GREEN INITIATIVES AND PROCUREMENT PERFORMANCE OF COMMERCIAL STATE CORPORATIONS IN KENYA

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D61/77662/2015

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE AWARD OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

OCTOBER, 2016

DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university for examination.

Signed:…… Date……

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Reg.D61/77662/2015

This project has been presented for examination with our approval as the university supervisors.

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ACKNOWLEDGEMENT

God be the glory for this far, He has been Ebenezer.

I wish to acknowledge the contribution of my supervisor Mr.S.O Nyamwenge and Moderator Mrs. Nancy Marika who have patiently read my draft, making useful critique that have added value to this project. I would also like to acknowledge the support for my Mentor Dr. Magutu Obara and my wife Mrs. Lilian Omundi for her motivation. Also I would like to acknowledge my sons Fabian, Finbarr and Felton for always being there for me.

Finally, I wish to acknowledge the support of my family both financially and morally, without which I would not have realized my dream of successfully finishing my studies.

DEDICATION

This work is dedicated to my family and siblings for their encouragement and continuous support throughout out my studies.

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LIST OF ABBREVIATIONS

CFC	Chlorofluorocarbon
VOC	Volatile Organic Compound
PBT	Persistent Bio Accumulative
FAR	Federal Acquisition Regulation
ICPAK	Institute of Certified Public Accountants of Kenya
USA	United States of America
UNEP	United Nations Environmental Program
UNOPS	United Nations Officer for Project Operations
SAGAs	Semi-Autonomous Government Agencies
GDP	Gross Domestic Product
GOP	Government of the Philippines
UK	United Kingdom
ISO	International Organization of Standards
WHO	World Health Organization
KEMSA	Kenya Medical Supplies Agency
OHRP	Office of the Human Protection

ABSTRACT

The study focused on the green procurement initiatives and procurement performance of the Kenyan Commercial state corporations, the study objectives were: To determine green procurement initiatives commonly implemented by Kenyan commercial state corporations. To determine the effect of green procurement initiatives on procurement performance of Kenyan commercial state corporations. The target population of the study was107 state corporations spread across the ten sectors of the economy where 54 state corporations will be randomly selected from the 13 sectors of the economy for the study. The research adopted both qualitative and quantitative methods. The study involved collection of quantitative data that was analyzed using descriptive and inferential statistics. Primary data was collected using a structured questionnaire. The study findings revealed that 68.5% (37) of the respondents reported that their respective state corporations have green procurement policy initiatives, 31.5% (17) of them reported that they have do not have green procurement policy initiatives, the study revealed that that supplier Questionnaire, Supplier Compliance Auditing, product content requirement,Supplier Certification and Products Content labelling or disclosure have been adopted by their respective corporations as some of the green procurement initiatives to a large extent as shown by the mean score of 4.01, 3.96, 3.95, 3.87 and 3.79 respectively.Given that majority of the state corporations which were sampled for the study have in place green procurement policy initiatives, therefore the study concludes that procurement policy initiatives positively affect the procurement performance of the state Corporation in Kenya. Given that majority of the corporations that have adopted green procurement initiatives have enhanced the use of Product Content requirement, Product Content Restrictions, Products Content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing respectively, therefore the study concludes that green procurement initiatives positively affect the procurement performance of the state corporations in Kenya. The researcher also recommends that the management of state corporations should first educate their employees on the best green procurement practices to be applied in their different organizations. The study also recommends that the management of the state corporations should allocate adequate financial resources to ensure green procurement practices are implemented. An extensive background check of suppliers should be done so as to make efficient decisions on which supplier is reliable for effective business operations.

CHAPTER ONE: INTRODUCTION

1.1Background of the Study

Procurement has a huge potential and the value of contestable government procurement across the world was over $2,000 billion in 2008 which was approximated to 7% of the world GDP and 30% of the world merchandise. In the recent past Qin(2009) observed that the procurement in developed countries takes up to 5%-15% of GDP. China's procurement market is worth 20% of GDP (European Union Chamber of Commerce in China, 2010). According to OECD(2006) the aggregate average government procurement spending at all levels is between 12% and 20% of a country's GDP. This explains the magnitude and importance of procurement within the state corporations (Ssennoga, 2006).

Procurement generally accounts for a large share of government expenditure in a domestic economy. It is a key economic activity of governments, accounting for an estimated 15% of gross domestic product (GDP) worldwide on average (OECD, 2008). More recent estimates suggest that the scale of procurement is between 8 and 25 per cent of GDP for OECD countries and 16 per cent of European Union (EU) GDP Afonso *et al.*, 2005; (OECD, 2009).

Green procurement is the purchase of goods, services and works with a reduced environmental impact throughout their life cycle. Green procurement includes the purchase of sustainable technologies, products and services for energy, water, waste, and materials efficiency in council buildings, offices, facilities, works, and fleet. According to Arrowsmith(2011) the concept of green procurement considers the environmental impacts, materials and eco-efficiency of goods and services. Key criteria for environmentally friendly or alternative green products are Bio-based, Biodegradable, Compostable, renewable materials, recyclable, recycled content, reduced packaging, Carcinogen-free, Chlorofluorocarbon (CFC)-free, Lead-free, Less hazardous, Low volatile organic compound (VOC) content, Low toxicity, Mercury-free, Persistent bio accumulative (PBT) toxics free, durable, energy efficient, locally managed, reduced greenhouse gas emissions, refurbished, Resource efficient, upgradeable and Water efficient(Altman, 2010).

Green procurement thus generates environmental value as part of purchasing goods, services and works. This is mainly done through including environmental benefit requirements and clauses in contracts and tenders. Value-added green procurement sets environmental standards for

suppliers, their products and services, and assesses how suppliers manage their environmental impacts and emissions (Walker, 2008)

According to Federal Acquisition Regulation (2005), Green or environmentally preferable procurement aims to 'mitigate environmental impacts such as greenhouse gases, toxicity, waste generation and excessive resource use. It also contributes to carbon reduction calculations across the supply chain, using data from suppliers. Green purchasing is also part of triple bottom line outcomes in sustainable procurement. 'Green purchasing and environmentally preferable purchasing relate to the consideration of environmental impacts and costs in the procurement of goods and services, whereas sustainable procurement considers the social, environmental and economic implications of procurement.

Green procurement is concerned with the environmental impacts of purchasing while sustainable procurement also considers social and economic factors. This includes reducing environmental impacts or emissions and enhancing social outcomes by supporting local suppliers or community enterprises providing services, sustainable procurement considers the economic, social and environmental impacts of 'design; non-renewable material use; manufacture and production methods, logistics; service delivery; use; operation; maintenance; reuse; recycling options; disposal; and suppliers' capabilities to address these consequences throughout the supply chain(ICPAK, 2013).

1.1.1Green Procurement Initiatives

With the increase in awareness on the environmental protection globally, the green approaches towards conserving resources and preserving the environment has amounted pressure on companies worldwide. This pressure has prompted organizations to improve their environmental performance (Zhu & Sarkis, 2006). Moreover, public companies have shown increasing concern for the environment. Increasing environmental awareness has consistently become part of the overall institutional culture and this has helped to re-focus the strategies of public companies (Salma, 2008).

The types of environmental influence that are due to the coordinated activity of companies in a supply chain include the global warming reductions in air quality, pollution of waterways and widespread loss of biodiversity. Furthermore most of the activities arise from the manufacturing

sector which produce and emit unnecessary large wastes rather than investing in better technologies that prevent such generation (King & Lenox, 2002). Further, considering the influence of supply chain management on the natural environment is a green component to supply chain management which greatly contributes to enhancing green procurement initiatives (Salam, 2008).

Procurement is the situation where companies obtain the goods and services that it needs by making a contract with another entity. This is usually a firm from the private sector. According to Bolton(2008), the use of procurement to promote environmentally friendly practices is considered as the green procurement; environmentally preferable purchasing; eco-procurement; environment- friendly procurement; environmentally friendly procurement; environmental procurement; greener purchasing; sustainable procurement and environmentally responsible procurement process. According to Bolton(2008) despite the variety of terms they all generally refer to the selection of products and services whose environmental impact are not detrimental or the least harmful to the environment and human health when measured against competing products and services (Arrow smith, Linarelli & Wallace, 2000)

Green procurement or affirmative procurement is therefore regarded as the purchase of environmentally preferable products and services in accordance with one or more of the established green procurement preference initiatives. Nonetheless the concept of green procurement is the purchasing of products or services with lower effect on the environment over their whole life cycle than the standard equivalent thus the concept of green procurement elements, according to Lacroix, (2008) recycled content products; energy efficient products and energy efficient standby power devices, also alternative fuel vehicles, alternative fuels and fuel efficient vehicles, bio-based products, non-ozone depleting substances, alternative fuels, fuel efficient vehicles and environmental protection are among the priority chemicals. (Lacroix, 2008)

Organizations worldwide are making an effort to purchase products and services that are environmentally friendly both public and private sector organizations are implementing green procurement initiatives that focuses on environmental considerations. Also the commercial state

corporations are buying green products since it results in a number of advantages which are remarkable (Lacroix, 2008).

