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INFLUENCE OF PERFORMANCE CONTRACTING IN OPTIMIZING PROCUREMENT OF STATE CORPORATIONS IN KENYA

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Abstract

Purpose: The specific objective of the study was to assess influence of performance contracting in optimizing procurement of state corporations in Kenya.

Methodology: This research study adopted a descriptive research design approach targeting heads of procurement at the 187 state corporations. This method was preferred because it allowed an in-depth study of the subject. The study preferred this method because it allowed an in-depth study of the subject. To gather data, structured questionnaire will be used to collect data from 104 respondents. Data was collected using self-administered questionnaires. The data collected was analyzed by use of descriptive and inferential statistics. Multiple regression model was used to show the relationship between the dependent variable and the independent variables. The data generated was keyed in and analyzed by use of Statistical Package of Social Sciences (SPSS) version 21 to generate information which was presented using charts, frequencies and percentages.

Results: The findings of the study indicated that; key performance indicators, monitoring and evaluation, balanced scorecard and administration structures have a positive relationship with procurement optimization of state corporations

Conclusion: Based on the study findings, the study concludes that performance of state corporations can be improved by key performance indicators, monitoring and evaluation, balanced scorecard and administration structures.

Policy recommendation: the study recommended that public institutions should embrace performance contracting practices so as to improve their procurement optimization and further researches should to be carried out in other public entities to find out if the same results can be obtained.

Key words: *key performance indicators, monitoring and evaluation, balanced scorecard, administration structures*

1.0 INTRODUCTION

Performance contracting in the public sector has consistently been poor hindering the realization of sustainable economic growth and development since the country attained her independence. Among the noted factors that contribute to poorly met performance contracting targets included; inadequate supplier relationship strategies, excessive regulations and controls, frequent political interference, poor management, outright mismanagement of resources and lack of a guiding vision (Dean & Kiu, 2012).

Lack of clear focus as to what is expected from contractors and poor or no methods of measuring performance has been the greatest challenge (Mohan, 2011). The Government elected in 2003 decided to manage public sector through performance contracting system to address the situation. According to Lazear (2010) performance contract is defined as a written or negotiated agreement between government or its representative agency and the management of public enterprises and other autonomous units directly delivering services to public, or between government and private managers of state assets, wherein quantifiable targets are explicitly specified for a given period and performance is measured against targets at the end of the period (Masten & Saussier, 2012).

The weakening global economic conditions are forcing organizations to reinvent their relations with customers and suppliers alike. Thus, costs must be lowered throughout the procurement process by focusing on value addition. Bottlenecks must be removed and performance measurements focus on total system efficiency and equitable reward distribution to key players in the process; to achieve win-win situations. The working principle is to create customer satisfaction at the end point of delivery and continuous improvement of process (Malta, Schapper, Calvo-Gonzale & Berroa, 2011).

World over, procurement optimization has been attracting great attention from practitioners, academicians and researchers due to poor performance. Procurement optimization is the process by which procurement establishes criteria, based on strategic planning goals, for determining the results and quality of its activities. It involves creating a simple, effective system for determining whether procurement is meeting its objectives (OECD, 2008). According to Straight (2012) procurement optimization is considered to be the result of two elements: purchasing effectiveness and purchasing efficiency.

Toffel (2008) contends that an efficient public procurement system is vital to the advancement of African countries and is a concrete expression of their national commitments to making the best possible use of public resources. In Africa, procurement optimization has been a great concern to the public due to poor performance resulting from non-adherence to power processes and procedures (Armstrong & Baron, 2014).

The Kenyan government does acknowledge that over the years there has been poor performance in the public procurement sector, especially in the management of public resources which has hindered the realization of sustainable economic growth (Akaranga, 2008). To improve performance, the government has continued to undertake a number of reform measures. However, these measures have not provided a framework for guiding behavior towards attainment of results or ensured accountability in the use of public resources and efficiency in service delivery (Rotich, 2012).

1.2 Problem Statement

Public procurement systems are central to the effectiveness of development expenditure. Budgets get translated into services largely through the governments' purchases of goods, services and works. It is estimated that 18.42% of the world's Gross Domestic Product (GDP) is spent through public procurement (World Bank, 2013). It is further estimated that public procurement accounts for 9%-13% of the GDP of the economies of developing countries. This statistics indicate that public procurement is very vital to government service delivery, yet constraints affect its performance.

