



EFFECT OF GREEN PROCUREMENT ON PERFORMANCE OF STATE CORPORATIONS IN KENYA

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Abstract

State Corporations are legal entities created by a government to undertake commercial activities on its behalf. These institutions are expected to be environmentally conscious when purchasing materials or products by ensuring that government to meet environmental goals. This study aimed at assessing the effect of green procurement on the performance of state corporations in Kenya. The study was guided by stakeholder Theory. The target population of the study was 168 state corporations. The study adopted a descriptive research design where a sample of 118 state corporations was considered. Primary data was collected through questionnaire that was self-administered to respondents. A total of 93 questionnaires were returned giving a response rate of 78.8%. Descriptive analysis was done using both means and standard deviations. Inferential statistics was also carried out to establish the nature of the relationship that exists between variables. Data was interpreted with the help of 0.05 significance p-values. Model fitness R^2 , ANOVA statistics and regression coefficient were generated. The bivariate linear regression analysis was done to establish relationship of green procurement on the performance of state corporations. The results indicated that green procurement had positive and statistically significant effect on performance of State Corporations at 0.05 level of significance. The study recommends that state corporations should

put more focus on Green Procurement as it had a major role to play in enhancing performance especially by addressing issues brought about by consumer pressure for green products and adherence to International Standards such as ISO 14001. Future research could focus on challenges of implementing green procurement.

Keywords: Green Procurement, State Corporations, Consumer pressure, Green practices, Natural environment

INTRODUCTION

Procurement is the process of finding, acquiring, buying goods, services or works from an external source, often via a tendering or competitive bidding process. The process is used to ensure the buyer receives goods, services or works at the best possible price, when aspects such as quality, quantity, time, and location are compared. According to Lyson and Farrington (2012) Sustainable procurement is a process whereby public organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life-cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst significantly reducing negative impacts on the environment. According to Tatrai (2015), procurement is considered sustainable when organizations broaden this framework by meeting their needs for goods, services, works, and utilities in a way that achieves value for money and promotes positive outcomes not only for the organization itself but for the economy, environment, and society.

According to Lyson and Farrington (2012), sustainability is ensuring that actions taken today do not limit or compromise the ability or quality of life tomorrow. Sustainability seeks to ensure that, we are comfortable today and tomorrow. As nations seek to develop they should adopt activities that can be sustained, over the longterm, without undermining or putting strain on resources required to preserve our wellbeing into future (Flint, 2013). For development to be sustainable, it must satisfy criteria such as: long term decision making in which the organization pursues long term aspirations and recognizes the long term impacts and consequences of its action like interdependence of economic, environmental and social wellbeing. Participation and transparency in decision making; equity between different generation and among different groups in society, aims at reducing disparities in access to the benefits of development; and proactive prevention by promoting efforts to prevent problems and minimize risks as the first course of action (CIPS, 2012). According to Sasaka, (2014), the aim of sustainable procurement is to minimize negative impacts of goods, works or services across their lifecycle and to minimize

demand for non-renewable resources by reducing purchases, purchasing recycled products or using resource efficient process. It seeks to ensure that fair contract prices and terms are applied and respected, in at least meeting minimum ethical, human rights and employment standards while at the same time striving to promote diversity and equality throughout the supply chain.

According to Kalubanga (2012), sustainable procurement is a spending and investment process typically associated with public policy, although it is equally applicable to the private sector. Organizations practicing sustainable procurement meet their needs for goods, services, utilities and works not on a private cost-benefit analysis, but with a view to maximizing net benefits for themselves and the wider world. In doing so they must incorporate extrinsic cost considerations into decisions alongside the conventional procurement criteria of price and quality, although in practice the sustainable impacts of a potential supplier's approach are often assessed as a form of quality consideration. These considerations are divided into environmental, economic and social. According to Granieri and Renda (2012), public spending normally represents 15-30% of national GDP and every purchase is an opportunity to drive markets towards innovation and sustainability. Through Sustainable Public Procurement (SPP), governments can lead by example and deliver key policy objectives. SPP enables governments to meet environmental goals such as reducing greenhouse gas emissions, improving energy and water efficiency and supporting recycling. The social benefits of SPP may include poverty reduction, improved equity and respect for core labour standards. From an economic perspective, SPP can generate income, reduce costs and support the transfer of skills and technology. Sustainable development requires governments and organisations to consider the social, economic and environmental aspects of their operations with neither of them being emphasised more than the other.