Commercial state corporations considers that green procurement initiatives reduce overall costs, provide significant opportunity to use materials, resources and energy more effectively, improve employee health and electricity markets for innovative new products and services. Consequently, green procurement initiatives measure a financial payback from purchasing products and services with lower environmental impacts and from selecting suppliers that are concerned with improving their own environmental health and safety performance attributes (CEC, 2003).

Green procurement is a significant function of government because of the greater magnitude of procurement outlays which has tremendous effects on the economy. Consequently due to many reasons, green procurement has been perceived as an area of waste and corruption. The concept of green procurement is important as it can be used to drive demand for innovative goods while at the same time improving the level of public services (Thai2001). Further Wittig (2003) postulates that green procurement undertakes a very critical role in poverty reduction efforts, bearing in mind that the government is able to provide goods and services to the public which is important to the firms that deal with the government in providing the services which are essential to the public.

1.1.3Procurement Performance

Procurement performance refers to the processes geared at coordination and enhancement of work activities and outcomes within an organization with regards to procurement. It is crucial for the success of any organization in streamlining its supply chain processes. Efficient and effective procurement performance is expected to improve an organization's competitive advantage through price/cost, quality, delivery dependability, time to market, and product innovation, customer lead times, inventory levels, and delivery time (Ngatia, 2013).

According to Kirkendall, (2010) a well-defined system of procurement performance measures can be a powerful means for prioritizing organizational goals and will aid in achieving the organizational goals. Indicators of efficient procurement performance include: improved supply chain performance, lead time performance, improved responsiveness, customer loyalty,

innovation, quality products, and reduction in excess inventory levels and improvements in product/process design, (Johnson *et al*. 2003). Evaluation of procurement performance of organizations should utilize both financial and non-financial measures, although most organizations have not made use of a balanced framework. Measurements of the procurement performance include: improved financial performance, lead time performance, improved responsiveness, customer loyalty, innovation, quality products, and reduction in excess inventory levels and improvements in product/process design, (Johnson *et al*. 2003). Evaluation of procurement performance of organizations should utilize both financial and non-financial measures, although most organizations have not made use of a balanced framework for financial and non-financial indicators.

1.1.4 Commercial State Corporations in Kenya

The State Corporation Act of Kenya, CAP 446 of 1986 defines a state corporation as a body established by the Government to carry out a specific function, therefore, state Corporations are regarded as government vehicles for operating state businesses. State Corporation is either permanent or temporarily established by the government. State corporations are also referred to as Executive agency or Semi- Autonomous Government Agencies (SAGAs) (**See Appendix 2**)

There are nine sectors or industries within which the state Corporations (SAGAs) fall under, these are Agriculture Rural and Urban Development, Social Protection, Culture and Recreation, Public Administration and International Relations, Health, Governance, Justice, Law and Order, General Economic and Commercial Affairs, Environmental Protection, Water and Natural Resources, Energy, Infrastructure and ICT and Education.

State corporations can be classified into four categories, these are Utilities, Regulatory, Commercial or Industrial and Development Finance. Utilities corporations are monopolies which have little or no competition from the private sector. Regulatory corporations are semi-monopolies and they play a specific role. Such roles may involve development of a sub-sector, regulation of production prices and marketing. Commercial or industrial corporations engage in competition with the private sector. Development finance corporations facilitate industrial development and the participation of nationals in the economy (Kiarie 2007)

The takeover of goods and services by the public sector which includes state corporations is known as public procurement (Uyarra and Flanagan, 2010). Value for money in public procurement is achieved through preventing waste and fostering competition, (OECD, 2007). Green procurement systems in Kenya have not been operating efficiently Mwangi (2008). further World Bank (2011) has identified areas of inefficiency in the green procurement as follows: inadequate procurement capacity, overuse of request for proposal method, and lack of procurement planning. The perennial problem that has affected procurement process in state corporations is the interference of the procurement process (Kagendo, 2012). Procurement in state corporations is governed by the Public Procurement and Disposal Act of 2005 and Regulations of 2007.

1.2 Problem Statement

Procurement estimates within the commercial state corporations in Kenya is estimated to have procured between US$ 4.29B and US$ 7.16B in 2010. Given the rising environmental concerns and awareness among various stakeholders in the supply chain procurement as well as interest groups such as consumer groups, public sector organizations may find it appropriate to adopt sustainable or green procurement initiatives. It is not clear, given the absence of legislation in Kenya on green procurement, to what extent commercial state corporations are practicing green procurement and if so, the drivers for adopting the same, the challenges they face in the process and the overall performance of the procurement (OECD, 2008).

Despite the fact that there are certain self-advanced strategies that are already being adopted by the different sectors of the economy, there are also external efforts that need to be taken so as to facilitate the green procurement practice, with this regard there are various governments like the Kenya Government through Vision 2030 aim to build a just and cohesive society with social equity in a clean and secure environment, these kinds of secure and conducive environment can be found through Green Procurement (Brammer, 2011).

Green procurement has been understood as the purchase of environmentally friendly products and services in accordance with one or more of the established national “green” procurement preference programs. These programs helps in the prevention of waste and pollutions, and they

require executive agencies to consider environmental impacts, together with price, performance and other traditional factors, when making purchasing decisions, green procurement programs that are preference by many organizations to realize this are; Products that are manufactured from recovered materials, environmentally preferable products, Energy efficient products, Bio based products, Alternative fuels and fuel efficient vehicles, and non ozone depleting substances are given the first priority Federal Acquisition (Regulation, 2005).

Little research had investigated sustainable procurement initiatives, of which green procurement is part of, in the context of the commercial state corporations (Walker and Brammer 2009). Some of the studies on green procurement practices in the commercial state corporations include Swanson *et al*.(2005) who focused on the development of tools to assist green procurement policy implementation, the study revealed that many local and international firms do not participate in procurement due to governments favoring other supplies or corruption deals that are prevalent.. Further study by Hall and Purchase, (2006) focused on how green procurement can be encouraged when the commercial state corporations buys from suppliers in construction industry and revealed that the goods and services may be either regular, off the shelf-products or innovative products which have been delivered as a result of development carried out by the supplier. Walker and Brammer(2009) investigated sustainable procurement in the UK public sector, the study revealed that analysis of quantitative and qualitative survey data revealed there was significant variation across public sector agencies in the nature of sustainable procurement practice

Further Mwirigi (2007) did a study on green supply chain management practices by manufacturing firms in Kenya but it did not focus on the commercial state corporations hence the deviation from the present study, the study revealed that the practice was very low hence the need to establish whether commercial state corporations fare any better. This study is also taking place at a time when environmental awareness is on the increase; if procurement function is handled carelessly it has a potential of causing harm to the environment.

Due to the significance of green procurement, the absence of studies on green procurement practices in the commercial state corporations in Kenya provide a gap in literature that the present study seeks to bridge. Moreover, lack of legislation or government policy on green

procurement provides the need to evaluate how the practice is carried out among commercial state corporations given the voluntary nature of the initiative. This study therefore seeks to provide a systematic and comprehensive insight into the state of green procurement initiatives among the commercial state corporations. The research posed the questions: What are the green procurement initiatives commonly implemented by the Kenyan commercial states? What are the effects of the green procurement initiatives on the procurement performance of the Kenyan commercial state corporations?

1.3 Objectives of the Study

The Objectives of this study were;

- **i.** To determine green procurement initiatives commonly implemented by Kenyan commercial state corporations;
- **ii.** To determine the effect of green procurement initiatives on procurement performance of Kenyan commercial state corporations

1.4 Value of the Study

The current study will contribute to the already practiced green procurement activities in Kenya. Organizations practicing green procurement have a lot to benefit as a result; apart from the many opportunities of growth that may come along due to the current study. Organizations stand a chance of job creation, maintenance of climatic conditions and also saving on costs incurred during production through green procurement theory and practice.

This study will also help commercial state corporations and other organizations that have not yet structured Green procurement initiatives to come up with programs that will favor the practice of green procurement. The green purchasing policy which includes date-stamped priorities and targets, the assignment of responsibilities and accountability and a communication and promotion plan. These will facilitate green procurement policies and programs among firms and later help firms reduce expenditure and waste; increase resource efficiency; and influence production, markets, prices, available services and organizational behavior for the benefit of both the organization and environment at large.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews various studies that have been conducted in green procurement initiatives and procurement performance. The issues discussed in this section include procurement initiatives and their effects on procurement performance. The section discusses in detail the various initiatives of procurement and the parameters for measuring procurement performance.

2.2 Theoretical Framework

The current study is based on the Theory of Planned Behavior, this theory has been used by researchers to study consumer decision making process and buying behavior regarding many issues such as energy conservation (Gupta &Ogden, 2009), environmental friendly transportation Lane and Porter,(2007), as well as recycling (Mannetti, Pierro, & Livi, 2004).

This theory has its roots in Ajzen and Fashion's Theory of Reasoned Action developed in 1980. The Key tenets to this theory holds that human behavior is quite rational and could relatively be predicted (Ajzen and Fishbein, 2002). The theory of planned behavior is based on the assumption that people usually behave in a sensible, rational way and consciously consider the consequences of alternative behavior as well, choosing the one that is most favorable(Ajzen, 2005). Based on this theory of planned Behavior, if the state corporations in Kenya are assumed to be individuals buying products in the market, then the theory of planned behavior can accurately show why they choose to practice green procurement instead of the traditional procurement practices. This theory is therefore applied here to explain the conscious decisions to procure green products and to engage in green procurement practices and how it enhances procurement performance.