In Kenya, state corporations were expected to play a major role in the development of the country through provision of public services and should have become a strong entity in Kenya (Rotich, 2011). State corporations in Kenya have been experiencing a myriad of problems including shoddy works, poor quality goods and services, inefficiency, corruption and lack of professionalism leading to waste of huge amounts of public resources (Wanyama, 2013). An audit report by Auditor General for FY 2014/2015 in state corporations revealed losses of Ksh 60 Million through irregular procurement. State corporations also experienced 40% losses in FY 2012/2013 due to misappropriation of public funds according to PPOA (2009).

According to an OECD report (2014) a key area for corruption busting reform is the state corporations which are a drain on public resources and are locus of corruption, especially when coupled with lax oversight, mismanagement and fiduciary control procedures. The situation is one of loss, fraud, theft and gross mismanagement which are hampering improved and sustained performance and service delivery. However, state corporations should be aware of the requirements of the state corporations Act that requires state corporations to design performance management plans for evaluating their performance (Nuguti, 2009).

A study by Weele (2010) found that organizations which adopted performance contracting have reduced costs through transactional and process efficiencies and thereby promoting their procurement performance. Ngugi and Mugo (2012) established that that the performance of public procurement function in Kenya is affected by the issues facing state corporations currently. However, their study did not bring out clearly the issue of how performance contracting affects procurement performance. It is hence against this background that this study will be undertaken with a main purpose of establishing the influence of performance contracting in optimizing procurement of state corporations in Kenya.

1.3 Objectives of the Study

i. To assess the influence of key performance indicators in optimizing procurement of state corporations in Kenya.
ii. To establish the influence of monitoring and evaluation in optimizing procurement of state corporations in Kenya.
iii. To determine the influence of balanced scorecard in optimizing procurement of state corporations in Kenya.
iv. To evaluate the influence of administration structures in optimizing procurement of state corporations in Kenya.

2.0 LITERATURE REVIEW

2.1 Empirical Review

Key Performance Indicators and Procurement Optimization

Past studies were also reviewed to analyze and evaluate work already done in the area. In the study key performance indicators in Kenya: Instruments for operationalizing good administration based on the results for year 2005-2006. Muthaura (2009) reckoned that performance contract (PC) is an agreement between the government as the client and a public agency (managers) which establishes general goals for the agency, sets targets for measuring performance and provides incentives for achieving these targets and reprimand for nonperformance. The study revealed that any effort to measure performance results to positive results because employees' efforts are focused to organization's objectives thus improving performance. However the study failed to relate key performance indicators to performance effectiveness.

Monitoring and Evaluation and Procurement Optimization

A good target should be clear and precise on what is being measured and how this is calculated without any ambiguity (Kinanga & Partoip, 2013). Muthaura (2009) argues that involvement of citizens in setting targets for public sector organizations would ensure that what is measured matters to the citizens and that data is not corrupted by managers who in any case have a stake. Ndung'u (2009) argues that target setting in public institution gives the government ammunition to prove to the public that public resources are being spent prudently. Setting targets ensure that there is focus in an organization and at the broader public service level; target setting may help in aligning different organizations which would ordinarily be reluctant to cooperate.

Balanced Score Card and Procurement Optimization

While Atkinson had shown as cited in Nzuve and Njeru (2013) that task difficulty, measured as probability of task success was related to performance in a curvilinear inverse function with the highest level of effort occurring when the task was moderately difficult and the lowest levels occurring when the task was either very easy or very difficult. He did not measure personal performance goals. They found a positive linear function with the highest or most difficult goals producing highest levels of effort and performance. Performance leveled off or decreased only when limits of ability were reached or when commitments to a highest difficult goal lapsed (Mbua & Sarisar, 2013).