According to Hale (2010), climate change is an increasingly pressing and critical global issue, which can only be addressed through a strong commitment to sustainability. Whether at the international, national or sub-national level, sustainability is everybody's business. The global paper industry, like others, is in the process of making significant changes, which in turn opens the opportunity to reduce its environmental impact. Given the size of the challenge though, reforestation is a concern that can only be properly addressed when governments, NGOs, indigenous people and the private sector work together to ensure sustainable forest management. In doing so, we also alleviate poverty.

Statement of the Problem

In the past, there are cases reported at the Public Procurement Regulatory Authority (PPRA) with regard to procurement malpractices and lack of adherence to laid out guidelines, this results to misappropriation of funds and an increase in expenditure. Past studies show that out of a total expenditure outlay of KSh. 1.77 trillion in 2014/2015, the national government budget was estimated at KSh. 1.54 trillion. This is a significant allocation vested on State Corporations which undertake commercial activities on behalf of the government. These institutions are expected to be environmentally conscious when purchasing materials or products but many procurement activities still suffer from neglect, lack of proper direction, poor coordination, slow with a lot of bureaucracy, lack of open competition and transparency, differing levels of corruption and not having trained and qualified procurement specialists who are competent to conduct and manage the procurement process in a professional, timely and cost effective manner. This prompted the researcher to conduct a study with a view to assess the effects of green procurement on the performance of State Corporations in Kenya.

Research Objective

The objective of the study was to assess the effects of green procurement on the performance of state corporations in Kenya.

LITERATURE REVIEW

Stakeholder Theory

According to Jamali, (2008) the organization as well as stakeholders such as suppliers, customers, shareholders, employees, are named as units in the stakeholder theory. This theory in details, proposes that the relations between a business and its stakeholders are assumed as units which brings sustainability in the supply chain as a whole. The stakeholder theory suggests bilateral relations between an organization and its stakeholders, founded on interdependent inputs exchange from stakeholders, for instance their obligations/expectations, interests, financial aid, outputs and labor of the organization, for example social engagement, products, profits, and additional profits. Stakeholder theory is bound to sustainability of an organization as well as its environment. The involved actors and variables are defined. Although, stakeholders are difficult to identify owing to a definition that is too broad. In addition, this theory is bound to a state where every stakeholder involved are equally treated. In general, the boundaries are vaguely fairly stated, and neither limitations of value nor time are defined clearly.

The stakeholder's theory instrumental perspective examine show organizations may be sustainably be successful by incorporation of management of stakeholder. Stakeholder theory actually covers the theory's "Why", focusing on giving an explanation to certain causal associations. Although, it doesn't explain sufficiently why certain events happen. The theory just tends to give description to events, associations as well as states of business. The theory states that an organization is connected to its stakeholders and its dependent on these stakeholders for success as well as survival of business as well as their sustainability (Verbeke & Tung 2013).

Green Procurement on Sustainable Procurement

Green procurement (GP) refers to an environmentally conscious initiative of purchasing which attempts to make sure that materials or products purchased meet environmental goals predetermined by the purchasing organization, for instance decreasing the wastages sources, promoting reuse, recycling, reduction of resource, and materials substitution. Green procurement makes sure that supply or purchasing chain managers regard the sustainability issue in the inputs purchasing, together with the traditional criteria of purchasing of quality, delivery and cost. The green procurement benefits comprises of natural conservation since green products are produced generally in a way which uses less energy and natural resources or utilizes them more sustainably from the process of obtaining raw materials, parts of processing and manufacturing, transporting ,utilization as well as final disposal. Secondly, green procurement leads to reduction of waste because green products are designed generally with the aim of decreasing the quantity of created waste. For instance, they might comprise of materials that are recycled or utilize less packaging, and the supplier might do the operation of a 'take-back' programme. Thirdly, there are cost benefits related to green procurement. This is because green products include natural materials that may be reused, recycled and as well disposed of easily. Therefore an institution may realize lower costs of waste disposal, costs of waste treatment as well as costs of energy. Generally, green products need fewer resources for their hermanufacturing as well as operation, hence saving on water, energy, fuel plus additional natural resources. Going green also reduces toxic or hazardous level since green products produce lower hazardous and toxic materials levels in the environment.