2.3Green Procurement Initiatives

According to Salma(2008) sustainable purchasing incorporates both ecologically and socially responsible practices that minimize harmful impacts on natural and human resources, green purchasing policy includes guidelines with sustainable best practices for programs to make

informed green purchasing decisions. The selection of all products procured must carefully consider the anticipated energy use and available energy saving devices, consequently all products, appliances and equipment purchased should be Energy Star qualified wherever practical or possible. “Energy Star is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping to protect the environment through energy efficient products and practices.

University of Pennsylvania implemented a series of new initiatives to its Green Purchasing Initiative were announced hence this initiatives help reduce, reuse and recycle to meet Penn’s Climate Action Goals. Reusable delivery packages of office supply orders that weigh less than 20 pounds and are not self-contained are now being delivered in paper bags rather than the corrugated cardboard cartons, and transported in reusable delivery packages that protect the product and will be returned to suppliers for reuse (Mania, 2011).

Through this process, the university eliminates tons of wood, carbon dioxide emissions and thousands of pounds of solid waste per year, through Green Procurement Awareness Programs, customers purchasing decisions have been influenced. Some customers now select the items they wish to order if the items are environmentally friendly manufactured and they also highly preferred alternative products that nowadays commonly available with a green banner that will appear with suggestions for greener choices (Kataoka, 2005).

Other Sustainable Initiatives in Green Procurement practice that also applies to the commercial corporations include; Suppliers being asked to provide information on their company’s green initiatives and environmentally preferable purchasing practices that will then be incorporated into contracts when feasible. Purchasing decisions will consider recycled content, waste minimization and energy efficiency as integral components of the decision-making process. Basic qualities for consideration include; Cost-effectiveness, Recycled content, Energy efficiency, Durability,Solid waste and also Total life cycle impact manufacturing process, disposal(Eltayeb, 2010).

The measures of greenness can be summarized as seven basic green procurement activities. These are product content requirements that buyers specify that purchased products must have desirable green attributes such as recycled or reusable items, product content restrictions buyers

specify that purchased products must not contain environmentally undesirable attributes such as lead, CFCs, plastic foam in packaging materials, product content labeling or disclosure buyers require disclosure of the environmental or safety attributes the contents of the purchased product (Hamner, 2006)

Such disclosure can be done using green seals and indicators of relative environmental impact such as scientific certification system offered by various commercial organizations, supplier questionnaires where buyers send questionnaires to suppliers asking them to provide information about their environmental aspects, activities and management systems or supplier environmental management systems where the buyers require suppliers to develop and maintain an environmental management system. However, the buyer does not require the supplier to certify the system, supplier certification where the buyers require suppliers to have an environment management systems that is certified as fully compliant with one of the recognized international standards such as the British Standard 7750, ISO 14001 from the ISO, and the European Union Eco-Management and Audit Scheme, and supplier compliance auditing where the buyers audit suppliers to determine their level of compliance with environmental requirements.

According to Anbumozhi and Kanda(2005)ISO 14001 is an internationally recognized Environmental Management System standard developed by the International Organization of Standards (ISO). It is designed to be flexible enough to be implemented by any size of company within any sector and can be applied to a single site or division that operates at many sites. ISO 14001 does not contain performance requirements, but it's a tool that helps an organization set, achieve and continually improve on policies and objectives with regard to green procurement initiatives.

2.4 Procurement Performance Measurement

Procurement performance approaches includes; improved financial performance, lead time performance, improved responsiveness, customer loyalty, innovation, quality products, and reduction in excess inventory levels and improvements in product/process design, (Johnson *et al*, 2003). Evaluation of procurement performance of organizations should utilize both financial and non-financial measures, although most organizations have not made use of a balanced framework for financial and non-financial indicators (Kaplan and Norton, 1992). Mark(2006) identified order lead time as the most important procurement measure. He further defined order

lead time as the time that lapses between the receipt of an order and shipment of the product to the customer. He further identified other performance measures as functionality of order generation, planning, production scheduling, inventory management and quality.

In the recent past, there has been growing focus on the procurement performance of state corporations. State corporations are increasingly faced with the challenge to do things but with fewer resources with the overall aim of improving service delivery to the citizens. There is increasing need for State Corporations to devote more resources in the delivery of services and streamlining their procurement performance. In pursuing these objectives, state corporations are faced with enormous challenges. The most common challenges include inefficiencies in their procurement, huge losses, budgetary burdens and provision of poor services to the citizenry. There is therefore need for state corporations to find new and innovative ways to reduce costs and streamline their procurement performance, (Kagendo, 2012).

2.5Green Initiatives and Procurement Performance

Green procurement initiatives can yield positive economic benefits for organization's procurement in terms of Risk Management, Cost Reduction and Revenue Growth. The advantages of green procurement initiatives, policies and programs among organizations like the commercial corporations help reduce expenditure and waste; increase resource efficiency; and influence production, markets, prices, available services and organizational behavior, it's important to note that it assist countries in meeting multilateral requirements such as the Kyoto Protocol and Rotterdam Convention, International Standards Organization and other bodies that have established guidelines for green procurement programs (Manitoba, 2010)

The Commitment to purchase green encourages organizations to continuously improve the environmental sustainability of their purchasing decisions. Given its business and environmental benefits, Green Procurement has many benefits that it comes along with. For governments, Green Procurement can help to: Reduce any negative and unintended impacts on the environment like pollution and deterioration of local air quality; Support companies that provide products and services that have fewer environmental impacts and stimulate "green," innovative product development and business development; Save the amount of money spent on cleaning up pollution, by preventing it in the first place; also this Sends a message to manufacturers and service providers that consumers will recognize their environmental efforts; Create a scale effect,

thus reducing production costs by the sheer scale of demand for green products; and Fulfill OECD agreements to take greater account of environmental considerations in public procurement of products and services OECD member countries are to demonstrate their progress (Manitoba, 2010).

For private organizations, green Procurement assists the organization in making the sustainable purchasing decisions; establish, implement and evaluate a formalized green procurement strategy; selecting suppliers and environmental concerns for some key purchasing areas. Effects of the green procurement initiatives on the performance of procurement are not limited to influencing the Market Organizations through encouraging the production of more sustainable and environmentally friendly products and services by increasing the demand for it, particularly larger firms such as Government corporations; further green procurement initiatives serves with the financial benefits, since fewer resources are required to produce and use green products, saving money on energy, water, fuel etc. Savings can also be made on disposal through recycling or using products that create less waste which are to the benefits for organizational by setting a standard for themselves, organizations are also more appealing to their own market and are able to streamline the procurement processes (Manitoba, 2010).

Commercial corporations also avoid costs by eliminating or lowering fees for waste management or hazardous material management like special training, handling and storage, reducing time and costs for reporting and receiving fewer fines; they Save money by conserving energy, water, fuel and other resources and also streamline the procurement process, green procurement also helps with the compliance to the environmental regulations; also reduced the risks of accidents; reduce liability and lower health and safety costs; improve image, brand and goodwill and improve health of employees and communities, through cleaner air and water, less hazardous wastes to handle and dispose and also increase shareholder value in some commercial entities (Scot, 2004).

Green procurement practices are applicable to both the public and the private business sector and certainly the commercial corporations where its proponents aspire to seeing its application across all areas of the economy. Influencing green procurement initiatives within commercial corporations is not as straightforward as for governments because corporations themselves will have to be self-motivated to embrace sustainability. Green procurement initiatives involve spending and the investment process typically associated with public policy (Scot, 2004).

The potential benefit of the green procurement for the procurement performance is impressive, even though this potential has to be actively exploited. Experience shows that even a legal obligation to consider environmental aspects in purchasing does not guarantee success of the procurement performance of the organization, with this regard every purchasing entity should set up an authority which should set up its own individual green procurement policy. Good information sources, training, networking and strategic joint green procurement practices are also necessary for the success in the procurement performance (Erdmenger, 2003)

Consequently the effect of green procurement initiatives can be in many forms. Environmental relief potential of urban action on avoidance and detoxification of waste streams through green procurement practices in the European Union. The measures needed to achieve these results are as follows: Buses- All new purchases comply with EURO IV emissions standards instead of EURO III; Sanitary devices Replacement of standard 9l-flush toilets, with 6/3l-flushes, and the installation of water-saving taps; computers– All new purchases fulfill better than Energy Star requirements with TFT monitors; Food– 100% of meat, wheat and milk produced organically; Electricity–100% switch to renewable electricity. European person equivalents describe the emission of an average European person. Global person equivalents describe the emission of an average person living anywhere in the world (Erdmenger, 2003)

Consequently Erdmenger, (2003) further states that sustainable or green procurement aims to integrate environmental considerations into all stages of the procurement processes with the goal of reducing the impact on human health and the environment thus improving the process of procurement. Green procurement is also helpful to the local and central government organizations including commercial corporations to adapt their behavior patterns and effectuate green procurement initiatives by assessing current practices and identify the most relevant product groups for environmental relief, developing methods to analyze and quantify the relief potential, market conditions, calculating the relief of different scenarios for an integrated green procurement strategy, fostering the implementation of recommendations for green procurement policy and guidelines for green procurement initiatives and forming a strategy for International Cities for Green Procurement Campaign, across the board.