Administration Structures and Procurement Optimization

The search for effective methods of combating corruption has led to an increasingly wide recognition that corruption is fundamentally a problem of administration (Kihara, 2013). The introduction of administration structures into the public sector does not automatically create better or more administration unless it is based on the administration framework addressing the principles of procurement

2.2 Theoretical review

Goal setting Theory

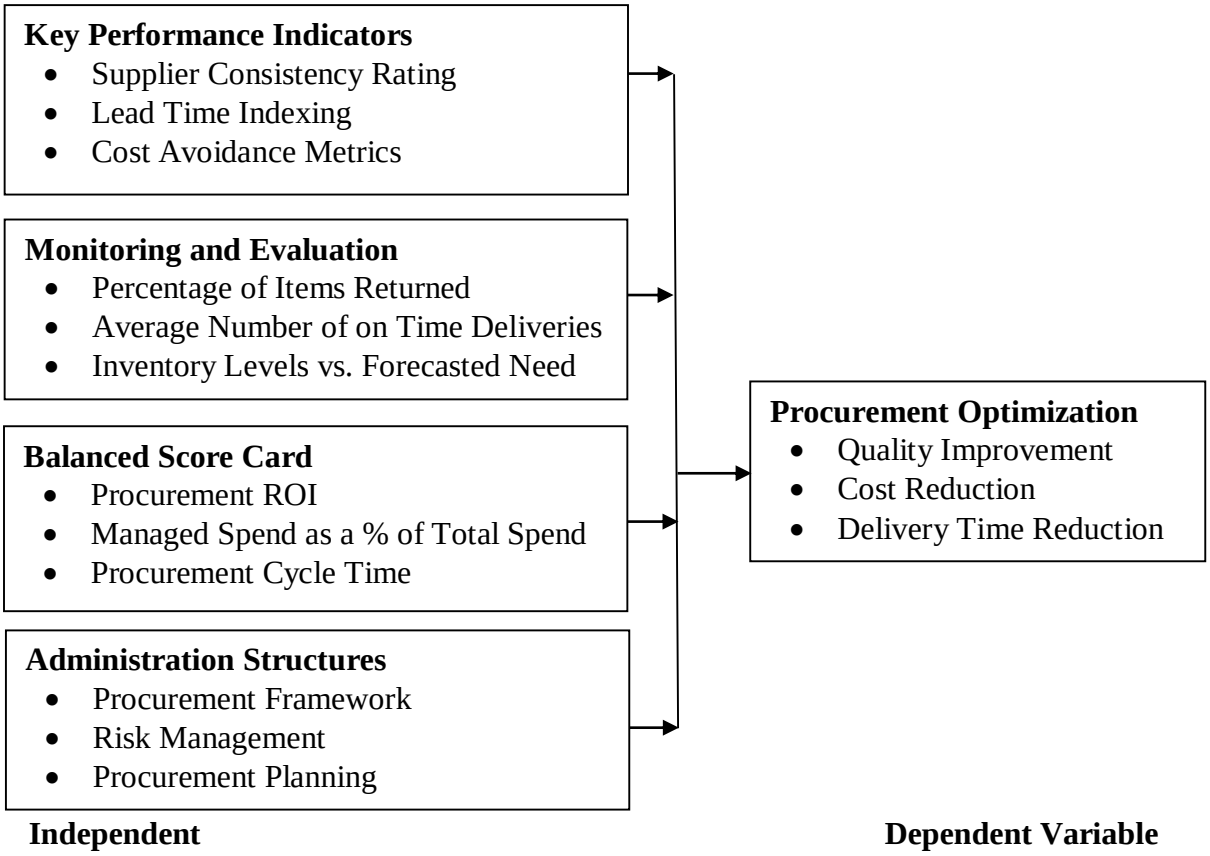
Performance Contracting is best explained by the Goal Theory which states that employees are motivated by clear goals and appropriate feedback (Shirley & Xu, 2010). That working towards a goal provides a major source of motivation. Challenging and specific goals accompanied by feedback lead to higher levels of individual and group performance. The prime axiom of this theory

is that specific difficult goals lead to higher performance than when people strive to simply do their best (Larbi, 2011). Such goals positively affect performance of an individual and direct people's efforts and energies in a particular direction.

That there was a relationship between how difficult and specific a goal was and peoples performance of a task. Difficult and specific goals lead to better task performance than vague and easy goals. In his research, Mackie (2008) found out that for goals to be motivational, they should have the following characteristics: They must be specific in terms of level and time frame. General goals which lack specifity tend not to be motivational; that goals must be challenging to be motivational. They should not be easy that they require little effort to achieve and they should not be so difficult that they are impossible to achieve; that goals must be accompanied by feedback so that it is possible to know how well one is doing and how close is to the goal accomplishment; and that people must accept the goals and be committed to them (Metawie & Gilman, 2011).

