Satisfaction

(Please indicate by ticking the margin of customer satisfaction as indicated by both internal and external surveys done over the last five years)

Category	2015	2016	2017	2018	2019
<b>Customer Satisfaction (%)</b>					
0-20					
20-30					
30-40					
Over 40					

### 20. Timely Delivery

(Please indicate by ticking the margin of timely delivery over the last five years)

Category	2015	2016	2017	2018	2019
<b>Time (Weeks)</b>					
0-1					
1-2					
2-3					
Over 4					

**THANK YOU FOR YOUR TIME**