2.6Empirical Review

Walker & Brammer, (2009) did a study on the sustainable procurement in the United Kingdom public sector, the analysis of quantitative and qualitative survey data revealed there was significant variation across public sector agencies in the nature of sustainable procurement practice.Otanez and Glantz, (2011) also did a study on social responsibility in tobacco production in Tanzania and Malawi and concluded that the tobacco industry uses green supply chains to make tobacco farming in developing countries which appeared sustainable while continuing to purchase leaf produced with child labor and high rates of deforestation.

Their study also revealed that strategies to counter green supply chain schemes include securing implementing protocols for the WHO Framework Convention on Tobacco Control to regulate the companies' practices at the farm level. Their study also revealed that local authorities had particularly strong emphasis on buying from local and small suppliers relative to other sectors, health looked generally lower in many categories and education appeared to have something of an emphasis on environmental aspects of sustainable procurement. Cost was found to be the leading barrier to sustainable green procurement, and top management support the leading facilitator.

ElTayeb *et al*.(2010) examined the effect of four drivers, namely regulations, customer pressures, social responsibility and expected business benefits on green purchasing in the Malaysian manufacturing sector, the empirical findings of the study revealed that green procurement is affected by the drivers namely regulations, customer pressure, expected business benefits, and firm ownership. The results also suggested that, although Malaysian firms showed a high level of social responsibility. The results of the study provide insights into why Malaysian firms adopt green procurement activities.

According to Rao & Holt (2005) green initiatives can help to enhance environmental performance. Rao, (2002) argued that many large Taiwanese companies had adopted green procurement systems to enhance environmental performance and reduce production costs. Further Rha, (2010) did a study on the impact of green supply chain initiatives on supply chain performance and revealed a significant positive relationship between green supply chain management initiatives and three supply chain performance parameters namely resource, output, and flexibility. These studies all point to the fact that green procurement, just like other socially

responsible initiatives, have an impact on procurement performance and that green procurement performance can be measured.

Further Bergstrom *et al*., (2005) identified initiatives in using environmental information when making decisions on what food to procure and purchase. Using a phenomenon graphic approach, professional purchasing managers at food production companies and wholesalers in public and commercial food services as well as retailing was interviewed with the aim of identifying initiatives when using environmental information in decisions on what food to procure for purchasing.

The findings showed that purchasers were dependent on corporate policy when it came to environmental considerations related to food. Purchasers were mainly guided by business parameters with respect to price, quality and service. These factors were given priority over co-operation along the food supply chain. Such initiatives had been shown to have the potential to encourage environmentally friendly purchasing decisions. The study places the issue of the use of and the need for environmental information in the food supply chain on the national agenda in Sweden. Thus, the study contributes to increasing the awareness of the importance of professional food purchasers as actors for change towards more environmentally friendly food consumption.

Further Preuss(2009) did a study on the ways in which local government authorities in England use their procurement function to foster sustainable development. The study used an exploratory approach. Based on a review of the existing literature, qualitative research into leading local government authorities was undertaken to draw out the multiple ways in which public procurement can support sustainable development. The study findings revealed that at an aggregate level, local government procurers had adopted a wide range of initiatives to address all three aspects of sustainability, thus encouraging first-tier suppliers to make use of small local businesses as their subcontractors on the economic side, contracting with voluntary organization on the social side or replacing hazardous materials in products and services on the environmental side.

A number of studies have been done in Kenya on procurement in general but very little on green procurement.Mwirigi(2007) did a study on the green supply chain management practices by

manufacturing firms in Kenya. Obiero(2008) did a study on the challenges in the implementation of the 2005 procurement Act on the Kenyan Ministry of Higher Education, Science and Technology. Owuori, (2010) reviewed the bid processing time for procurement in donor funded public projects in Kenya. Mogoi(2010) studied the effects of operational management on the procurement of pharmaceutical products in developing countries with a specific focus on Kenya Medical Supplies Agency (KEMSA).

A study by Wittig(2003) also revealed that many local and international firms do not participate in procurement due to governments favoring other supplies or corruption deals that are prevalent. According to Arrowsmith(2005), procurement occurs when a public agency purchases goods and services from an outside body. Edquist *et ah*(2000) revealed that the goods and services may be either regular, off the shelf-products or innovative products which have been delivered as a result of development carried out by the supplier.

Furthermore Ohashi, (2009) did a study on the effect of improved transparency in the bidder qualification process, using the experience gained from a case study of municipal public works auctions. A difference-in-differences analysis revealed that improved transparency reduces procurement cost by up to 8%. This finding is robust with regard to the concerns of both endogeneity and sample selectivity. The bidding-function estimates, integrated with features of Japanese procurement system, imply that the introduction of transparent practices is insufficient to bring about efficiency in procurement in the state corporations. The Philippines Country Procurement Assessment Report also further revealed that the volume of state corporation expenditure passing through the procurement system had increased rapidly averaging around Phpl21 billion or US$2.6 billion] per year from 2003 to 2005 as revealed by the (World Bank, 2008).

A study by Pavel(2006) revealed that the transparency of the Czech procurement market was not sufficient, further the study noted that contracting without bidding for small contracts was prevalent and that open bidding concerned less than one third of the total market. The study also revealed that contracting without bidding had a negative influence on the possibility of using competition processes to limit state corporation expenditure.

From the above review, it's thus clear that there is an empirical gap that needs to be addressed as far as the initiatives of green procurement in Kenya commercial states in Kenya is concerned. Not many studies have addressed green procurement as an initiative in procurement performance. Where such attempts have been made, it is on overall environmental sustainability or on green supply chain management. In addition, such studies have not focused on developing countries. It will be of need to focus on a developing country such as Kenya. Such a perspective would enrich the theory on green procurement practices. This is the gap the present study seeks to address.

2.7 Conceptual Framework Model

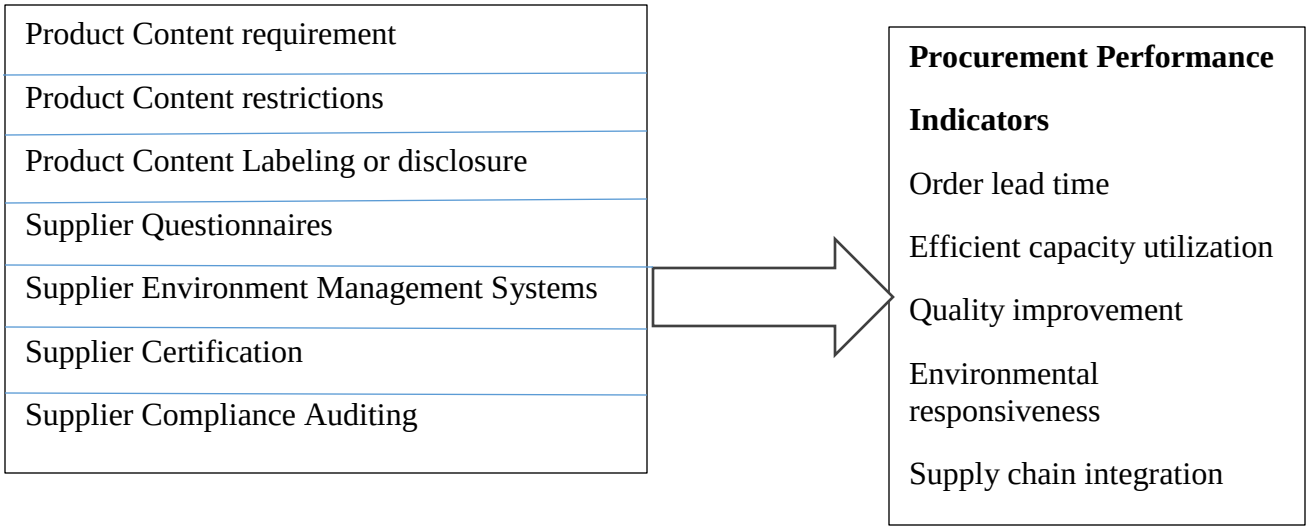
The conceptual framework shows the relationship between independent and dependent variables in the study. In this study procurement performance is the dependent variable since its success depends on the procurement initiatives adopted. Measures of procurement performance includes procurement initiatives; product content requirement, product content restrictions, product content labelling or disclosure, supplier Questionnaires, supplier environment management systems, supplier Certification and supplier compliance Auditing as shown below:

Figure 2. 1Conceptual Framework

INDEPENDENT VARIABLE

DEPENDENT VARIABLE

Green Procurement Initiatives



Source: Author (2016)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology that was used to conduct the study. It discusses research design, target population, data collection and analysis methods.

3.2 Research Design

The research design used in this study was descriptive research design. This method is preferred because it involves measuring a set of variables as they exist naturally (Gravetter and Forzano, 2011). Additionally it is a conclusive research that aims to describe phenomena associated with a subject population that have certain characteristics. The design provided in depth information about the characteristics of subjects within particular fields and thus it help to identity relationships between variables. Thus the study adopted descriptive research design to determine the green initiatives and procurement performance of Commercial state corporations.