Performance contracting is premised on the tenets of goal theory in that the targets are specific based on the organizations strategic plans. They are also measurable, attainable, realistic and time bound (SMART) in nature thus offering clarity to the employees. The targets are challenging in that they are incremental in nature hence difficulty and complexity of achieving them is raised every cycle of the performance contract leading to increased performance and productivity from the employees (Dooren, 2014). The employees are regularly provided with feedback on their performance through the quarterly performance evaluation reports and the comprehensive evaluation done at the end of the contract period.

2.3 Conceptual Framework



3.0 METHODOLOGY

This research study adopted a descriptive research design approach targeting heads of procurement at the 187 state corporations. This method was preferred because it allowed an in-depth study of the subject. The study preferred this method because it allowed an in-depth study of the subject. To gather data, structured questionnaire will be used to collect data from 104 respondents. Data was collected using self-administered questionnaires. The data collected was analyzed by use of descriptive and inferential statistics. Multiple regression model was used to show the relationship between the dependent variable and the independent variables. The data generated was keyed in and analyzed by use of Statistical Package of Social Sciences (SPSS) version 21 to generate information which was presented using charts, frequencies and percentages.

4. 0 RESULTS AND FINDINGS

4.1 Descriptive Analysis

Key Performance Indicators

The first objective of the study was to assess the influence of key performance indicators in optimizing procurement of state corporations in Kenya. The respondents were asked to indicate to what extent did key performance indicators influence optimizing procurement of state corporations in Kenya. Results indicated that majority of the respondents 25% agreed that it was to a very great extent, 27% said that it was to a great extent, 35% said it was moderate, while little extent and not all were at 5 and 8% respectively.

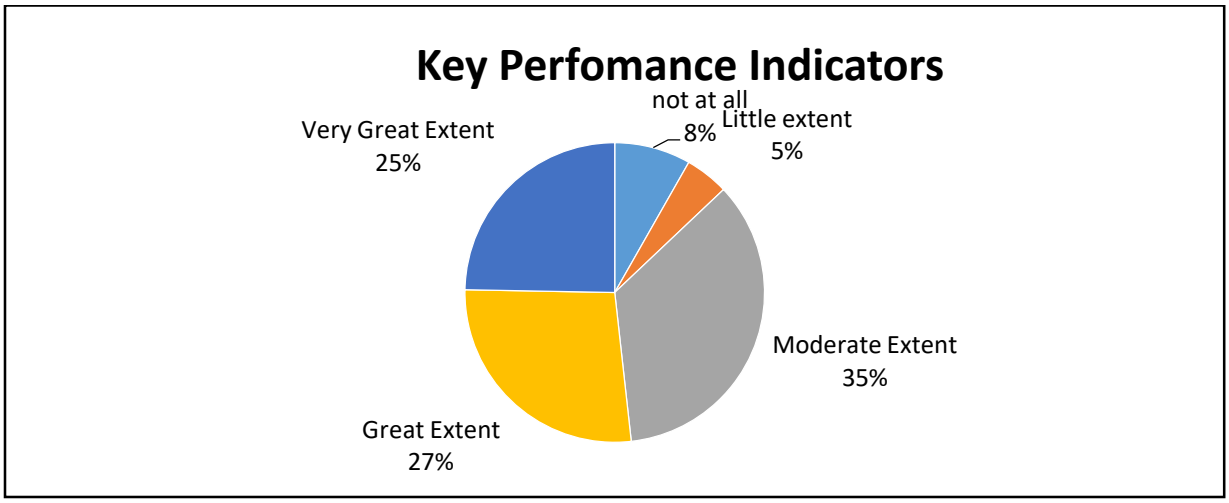


Figure 1: Key Performance Indicators

The respondents were also asked to comment on statements regarding key performance indicators in optimizing procurement of state corporations in Kenya. The responses were rated on a likert scale and the results presented below. It was rated on a five point Likert scale ranging from; 1 = strongly disagree to 5 = strongly agree. The scores of ' strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon. The score of 'neutral' has been taken to represent a statement agreed upon. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon.

The respondents were asked to indicate the descriptive for key performance indicators. The results revealed that majority of the respondent (62%) agreed with the statement that supplier consistency

rating plays a great role in quality improvement. The results revealed that majority of the respondent (72.7%) agreed with the statement that lead time index plays a great role in quality improvement. The results also revealed that majority of the respondent (64.7%) agreed with the statement that costs avoidance metrics play a great role in quality improvement.