According to Rostamzadeh *et al*, (2015) the measures of greenness were outlined as being in the seven essential green products activities. These are content requirements of the product (purchasers specify that products purchased ought to have desired green characteristics for instance reusable or recycled items), content restrictions of the product (purchasers specify that products purchased ought not to contain attributes that are environmentally undesirable for instance CFCs, lead, plastic foam within packaging materials),

content disclosure or labelling of the product (purchasers need safety or environmental attributes disclosure the contents of the product purchased. Such disclosure may be done by use of green seals and relative environmental impact indicators for instance system of scientific certification offered by several commercial institutions). According to Eltayeb, Zailani and Ramayah, (2011) supplier questionnaires buyers send questionnaires to suppliers questioning them to give information regarding their environmental activities, aspects and/or systems of management, supplier environmental management systems buyers need suppliers to establish as well as maintain an EMS. Nevertheless, the buyer doesn't need the supplier to certify the system, supplier certification buyers need suppliers to have an EMS which is certified as fully compliant with one of the recognized international standards for example the ISO 14001 from the ISO, the European Union Eco-Management and Audit Scheme, British Standard 7750, and supplier compliance auditing buyers audit suppliers to establish their compliance level with requirements of the environment. ISO 14001 is a globally recognized Environmental Management System (EMS) standard which was developed by the International Organization of Standards (ISO). The system is designed to be flexible enough to be executed by any size of an organization within every sector, and may be applied to a single division or site which operates at several sites. ISO14001 doesn't include requirements of performance (Anbumozhi and Kanda, 2005). It is technique which assists an institution set, realize and improve continually on objectives as well as policies.

According to Mikkola and Post (2012), nations have reported to the OECD that they face hindrances to implementing successfully Green Public Procurement (GPP), together with particularly; the perception that green services and products might be more expensive as compared to conventional ones, public officials lack of technical skills/knowledge on integration of environmental standards in the process of procurement and the monitoring mechanisms absence to assess if green public procurement realizes its objectives. According to Amann *et al.* (2014), driving nations recognize increasingly that green public procurement may be a chief driver for innovation, offering industry with incentives for development of environment-friendly products, services and works, especially within sectors where public buyers represent a large market share, for instance public transport, health services or construction.

According to Mikkola and Post (2012), nations reported that the threat of disrupting the buying processes efficiency where procurement is utilized to promote socio-economic objectives with no prior analysis which evaluates long and short-term benefits and costs as well as verifies whether procurement is indeed the most effective technique to realize policy goals, as compared to additional techniques such as taxation or regulations. According to Mikkola and Post (2012), to help nations in their efforts to do implementation of GPP as well as tackle

challenges, the 2012 report by the Public Governance Committee to the Council on the 2008 Recommendation implementation on Enhancing Integrity in Public Procurement called for the compendium development of good practices on how to do integration of environmental considerations in public procurement in a cost-effective as well as transparent manner.

Performance of State Corporations in Kenya.

A parastatal is a legal entity created by a government to undertake commercial activities on its behalf. Alternatively it can be referred to as a state corporation which is that part of the economy that is controlled by the government for the purpose of providing basic government services. These basic services that the government need to provide are so enormous due to increased number of people they serve. Public procurement has been employed as a vital instrument for achieving economic, social and other objectives (Arrowsmith, 2013). According to Institute of Economic Affairs (2013), the most salient matter in the state corporations in Kenya is the number of institution and enormity of their budgets. These institutions cover a full breadth of the economy and social sectors and are regrettably an area vulnerable to mismanagement and corruption (OECD, 2007). It provides a way for the user to apply the Public Procurement and Asset Disposal Act, (2015) and the Public Procurement and Disposal Regulations (2016) and facilitates the standardization of procurement practice across all Procuring Entities. The Public Procurement and Asset Disposal Act, 2015 and subsequent regulations 2016, which are the core points of reference on public procurement in Kenya were reviewed and makes only a very weak reference to sustainable procurement (Nasiche, 2014).