3.3 The Population of the Study

The study examined state corporations in Kenya. There are total of 107 state corporations spread across the thirteen sectors of the economy according to the sector reports from the (National Treasury Website, 2016) (**See Appendix 3**)

3.4 Sample Design

A total of 54 state corporations were selected for the study. This included the state Corporations from the 13 sectors of the Economy based in Nairobi. 54 state corporations were randomly selected from the sectors of the economy, this sample as considered appropriate since it is more than 10% of the entire population and hence significant for the study as according to (Idrus and Newman, 2002) a sample of 10% and above is good enough for the study. From each of the 54 state Corporations Procurement managers were purposively selected since they are best placed and considered to have critical information with regard to the green procurement, where in absence of the procurement manager, an assistant manager was interviewed giving a sample size of 54

3.4 Data Collection

The study used both primary and secondary data. Secondary data was obtained from journals, books, websites of the respective entities, and other academic publications. Primary data was

collected using a structured questionnaire. The questionnaire contained open and closed ended questions. Closed ended questions was used to enable the collection of quantitative data for analysis using a Likert-scale, while the open ended questions were used to enable the researcher to collect qualitative data on the respondent's view of on the green procurement initiatives and procurement performance of state corporations.

The Questionnaire was organized into three sections: Section A: General information about the respondents, Section B: Procurement initiatives to fulfill the requirements of objective 1 and Section C, effects of the procurement initiatives on the procurement performance which addresses the requirements of Objective 2. The questionnaire was administered using a combination of both drop & pick. The dropped questionnaires were picked later to give the respondents ample time to fill the required information. Respondents were individuals reasonably assumed to be subject matter specialists thus Procurement managers, Operation Manager and Supply Chain Managers of the selected state corporations, were part of the respondents. The preference for a questionnaire is based on the fact that respondents are able to complete it without help, anonymously, and it is cheaper and quicker than other methods

3.5 Data Analysis

Data was analyzed by use of descriptive statistics using the Statistical Package for the Social Sciences (SPSS) and Excel. Before processing the responses, the completed questionnaires were sorted, checked and edited for completeness and consistency. Quantitative data collected were analyzed by use of descriptive statistics to generate percentages, means, standard deviations and frequencies. This was done by tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives and assumptions. Tables were used to present the data collected for ease of understanding and analysis. These methods were used for ease of comparison of the data. These methods are reliable in drawing useful conclusions. Therefore, these techniques were useful in obtaining necessary and sufficient information for the analysis and conclusion to be made. A multiple regression analysis was also done to show the relationship between the green initiatives and the procurement performance, this was guided by the following Regression equation:

$$\mathbf{Y=\alpha+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\beta5X5+\beta6X6+\beta7X7+\varepsilon.}$$

Where;

Y = Procurement performance

β0 = Constant Term

β1= Beta coefficients

X1= Product Content requirement

X2= Product Content Restrictions

X3= Products Content labelling or disclosure

X4= Supplier Questionnaire

X5=Supplier Environment Management Systems

X6=Supplier Certification

X7=Supplier Compliance Auditing

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter outlines the data analysis, findings and interpretations of the results. Data was collected from state corporations in Kenya and was analyzed to meet the objectives of this study. Data collected from the state corporations was analyzed to establish green initiatives and procurement performance of commercial state corporations in Kenya and also ascertain if there is a relationship between the green initiatives used and the procurement performance of state corporations in Kenya.

4.2 General Information

The study targeted 54 state corporations spread across the 13 sectors of the economy. All the state corporations that formed the sample were spread across all the sectors. All the responses from the sampled 54 entities were obtained and analyzed and the results obtained presented in graphs and tables. Mean and standard deviation was also used to analyze the common green procurement initiatives while a regression equation was done to analyses the relationship between green initiatives and procurement performance.

General information is important since it helps to know who is filling in the survey. Further it helps in determining whether the actual target audience is reached and whether or not the researcher is gathering the information that is effectively being sought. Furthermore, to ensure representative sample of a population, demographic information helps in understanding the distribution of the demographic characteristics of the respondents that helps in determining how close the sample replicates the population.

The study also sought to establish the gender of the respondents, the findings reveals that 66.7% (36) of the respondents were male, while 33.3% (18) of them were female, these findings therefore reveals that majority of the procurement managers of the sampled state corporations were male. The study also sought to establish the marital status of the respondents, the findings regarding marital status, the findings revealed that majority 75.9% (41) of the respondents were married, 14.8% (8) were single while 9.3% (5) of them were divorced, these findings implies that majority of the respondents from the sampled parastatals were married.

On the highest level of academic qualification of the respondents, the study revealed that most 40.7% (22) of the respondents had post graduate qualification, 27.8% (15) had University degrees, 14.8% (8) hold Masters Qualification, 11.1% (6) were in possession of Diploma, while 5.6% (3) were holders of Doctors of Philosophy, these findings therefore implies that most of the procurement managers for the sampled state corporations were holders of post graduate degree.

On the age of the respondents the findings revealed that 42.6% (23) of the respondents were aged 36-40years, 25.9% (14) aged 31-35years, 14.8% (8) aged 25-30years, and 13.0% (7) were aged above 40years while 3.7% (2) were aged between 18-24years.These findings therefore implies that most of the respondents were aged between 36-40years.

4.3 Green Procurement Initiative

Objective one of the study sought to determine the green procurement initiatives, the relevant information was presented in the following section. The study sought to ascertain from the respondents on whether their specific corporations have green procurement initiatives, the study findings revealed that majority 68.5% (37) of the respondents reported that their respective state corporations have green procurement policy initiatives, 31.5% (17) of them reported that they have do not have green procurement policy initiatives, these findings therefore reveals that majority of the state corporations which were sampled for the study have in place green procurement policy initiatives. These findings are similar to (Salma, 2008) who opined that sustainable purchasing incorporates both ecologically and socially responsible policy initiatives that minimize harmful impacts on natural and human resources.

Further the study sought to establish kinds of green procurement initiatives which have been adopted by their respective corporations, the data was collected and the findings shown in the table Overleaf:

Table 4. 1Kinds of green procurement Initiatives

Green Procurement Initiatives	Mean	STDev
Product Content requirement	3.95	0.189
Product Content Restrictions	2.98	0.654
Products Content labelling or disclosure	3.79	0.254
Supplier Questionnaire	4.01	1.975
Supplier Environment Management Systems	2.99	0.254
Supplier Certification	3.87	1.753
Supplier Compliance Auditing	3.96	0.265

Source: (Fieldwork, 2016)

The table above reveals that majority of the respondents reported that supplier Questionnaire, Supplier Compliance Auditing, product content requirement,Supplier Certification and Products Content labelling or disclosure have been adopted by their respective corporations as some of the green procurement initiatives to a large extent as shown by the mean score of 4.01, 3.96, 3.95, 3.87 and 3.79 respectively.

Consequently, other respondents reported that their respective corporations have adopted Supplier Environment Management Systems and Product Content Restrictions green procurement initiatives to a moderate extent as shown by a mean score of 2.99and 2.98 respectively.

These findings therefore implies that majority of the corporations that have adopted green procurement initiatives have enhanced the use of Product Content requirement, Product Content Restrictions, Products Content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing respectively. These findings are similar to Hamner, (2006) who postulates that purchased products must not contain environmentally undesirable attributes such as lead, CFCs, plastic foam in packaging materials, product content labeling or disclosure buyers require disclosure of the environmental or safety attributes the contents of the purchased product.

4.4 Green Procurement Approaches

The study sought to ascertain the green procurement approaches which the corporations have engaged in, the data collected are shown in the table 4.2:

Table 4. 2Green Procurement Approaches

Green Procurement Approaches	Mean	STDev
Energy Saving Production	3.78	0.125
Waste Prevention	2.79	1.894
Production Process	3.98	0.266
Packaging Practices	2.92	1.459
Recycling Content Production	3.53	0.803
Environmental Healthy Production	3.93	0.986
Economic Efficient Production	4.02	1.974
Socially Friendly Production	3.92	1.096

Source: (Fieldwork, 2016)

The table above reveals that majority of the respondents reported that Economic Efficient Production, Production Process,Environmental Healthy Production,Socially Friendly Production,Energy Saving Production and Recycling Content Productionhave been adopted by their respective corporations as some of the green procurement approaches to a large extent as shown by the mean score of 4.02, 3.98, 3.93, 3.78 and3.53 respectively.

Consequently, other respondents reported that their respective corporations have adopted Packaging Practicesand Waste Prevention green procurement approaches to a moderate extent as shown by a mean score of 2.92and 2.79 respectively.

These findings therefore implies that majority of the corporations that have adopted green procurement initiatives have adopted green initiative approaches as energy saving production,

waste prevention, production process, packaging practices, recycling content production, environmental healthy production, economic efficient production and socially friendly productionrespectively. These findings corresponds to Eltayeb, (2010) who opined that purchasing decisions will consider recycled content, waste minimization and energy efficiency as integral components of the decision-making process.