Further, the results revealed that majority of the respondent (100%) agreed with the statement that supplier consistency rating plays a great role in cost reduction. Results also revealed that majority of the respondent (98.7%) agreed with the statement that lead time index plays a great role in lead time reduction. The results revealed that majority of the respondent (99.3%) agreed with the statement that costs avoidance metrics play a great role in cost reduction.

Results further indicated that majority of the respondent (97.3%) agreed with the statement that supplier consistency rating plays a great role in lead time reduction. Results revealed that majority of the respondent (62.6%) agreed with the statement that lead time index plays a great role in lead time reduction. Finally, the results revealed that majority of the respondent (97.3%) agreed with the statement that costs avoidance metrics plays a great role in lead time reduction.

The average for the statements on key performance indicators was 4.25. The results imply that an organization benefits greatly when key performance indicators are embraced to reduce costs, introduce quality rating systems designed to address the organization's needs, and work with the organization to streamline procurement optimization(Mackie, 2008).

Table 1: Key Performance Indicators

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Supplier consistency rating plays a great role in quality improvement	1.30%	1.30%	35.3%	29.3%	32.7%	3.91	0.92
Lead time index plays a great role in quality improvement	0.70%	2.00%	24.7%	36.0%	36.7%	4.06	0.87
Costs avoidance metrics play a great role in quality improvement	1.30%	1.30%	32.7%	28.0%	36.7%	3.97	0.93
Supplier consistency rating plays a great role in cost reduction	0.00%	0.00%	0.00%	53.3%	46.7%	4.47	0.50
Lead time index plays a great role cost reduction	1.30%	0.00%	0.00%	48.7%	50.0%	4.46	0.64
Costs avoidance metrics play a great role in cost reduction	0.00%	0.70%	0.00%	51.3%	48.0%	4.47	0.54
Supplier consistency rating plays a great role in lead time reduction	2.00%	0.70%	0.00%	43.3%	54.0%	4.47	0.73
Lead time index plays a great role in lead time reduction	0.00%	0.00%	37.3%	29.3%	33.3%	3.96	0.84
Costs avoidance metrics plays a great role in lead time reduction	1.30%	1.30%	0.00%	45.3%	52.0%	4.45	0.70
Average						**4.25**	**0.74**

Monitoring and Evaluation

The second objective of the study was to establish the influence of monitoring and evaluation in optimizing procurement of state corporations in Kenya. The respondents were asked to indicate to what extent monitoring and evaluation influenced procurement optimization of state corporations in Kenya. Results indicated that majority of the respondents 31% agreed that it was to a very great extent, 36% said that it was to a great extent, 23% said it was moderate, while little extent and not all tied at 5%.