According to Sang (2016), there are also cases reported at the Public procurement regulatory authority (PPRA) with regard to procurement malpractices and lack of adherence to laid out guidelines, the effect of which result to misappropriation of funds and an increase in expenditure (PPOA, 2015 which is now PPRA). The Institute of economic affairs (IEA, 2014) reports that there has been a 15% increase on the governments' spending of which does not reflect directly on development. Out of a total expenditure outlay of KSh. 1.77 trillion in 2014/15, the national government budget is estimated at KSh. 1.54 trillion. However on annual bases, the government losses close to KSh. 121 billion about 17 per cent of the national budget due to inflated procurement quotations (KISM, 2010). According to Public Procurement Oversight Authority (PPOA, 2009) most of the tendered products/services in many government corporations had a mark-up of 60 per cent on then market prices. Procurement expenditure could be minimized through proper implementation of procurement practices.

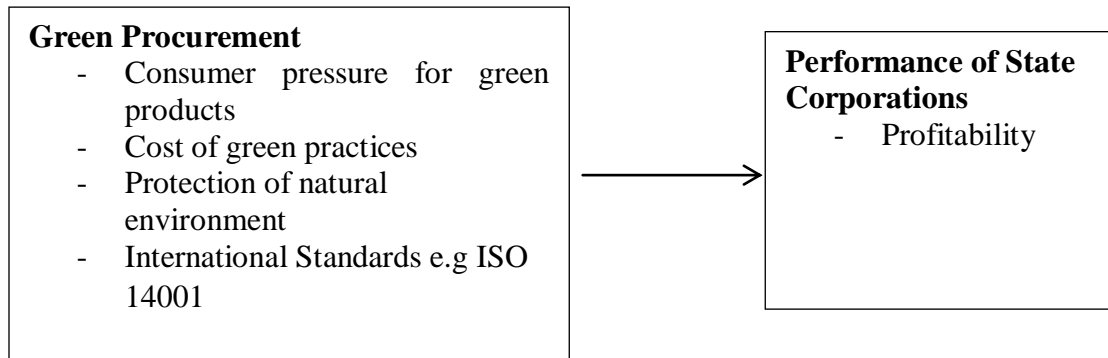


Figure 1: Conceptual Framework

METHODOLOGY

Research Design

A research design refers to a structure, strategy or plan conceived in order to get answers to questions or research as well as to control variance. In this study, descriptive research design was used as it emphasizes on frequency determination with which something occur or the degree to which variables are linked. It gives the relationship that exist between variables. It also provides data from the population under study of what has already happened hence the researcher has no control of the independent variables.

Population and Sampling

The study's target population comprised of 168 State corporations in Kenya with their respective economic sector they serve. From the target population of 168, the sample size was calculated as follows,

$$n = \frac{N}{1 + Ne^2}$$

Where: n = size of the Sample

N = Size of the Population

e = Sampling error (0.05)

Therefore, a size of sample of 118 respondents were selected. This research utilized stratified sampling technique to pick respondents from each stratum. Primary data was collected through the use of questionnaire.

Reliability Test

The research instrument's validity and reliability was tested through a pilot test. Cook and Beckman (2006), noted that pilot testing aids to test instruments of data collection reliability. For data to be accurate as well as true, it must be reliable. Streiner *et al* (2015), states that reliability

is the measurement of consistency and is evaluated frequently by use of the split-half test reliability technique. They stated that a reliability coefficient of 0.70 or above denotes that there is a high degree of reliability of the data.

The results of the reliability of this study gave the alpha value which was above 0.721 as shown in Table 1, which implied that the data collection instrument was therefore reliable and acceptable for the purposes of the study.