4.5 Drivers of Green Procurement Initiatives

The study sought to determine the drivers that influence the implementation of the green procurement initiatives, the findings are presented in the following table:

Table 4. 3Drivers of Green Procurement Initiatives

Drivers to Green procurement Initiatives	Mean	STDev
Government Laws	4.01	0.875
Customer Demand & Influence	3.99	1.976
Company Initiatives	3.79	0.563
Global Purchase	3.84	0.235
Production Standards	2.57	1.527
Employee Initiatives	3.25	0.318
Suppliers Influence	3.63	0.376

Source: (Fieldwork, 2016)

The table above reveals that majority of the respondents agreed that government laws, customer demand & influence, global purchase, company Initiatives and suppliers influence are among the drivers that influence the implementation of green procurement initiatives as shown by the mean score of 4.01, 3.99, 3.84, 3.79 and 3.63 respectively.

Furthermore a few of the respondents moderately agreed that production standards and employee initiatives are drivers that influence the implementation of green procurement initiatives as shown by a mean score of 3.57 and 3.25 respectively.

These findings therefore implies that government laws, customer demand & influence, company initiatives, global purchase, production standards, employee initiatives and suppliers influence are drivers that have influenced the implementation of the green procurement initiatives. These findings are in correspondence to the study by (ElTayeb *et al*.2010) who examined the effect of

four drivers, namely regulations, customer pressures, social responsibility and expected business benefits on green purchasing in the Malaysian manufacturing sector.

4.6 Obstacles of Green procurement Implementation

The study further sought to find out the obstacles that hinder the successful implementation of the green procurement initiatives, therefore the data collected was presented in the table 4.4 below:

Table 4. 4Obstacles of Green procurement Implementation

Obstacles to the Implementation of Green Initiatives	Mean	STDev
Price	3.68	0.295
Lack of corporate commitment	3.97	1.903
Insufficient knowledge	3.74	1.993
Availability	3.83	1.026
No acceptable alternative	3.88	0.116
No specifications "green products"	3.45	0.687

Source: (Fieldwork, 2016)

On the obstacles to the implementation of the green procurement initiatives, the table above reveals that majority of the respondents agreed to a large extent that lack of corporate commitment, non-acceptable alternatives, availability, insufficient knowledge and price are obstacles that hinders the implementation of the green procurement initiatives as shown by the mean score of 3.97, 3.88, 3.83, 3.74 and 3.68 respectively. Consequently a few of them agreed to a moderate extent that no specifications green products hinders the implementation of the green procurement initiatives as shown by a mean score of 3.45.

These findings therefore implies that most of the corporations that have adopted the green procurement initiatives have been hindered by price, lack of corporate commitment, insufficient knowledge, availability, no acceptable alternative, and no specifications "green products in the successful implementation of the green procurement initiatives. These findings corresponds to the findings of the study conducted by Otanez&Glantz, (2011) which revealed that cost was found to be the leading barrier to sustainable green procurement, and top management support the leading facilitator

4.7 Procurement Performance

The study sought to establish the green initiatives on procurement performance, the data collected on the procurement performance are shown in the following section:

4.5.1 Duration of time take taken to procure

In order to establish the procurement performance, the study sought to find out the duration of time taken to procure, the findings are shown in the table 4.5 below:

Table 4. 5Duration of time take taken to procure

	Less than 30 days		30 to 60 Days		Over 60 Days	
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
(i)Goods	22	40.7	13	24.1	19	35.2
(ii)Work	12	22.2	24	44.4	18	33.3
(ii)Services	36	66.7	15	27.8	3	5.6

Source: (Fieldwork, 2016)

From the table above, 40.7% (22) reported that their respective corporations procure goods in less than 30days, 24.1% (13) procured goods in a period between 30 to 60days, while 35.2% (19) procured in a period over 60days.

Consequently 22.2% (12) of the respondents reported that their respective corporations' procured work in a period less than 30 days, 44.4% (24) reported to procure work in a period between 30 to 60days while 33.3% (18) reported that their respective corporations procured work in a period of over 60 days.

Further 66.7% (36) reported that they procured services in a period less than 30days, 27.8% (15) reported procuring services in a period between 30 to 60days while 5.6% (3) reported procuring services in a period of over 60 days.

These findings therefore implies that majority of the corporations procure goods in a period less than 30days, procure work in a period of between 30 to 60days while most of the corporations procure services in a period less than 30days.These findings corresponds to those of (scot, 2004) who contends that green procurement assists the organization in making the sustainable purchasing decisions; establish, implement and evaluate a formalized green procurement strategy;selecting suppliers and minimizing the lead time in procurement.

4.5.2 Aspects of procurement performance

The study sought to ascertain the extent to which procurement methods have contributed in enhancing procurement performance, the data collected is shown in the table 4.6 below:

Table 4. 6Aspects of procurement performance

Aspects of Procurement performance	Mean	STDev
Improved service delivery to users	3.87	0.213
Reduction in complaints from users	3.96	1.956
Improved quality for goods, works and services	3.74	1.412
Matching the demand and supply for goods	4.03	0.872
Reduction in average inventory held	3.66	0.641

Source: (Fieldwork, 2016)

The table above revealed that majority of the respondents reported to a large extent that procurement methods have contributed to matching the demand and supply for goods, reduction in complaints from users, improved service delivery to users, improved quality for goods, works and services and reduction in average inventory held as shown by a mean score of 4.03, 3.96, 3.87,3.74 and 3.66 respectively. These findings therefore reveals that procurement methods have contributed to improved service delivery to users, reduction in complaints from users, improved quality for goods, works and services, matching the demand and supply for goods and reduction in average inventory held.

4.6 Relationship between Green initiatives and procurement Performance

In determining green initiatives and procurement performance of commercial state corporations in Kenya, a, the study conducted a multiple linear regression analysis to determine the nature of relationship between the variables. The regression model specification was as follows;

$Y= \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta 7X7\varepsilon.$

Where; Y= Procurement performance

X_1 = Product content requirement,X_2 = product content restrictions; X_3= Products Content labelling or disclosure; X_4 =Supplier Questionnaire; X_5 =Supplier Environment Management SystemsX_6 =Supplier Certification X_7=Supplier Compliance Auditing

α=constant,

ε= error term,

β=coefficient of the independent variables.

This section presents a discussion of the results of the multiple regression analysis. The study conducted a multiple regression analysis to determine the relative importance of each of the variables with respect to procurement performance of the 54state corporations in Kenya. The study applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study. The findings are as presented in the following tables;

Table 4. 7Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	. 899[a]	.8082	.786	0.0125	

Source :(Research Findings)

a.Predictors: (Constant), Product Content requirement, Product Content Restrictions, Products Content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing

b. Dependent Variable: Procurement performance

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the changes in the independent variables or the percentage of variation in the dependent variable (procurement performance) that is explained by all the seven independent variables (Product Content requirement, Product Content Restrictions, Products Content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing).

The seven independent variables that were studied, explain 80.82% of variance in procurement performance of the 54state corporations as represented by the R^2. This therefore means that other

factors not studied in this research contribute 19.18% of variance in the dependent variable, therefore, further research should be conducted to investigate them.

Table 4. 8ANOVA (Analysis of Variance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.323	2	.202	8.64	.004[a]
	Residual	5.408	3	.246		
	Total	6.898	42			

Source: (Research Findings)

a. Predictors: (Constant), Product Content requirement, Product Content Restrictions, Products Content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing

b. Dependent Variable: Procurement performance

Analysis of Variance (**ANOVA**) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all $\beta \neq 0$ against the null hypothesis that $\beta = 0$ (Weisberg, 2005). From the findings the significance value is .004 which is less that 0.05 thus the model is statistically significant in predicting how Product Content requirement, Product Content Restrictions, Products Content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing, affect procurement performance of state corporations in Kenya. The F critical at 5% level of significance was 3.23. Since F calculated (value = 8.64) is greater than the F critical (3.23), this shows that the overall model was significant.

Table 4. 9Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**	**B**	
(Constant)	3.374	0.836		3.61	0.000
Product Content requirement	0.614	0.386	0.317	2.42	0.0018
Product Content Restrictions	0.811	0.412	0.228	1.81	0.0008
Products Content labelling or disclosure	0.732	0.854	0.159	8.41	0.0011
Supplier Questionnaire	0.543	0.58	0.151	4.56	0.0028
Supplier Environment Management Systems	0.58	0.62	0.172	1.45	0.0022
Supplier Certification	0.632	0.723	0.164	1.37	0.0015
Supplier Compliance Auditing	0.634	0.722	0.163	1.38	0.0016

Source: (Research Findings)

From the regression findings, the substitution of the equation

$Y=\alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \varepsilon$ becomes;

$Y= 3.374 + 0.614\ X_1 + 0.811\ X_2 + 0.732\ X_3 + 0.543\ X_4 + 0.580\ X_5 + 0.632\ X_6 + 0.634\ X_7 + \varepsilon$

Where Y is the dependent variable (procurement performance), X_1 is the Product Content requirement, X_2 is the Product Content Restrictions, X_3 is the Products Content labelling or disclosure, X_4 is the Supplier Questionnaire, X_5 is the Supplier Environment Management Systems, X_6 is the Supplier Certification and X_7 is the Supplier Compliance Auditing.

According to the equation, taking all the factors (Product Content requirement, Product Content Restrictions, Products Content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing) constant at zero, procurement performance will be 3.374. The data findings also show that a unit increase in Product Content requirement will lead to a 0.614 unit increase in procurement performance; a unit increase in Product Content Restrictions will lead to a 0.811 unit increase in procurement performance; a unit increase in Products Content labelling or disclosure will lead to a 0.732 unit increase in procurement performance, a unit increase in Supplier Questionnairewill

lead to a 0.543 unit increase in procurement performance, a unit increase in Supplier Environment Management Systems will lead to a 0.580 unit increase in procurement performance, a unit increase in Supplier Certificationwill lead to a 0.632 unit increase in procurement performance while a unit increase in supplier compliance will lead to a 0.632 unit increase in procurement, this means that the most significant factor is Product Content Restrictions followed by Products Content labelling or disclosure.

At 5% level of significance and 95% level of confidence, Product Content Restrictions had a 0.0008 level of significance; Products Content labelling or disclosure had a 0.0011 level of significance, Supplier Certification had a 0.0015 level of significance; mobile money ratio had a 0.0018 level of significance, supplier environment management systems had a 0.0022 level of significance,supplier questionnaire had a 0.0028 level of significance while supplier compliance auditing had a 0.0016 level of significance implying that the most significant factor is Supplier questionnairefollowed by supplier environment management systems, product content requirement, Supplier Compliance Auditing, Supplier Certification,Products Content labelling or disclosure and product content restrictions respectively.

The findings therefore shows that there is a strong significant relationship between the predictor's variables (Product Content requirement, Product Content Restrictions, Products content labelling or disclosure, Supplier Questionnaire, Supplier Environment Management Systems, Supplier Certification and Supplier Compliance Auditing) and the procurement performance. These findings were not consisted with Afza and Nasir (2007) who looked at the relationship between procurement methods and financial performance of manufacturing firms they measured the procurement methods and found no significant relationship between procurement methods and financial performance.

These findings corresponds to (Eltayeb, 2010) who opined that purchasing decisions will consider recycled content, waste minimization and energy efficiency as integral components of the decision-making process. These findings are also corresponding to the study by (ElTayeb*et al*.2010) who examined the effect of four drivers, namely regulations, customer pressures, social responsibility and expected business benefits on green purchasing in the Malaysian manufacturing sector.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study findings on the effect of mobile money on the financial performance of Commercial Banks in Kenya. The conclusions and recommendations are drawn there to. The chapter is therefore structured into summary of findings, conclusions, recommendations and areas for further research.

5.2 Summary

The study found out that majority 68.5% (37) of the respondents reported that their respective state corporations have green procurement policy initiatives, 31.5% (17) of them reported that they have do not have green procurement policy initiatives, these findings therefore reveals that majority of the state corporations which were sampled for the study have in place green procurement policy initiatives.

The study found out that supplier questionnaire, supplier compliance auditing, product content requirement,supplier certification and products content labelling or disclosure have been adopted by their respective corporations as some of the green procurement initiatives to a large extent as shown by the mean score of 4.01, 3.96, 3.95, 3.87 and 3.79 respectively.

The study found out that economic efficient production, production process,environmental healthy production,socially friendly production,energy saving production and recycling content production have been adopted by their respective corporations as some of the green procurement approaches to a large extent as shown by the mean score of 4.02, 3.98, 3.93, 3.78 and 3.53 respectively.

The study found out that government laws,customer demand & influence, global purchase, company Initiatives and suppliers influence are among the drivers that influence the implementation of green procurement initiatives as shown by the mean score of 4.01, 3.99, 3.84, 3.79 and 3.63 respectively.

The study found out that lack of corporate commitment, non-acceptable alternatives, availability, insufficient knowledge and price are obstacles that hinders the implementation of the green procurement initiatives as shown by the mean score of 3.97, 3.88, 3.83, 3.74 and 3.68 respectively. The study found out that most of the corporations procure goods in a period less than 30days, procure work in a period of between 30 to 60days while most of the corporations procure services in a period less than 30days.

On relationship between the independent and dependent variable the seven independent variables that were studied, explain 80.82% of variance in procurement performance of the 54state corporations as represented by the R^2. This therefore means that other factors not studied in this research contribute 19.18% of variance in the dependent variable, therefore, further research should be conducted to investigate them.

5.3 Conclusion

Given that majority of the state corporations which were sampled for the study have in place green procurement policy initiatives, therefore the study concludes that procurement policy initiatives positively affect the procurement performance of the state corporation in Kenya.

Given that majority of the corporations that have adopted green procurement initiatives have enhanced the use of product content requirement, product content restrictions, products content labelling or disclosure, supplier questionnaire, supplier environment management systems, supplier certification and supplier compliance auditing respectively, therefore the study concludes that green procurement initiatives positively affect the procurement performance of the state corporations in Kenya.

Given that most of the corporations that have adopted green procurement initiatives have adopted green initiative approaches as energy saving production, waste prevention,and production process, packaging practices, recycling content production, environmental healthy production, economic efficient production and socially friendly productionrespectively, therefore the study concludes that green procurement approaches positively affects the procurement performance of the state corporations in Kenya.

Given that government laws, customer demand & influence, company initiatives, global purchase, production standards, employee initiatives and suppliers influence are drivers that have

influenced the implementation of the green procurement initiatives, therefore the study concludes that these drivers positively affects the procurement performance of the state corporations in Kenya.

Given that most of the corporations that have adopted the green procurement initiatives have been hindered by price, lack of corporate commitment, insufficient knowledge, availability, no acceptable alternative, and no specifications “green products in the successful implementation of the green procurement initiatives. The study found out that majority of the corporations procure goods in a period less than 30days, procure work in a period of between 30 to 60days while most of the corporations procure services in a period less than 30days, therefore the study concludes that these factors that hinder the implementation of the green procurement initiatives positively affects procurement performance of the state corporations in Kenya.

Given that procurement methods have contributed to improved service delivery to users, reduction in complaints from users, improved quality for goods, works and services, matching the demand and supply for goods and reduction in average inventory held, therefore the study concludes that procurement methods positively affects the procurement performance of the state corporations in Kenya.

5.4 Recommendations for Policy

The recommendations made from these findings are that the government should ensure stringentmeasures are put in place to ensure that all the state corporations adhere to green procurement practices. Thiswill not only help the production standards of goods but also increase competitive advantageamong the firms and preservation of the environment.

The researcher also recommends that the management of state corporations should first educate theiremployees on the best green procurement practices to be applied in their different organizations.The study also recommends that the management of the state corporations should allocate adequate financialresources to ensure green procurement practices are implemented. An extensive backgroundcheck of suppliers should be done so as to make efficient decisions on which supplier is reliablefor effective business operations.

State corporations in Kenya need to explore the usage of best value green procurement methods other than relying heavily on price-based green procurement methods. Policy makers will need to

consider a review of the law governing procurement in state corporations and put more emphasis on the best value green procurement methods.

There is need to build the capacity of public procurement officers in state corporations on the various green procurement approaches for different categories of goods, services and works.

In order to enhance procurement performance in state corporations, green procurement initiatives should be keenly selected when procuring goods, services and works. The public procurement officers should study and explore the best methods for each category.

5.5 Limitations

The study was limited by lack of adequate information. The respondents of the different state corporation' level of information disclosure differed. Some of the respondents did not disclose all the information on green procurement. To cope with this challenge, the researcher approached the firms with scanty information seeking clarification on green procurement concepts not disclosed. However, some of the respondents approached were not willing to disclose the information fearing that it could be shared with their competitors.

The descriptive research design had inherent limitation. These limitations included the risk of non-response rate. The study conducted using descriptive research design was conducted on the basis of voluntary participation. The respondents being busy with their work were not willing to participate in giving the information being sought. Where respondents were not fully informed and motivated to give information, cross-sectional designs may be underproductive.

The study was further limited by the lack of co-operation from the study respondents. This is owing to their busy work schedule when the researcher sought clarification on the information on green procurement initiatives adopted. The study was also limited by the short time frame in which it was conducted. The variables of the study were many and required a lot of time to collect the data from the firms. The short time that the study was carried out required the researcher work for long hours to meet the deadline.

5.6 Areas for Further Research

There is need for a similar study to be conducted to determine the most procurement methods used by the National and County Governments in Kenya. A similar study should be extended to entities in the private sector. This will enable generalization of the findings of this study.

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Appendix 1: Research Questionnaire

Introduction

This questionnaire is designed to collect data on green initiatives and procurement performance of state corporations in Kenya. The information collected will be treated with the highest degree of confidentiality. I will appreciate your assistance in helping me gather information to present a representative finding on the green initiatives and procurement performance of the state corporations. .

Target Respondent: Procurement Managers.

Section A: General Information

Name of Your Organization……..

Position……..

Industry/Sector……

1. Name of the Respondent (Optional)……..
2. Indicate Your Gender

Male [ ] Female[ ]

3. Indicate your marital status

Married [ ] Single [ ] Divorced [ ]

4. What is your highest academic qualification?

Primary certificate [ ] Secondary school certificate [ ]

College certificate [ ] university degree [ ] post graduate [ ]

5. Which is your age bracket?

18-24 years [ ] 25-30 years [ ] 31-35 years [ ]

36-40 years [ ] above 40 years [ ]

Section B: Green Procurement Initiatives

6. Do you have green procurement policy initiatives in your Organization? If yes please explain Yes [ ] No [ ]
7. To what extent does your company engage in the following green procurement initiatives so as to give your customers environmental friendly products? Tick where appropriate. The scale below will be applicable: 1= To a very large extent 2= Large extent 3= moderate extent 4= small extent 5=very small extent.