Table 1: Assessment of Reliability

Variables	Number of Items	Cronbach's Alpha Coefficient
Green procurement	4	.721

Data Analysis and Presentation

The collected data was analyzed using descriptive statistics by the use of Statistical Package for the Social Sciences (SPSS) and interpreted in terms of means, percentages, frequencies and standard deviations. In addition, inferential statistics was also carried out to establish the nature of the relationship that exists between the dependent and independent variables. Data was interpreted with the help of 0.05 significance P-values. Model fitness R², ANOVA statistics and regression coefficient were generated. The bivariate linear regression analysis was done to establish relationship of green procurement on the performance of state corporations. The simple ordinary linear regression equation adopted by the study was in the form;

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

Where,

Y= Performance of state corporations

X₁ .Green procurement

ϵ - Error term which captures the unexplained variations in the model

FINDINGS AND DISCUSSION

Response Rate

The number of questionnaires that were administered to the respondents was 118 questionnaires. A total of 93 questionnaires were properly filled and returned given that all the questions were attempted and responded to (no missing value). This represented an overall successful response rate of 78.8%. According to Mugenda and Mugenda (2003), a response rate of 50% or more is adequate.

Sector of the Corporation

Figure 2 presents the analysis on the sector of the corporation which indicated that 10.8% were agriculture sector, 14.0% industry, 50.5% services, 8.6% banking and finance and 16.1% wer education sector representatives. This implies that all the sectors considered in the study were fairly represented and hence the study result on performance of state corporation considered wider scope.

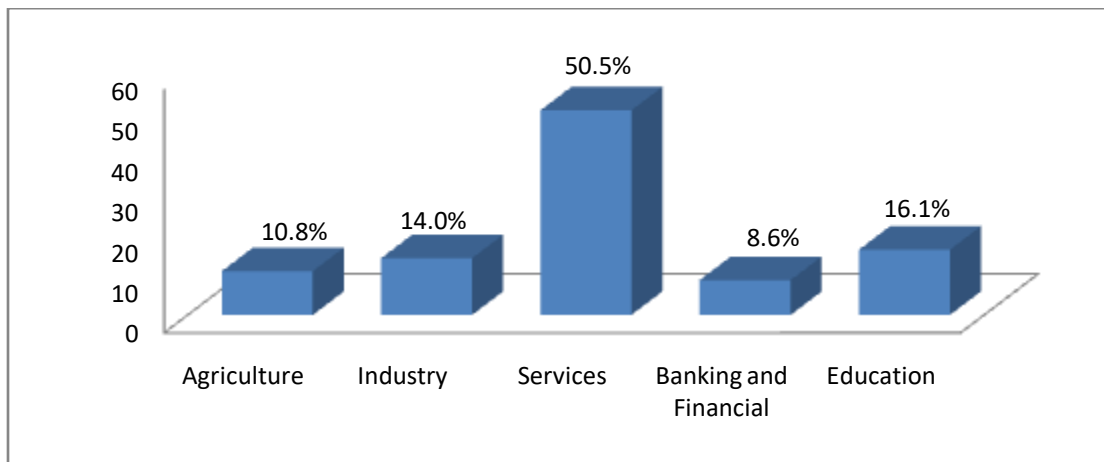


Figure 2: Sector of the Corporation

Work Experience of the Respondent

In order to establish whether the respondent can articulate the issues in this study relating to effects of green procurement on the performance of State Corporation, the study sought to establish the period under which the respondents have worked with the State Corporation. The results are as presented in Figure 3.