Green Procurement Initiatives	1	2	3	4	5
Product Content requirement					
Product Content Restrictions					
Products Content labelling or disclosure					
Supplier Questionnaire					
Supplier Environment Management Systems					
Supplier Certification					
Supplier Compliance Auditing					

8. To what extent does your company engage in the following green procurement approaches so as to give your customers environmental friendly products? Tick where appropriate. The

scale below will be applicable: 1= To a very large extent 2= Large extent 3= moderate extent 4= small extent 5=very small extent.

Green Procurement Approaches	**1**	**2**	**3**	**4**	**5**
Energy Saving Production					
Waste Prevention					
Production Process					
Packaging Practices					
Recycling Content Production					
Environmental Healthy Production					
Economic Efficient Production					
Socially Friendly Production					

9. What are the key drivers that influence your organization in green procurement initiatives? Tick where appropriate. On a scale of 1-5; 1 representing the strongly agree drive factor, 2 representing moderately agree factor, 3 representing agree and 4 the not agree drive factor

Drivers to Green procurement Initiatives	**1**	**2**	**3**	**4**	**5**
Government Laws					
Customer Demand & Influence					
Company Initiatives					
Global Purchase					

Production Standards					
Employee Initiatives					
Suppliers Influence					
Others (Explain Below)					

10. What are the benefits that your Organization receives with the implementation of green procurement initiatives?.....
11. Do the following obstacles hinder the implementation of green procurement initiatives,to what extent do they hinder Green Procurement in your corporation? Tick where appropriate. (On a scale of 1-5, 5 being highest and 1 being lowest)

Obstacles to the Implementation of Green Initiatives	**1**	**2**	**3**	**4**	**5**
Price					
Lack of corporate commitment					
Insufficient knowledge					
Availability					
No acceptable alternative					
No specifications “green products”					

Section C: Procurement Performance

12. Indicate on average how long it takes to procure in your organization

	Less than 30 days	**30 to 60 Days**	**Over 60 Days**
(i)Goods			
(ii)Work			
(ii)Services			

13. Indicate to what extent the procurement methods, in your opinion have contributed to achieving the following in your organization. Use the following scale: 1= Very Small Extent; 2 = Small Extent; 3 = Average; 4 = Great Extent; 5 = Very Great Extent

	1	2	3	4	5
Improved service delivery to users					
Reduction in complaints from users					
Improved quality for goods, works and services					

Matching the demand and supply for goods					
Reduction in average inventory held					

Appendix: 2 List of Sampled Corporations

Sector	Industries
Ministry of Tourism	Kenya Tourism Board (KTB), Kenya Tourist Development Corporation (KTDC), Kenyatta International Convention Centre (KICC), Bomas of Kenya,
Ministry of Industry, Investment and Trade	Anti- Counterfeiting Agency (ACA), East African Portland Cement Company (EAPCC), Export Processing Zones Authority (EPZA), Kenya Accreditation Services (KENAS), Kenya Bureau Standards (KEBS), Kenya Industrial Estate (KIE), Kenya Industrial Property Institute (KIPI)
Ministry of Health	Kenya Medical Research Institute (KEMRI), Kenya Medical supplies Agency (KEMSA), National Hospital Insurance Fund (NHIF)
The Treasury	Kenya Accountants and secretaries National Examinations Board (KASNEB), Privation Commission, Kenya Investment Authority, Insurance Regulatory Authority,
Ministry of Sports, Culture and the Arts	Sports Kenya, National Sports Academy, National Sports Fund, Kenya Cultural Centre,
Ministry of Transport and Infrastructure	Kenya Civil Aviation Authority (KCAA), Kenya Airports Authority (KAA), Kenya Ports Authority (KPA), Kenya Ferry Services (KFS),
Ministry of Education, science and Technology	National Commission for science, Technology and Innovation (NACOSTI), Higher Education Loans Board (HELB), Commission for University Education (CUE)
Ministry of Information	Kenya Broadcasting Corporation, Postal Corporation of Kenya, Konza Technopolis Development Authority, Kenya Film Commission.

Ministry of Labor, Social Security and Services	National Industrial Training Authority, National Social Security Fund, National Council for persons with Disabilities, Social Protection Secretariat.
Ministry of Environment, Natural resources and Regional Development Authorities	National Environment Management Authority (NEMA), Kenya Water Towers Agency (KWTA) Kenya Wildlife Services (KWS), Kenya Forest Services (KFS)
Ministry of Lands, Housing and Urban Development	National Housing Corporation, National Construction Authority, Kenya Building Research Centre, Settlement Fund Trustees
Ministry of Energy and Petroleum	Energy regulatory Commission, Rural Electrification Authority, Kenya Pipeline Company Geothermal Development Company, Kenya petroleum Refineries,
Ministry of Defense	Kenya Ordinance Factories Corporation (KOFC)

Appendix 3: Population

Sector	Industries
Ministry of Tourism	Kenya Tourism Board (KTB), Kenya Tourist Development Corporation (KTDC), Kenyatta International Convention Centre (KICC), Bomas of Kenya, Kenya Safari Lodges and Hotels (KSLH), Tourism Fund, Tourism Regulatory Authority, Kenya Utalii College, Brand Kenya Board
Ministry of Industry, Investment and Trade	Anti- Counterfeiting Agency (ACA), East African Portland Cement Company (EAPCC), Export Processing Zones Authority (EPZA), Kenya Accreditation Services (KENAS), Kenya Bureau Standards (KEBS), Kenya Industrial Estate (KIE), Kenya Industrial Property Institute (KIPI), Kenya Industrial Research and Development Institute (KIRDI), Kenya Investment Authority (KIA), Kenya Wine Agencies (KWAL), Micro and small Enterprises Authority (MSEA), New Kenya Co-operative Creameries (New KCC), Numerical Machining Complex (NMC), Sacco Societies Regulatory Authority (SASRA)
Ministry of Health	Kenya Medical Research Institute (KEMRI), Kenya Medical supplies Agency (KEMSA), National Hospital Insurance Fund (NHIF)
The Treasury	Kenya Accountants and secretaries National Examinations Board (KASNEB), Privation Commission, Kenya Investment Authority, Insurance Regulatory Authority, Public Procurement Oversight Authority, State Corporations Appeals Tribunal, Kenya National Assurance Co (2001) Capital Market Authority, Deposit Protection Fund Board, National Bank of Kenya, Kenya Post Office Savings Bank, Consolidated Bank of Kenya, Retirement Benefit Authority, Kenya Reinsurance Corporation, Kenya Revenue Authority, Kenya Trade Network Agency, Competition Authority of Kenya
Ministry of Sports, Culture and the Arts	Sports Kenya, National Sports Academy, National Sports Fund, Kenya Cultural Centre, National Museums of Kenya, Kenya Films Commission, Kenya Film Commission, Kenya Films Classification Board, Kenya National Library Services

Ministry of Transport and Infrastructure	Kenya Civil Aviation Authority (KCAA), Kenya Airports Authority (KAA), Kenya Ports Authority (KPA), Kenya Ferry Services (KFS), Kenya National Shipping Line (KNSL), Kenya Railways Corporation (KRC), Kenya Maritime Authority (KMA), National Transport and safety Authority, Kenya National Highway Authority, Kenya Urban Roads Authority, Kenya Rural Roads Authority, Kenya Roads Board, Engineers Boards of Kenya
Ministry of Education, science and Technology	National Commission for science, Technology and Innovation (NACOSTI), Higher Education Loans Board (HELB), Commission for University Education (CUE),Kenya Institute of Special Education (KISE), Teachers Service Commission (TSC), Kenya National Examinations Council (KNEC), Jomo Kenyatta Foundation (JKF)
Ministry of Information	Kenya Broadcasting Corporation, Postal Corporation of Kenya, Konza Technopolis Development Authority, Kenya Film Commission, Kenya ICT Authority, The Kenya Yearbook Editorial Board (KYEB), Media Council of Kenya, Kenya Film Classification Board, Kenya Institute of Mass Communication, Communication Appeals Tribunal
Ministry of Labor, Social Security and Services	National Industrial Training Authority, National Social Security Fund, National Council for persons with Disabilities, Social Protection Secretariat, Productivity Centre of Kenya, National Council for Children Services
Ministry of Environment, Natural resources and Regional Development Authorities	National Environment Management Authority (NEMA), Kenya Water Towers Agency (KWTA) Kenya Wildlife Services (KWS), Kenya Forest Services (KFS), Kenya Forest Research Institute (KEFRI)
Ministry of Lands, Housing and Urban Development	National Housing Corporation, National Construction Authority, Kenya Building Research Centre, Settlement Fund Trustees
Ministry of Energy and Petroleum	Energy regulatory Commission, Rural Electrification Authority, Kenya Pipeline Company Geothermal Development Company, Kenya petroleum Refineries, Kenya Power, Kenya electricity generating Company, Kenya Electricity transmission Company, National Oil Kenya Nuclear Electricity Board, Renewable Energy portal
Ministry of	Kenya Ordinance Factories Corporation (KOFC)

Defense	