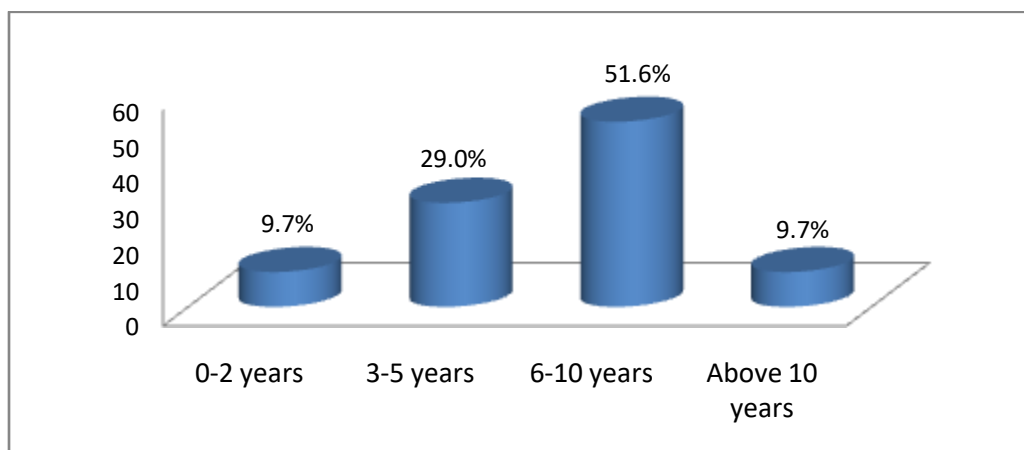


Figure 3: Work Experience of the Respondent

From Figure 3, the results indicate that 9.7% of the respondents have worked with State Corporation for less than two years. 51.6% have worked for a period between 6-10 years. The finding of the study that majority of the respondents have worked for more than 3 years implies that they had adequate time to familiarize with effects of sustainable procurement on the performance of State Corporation.

Green Procurement Descriptive Statistics

The objective of the study sought to assess the effects of green procurement on the performance of state corporations in Kenya. Descriptive statistics were done to determine the effect of various factors of green procurement.

Table 2: Green Procurement Descriptive statistics

Green procurement factors	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	Std. Dev
Corporations are feeling the pressure to go green due to consumer pressure for green products.	64.5	32.3	3.2	0	0	4.6129	0.55231
Corporations are concerned with costs than benefits of embracing green practices	64.5	29.1	3.2	3.2	0	4.5484	0.715
State corporations play an active role in protecting and managing our natural environment.	0	15.1	36.6	48.4	0	2.6667	.72731
Corporations adhere to ISO 14001 which is the international standard that specifies requirements for an effective environmental management system	0	15.1	17.2	67.7	0	2.4731	.74588

SA= Strongly Agree; A=Agree; N = Neutral; D= Disagree; SD= Strongly Disagree

Table 2 presents the analysis on the effects of green procurement on the performance of state corporations. A high percentage 96.8% of the respondents agreed that corporations are feeling the pressure to go green due to consumer pressure for green products with a mean score of

4.6129 and standard deviation of 0.5523. A substantial percentage 93.6% of the respondents agreed that Corporations are concerned with costs than benefits of embracing green practices with a mean score with a mean score of 4.5484. 48.4% of the respondents disagreed that state corporations play an active role in protecting and managing our natural environment with a mean score of 2.667. 67.7% of the respondents disagreed that corporations adheres to ISO 14001 which is the international standard that specifies requirements for an effective environmental management system with a mean score of 2.4731. The finding concurs with Constantin, Hollos and Paulraj (2014), who noted that due to the growing number of environmental regulations as well as increased legitimacy pressure from several different stakeholders, an increasing number of firms are engaging in green practices. Manufacturing and service firms can reduce the total environmental impact in mainly two ways by increasing the level of investment in environmental technologies, and by shifting that investment from pollution control to pollution prevention.

Performance of State Corporations

The study sought to establish the percentage change in profitability of state corporations for a period between year 2013 to 2016 as a measure of performance. The results are as shown in Figure 4 indicated that the average percentage change in profitability of state corporation has been in increasing trend from the year 2013 to 2015 followed by a constant level in the year 2016.

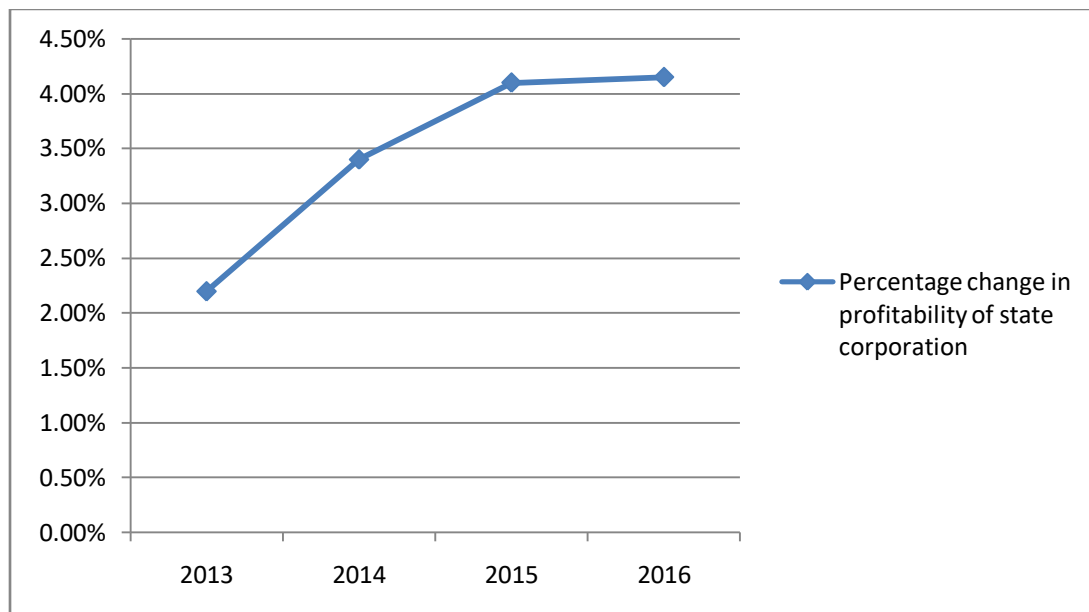


Figure 4: Percentage change in profitability of state corporation

Inferential Statistic of Green Procurement on the Performance of State Corporations

The bivariate linear regression analysis results of green procurement on the performance of state corporations were as shown in Table 3, 4 and 5.

Table 3: Green Procurement Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.818 ^a	.669	.665	.66703

a. Predictors: (Constant), Green Procurement

From the regression results in Table 3, the R value was 0.818 indicating that there is a relationship between green procurement on the performance of state corporations in Kenya. The R squared (R^2) value of 0.669 shows that 66.9 percent of the performance of state corporations is explained by green procurement all other factors held constant. The remaining 33.1 percent is explained by other factors.

Table 4: Green Procurement Model ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81.791	1	81.791	183.828	.000 ^b
	Residual	40.489	91	.445		
	Total	122.280	92			

a. Dependent Variable: Performance of State Corporations

b. Predictors: (Constant), green procurement

The model was significant with the F ratio = 183.828 at p value $0.000 < 0.05$. This is an indication that green procurement when considered singly have a significant effect on the performance of state corporations in Kenya.

Table 5: Green Procurement Model Coefficients

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	.767	.220		3.484	.001
	Green Procurement	.796	.059	.818	13.558	.000

a. Dependent Variable: Performance of State Corporations

Green procurement had positive and significant effect on performance of State Corporations with $\beta = 0.796$ at p value 0.000 which is less than 0.05. From Table 5, the bivariate linear regression model equation fitted using unstandardized coefficients is;

$$Y = 0.767 + 0.796X_1 + e$$

Where, 0767 is the constant while X_1 is green procurement index. This means that green procurement positively and significantly influence performance of State Corporations in Kenya. It also means that an increase of one unit of X_1 increases Y by 0.796 The indication was that green procurement is a major factor that affect performance of State Corporations in Kenya.

CONCLUSION AND RECOMMENDATIONS

Based on the study findings, the study conclude that green procurement factors had positive and significant effect on performance of state corporations at 5% level of significance. This implies that the performance of state corporations is influenced by green procurement factors. In addition, the findings of the descriptive analysis revealed that corporations are feeling the pressure to go green due to consumer pressure for green products, corporations are mostly concerned with costs than benefits of embracing green practices. State corporations were found to play a minimal role in protecting and managing natural environment since majority do not adheres to ISO 14001 which is the international standard that specifies requirements for an effective green procurement program. The study therefore recommend that state corporation should consider how best they can enhance green procurement by addressing issues brought about by consumer pressure for green products and adherence to International Standards such as ISO 14001.

The present study was carried to determine effects of green procurement on the performance of State Corporations in Kenya. It is suggested that a study focusing on challenges of implementing green procurement on state corporations should be put into consideration. Future research could also focus on other factors that may affect performance of State Corporations such as eco-supplier, environmental waste management and reverse logistics.

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