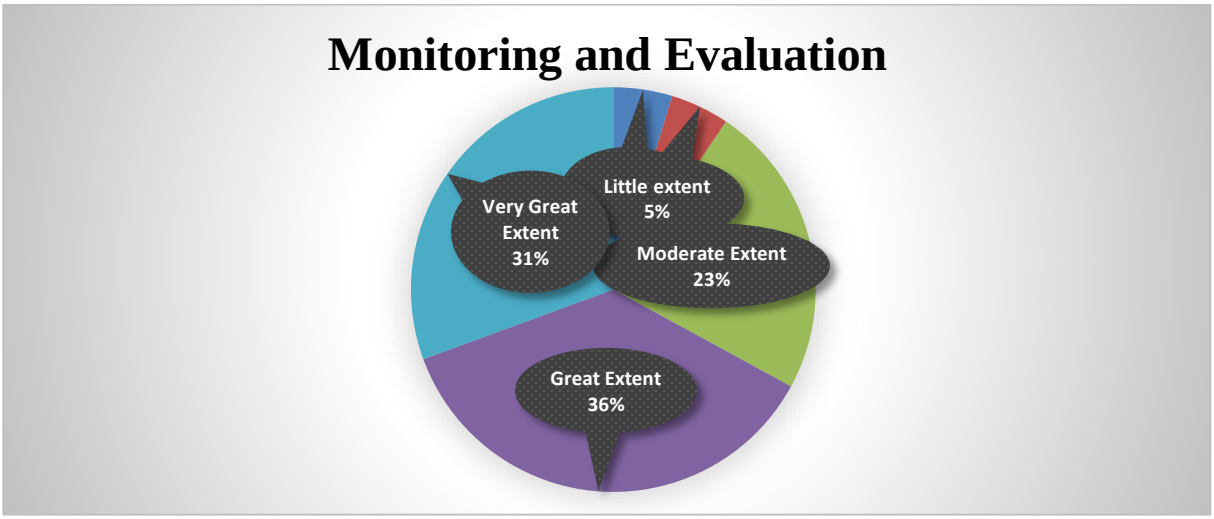


Figure 2: Monitoring and Evaluation

The respondents were also asked to comment on statements regarding monitoring and evaluation influence in optimizing procurement of state corporations in Kenya. The respondents were asked to indicate descriptive responses for monitoring and evaluation. The results revealed that majority of the respondents (56.6%) indicated that they agreed with the statement that monitoring the percentage of items returned plays a great role in quality improvement. The result further revealed that majority of the respondents (73.3%) indicated that they agreed with the statement that improving the average number of on time deliveries plays a great role in quality improvement. The result revealed that majority of the respondents (69.3%) indicated that they agreed with the statement that monitoring the inventory levels in relation to forecasted need plays a great role in quality improvement.

The result further revealed that majority of the respondents (100%) indicated that they agreed with the statement that monitoring the percentage of items returned plays a great role in cost reduction. The result revealed that majority of the respondents (100%) indicated that they agreed with the statement that improving the average number of on time deliveries plays a great role in cost reduction. The result further revealed that majority of the respondents (40.7%) indicated that they disagreed with the statement that monitoring the inventory levels in relation to forecasted need plays a great role in cost reduction.

The result revealed that majority of the respondents (46.6%) indicated that they agreed with the statement that monitoring the percentage of items returned plays a great role in lead time reduction. The result further revealed that majority of the respondents (48.7%) indicated that they agreed with the statement that improving the average number of on time deliveries plays a great role in lead time reduction. The result revealed that majority of the respondents (52.6%) indicated that they

agreed with the statement that monitoring the inventory levels in relation to forecasted need plays a great role in lead time reduction.

The average for the statements on monitoring and evaluation was 3.8. The results imply that an organization benefits greatly when monitoring and evaluation is embraced to reduce costs, introduce systems designed to address the organization's needs, and work with the organization to streamline procurement optimization (Lazear, 2010).

Table 2: Monitoring and Evaluation

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Monitoring the percentage of items returned plays a great role in quality improvement	0.0%	0.0%	43.3%	21.3%	35.3%	3.9	0.9
Improving the average number of on time deliveries plays a great role in quality improvement	0.0%	0.0%	26.7%	36.0%	37.3%	4.1	0.8
Monitoring the inventory levels in relation to forecasted need plays a great role in quality improvement	0.0%	0.0%	30.7%	37.3%	32.0%	4.0	0.8
Monitoring the percentage of items returned plays a great role in cost reduction	0.0%	0.0%	0.0%	45.3%	54.7%	4.6	0.5
Improving the average number of on time deliveries plays a great role in cost reduction	0.0%	0.0%	0.0%	50.0%	50.0%	4.5	0.5
Monitoring the inventory levels in relation to forecasted need plays a great role in cost reduction	22.7%	18.0%	21.3%	18.7%	19.3%	2.9	1.4
Monitoring the percentage of items returned plays a great role in lead time reduction	15.3%	18.0%	20.0%	21.3%	25.3%	3.2	1.4
Improving the average number of on time deliveries plays a great role in lead time reduction	0.0%	22.0%	29.3%	28.7%	20.0%	3.5	1.0
Monitoring the inventory levels in relation to forecasted need plays a great role in lead time reduction	0.0%	26.0%	21.3%	21.3%	31.3%	3.6	1.2
Average						**3.8**	**0.9**

Balanced Scorecard

There was also need to establish influence of balanced scorecard in optimizing procurement of state corporations in Kenya as the third objective. The respondents were asked to comment on extent of influence of balanced scorecard in optimizing procurement of state corporations in Kenya as the third objective. Results indicated that majority of the respondents 47% agreed that it was to a very great extent, 45% said that it was to a great extent, 2% said it was moderate; little extent was 2% and not all at 4%.

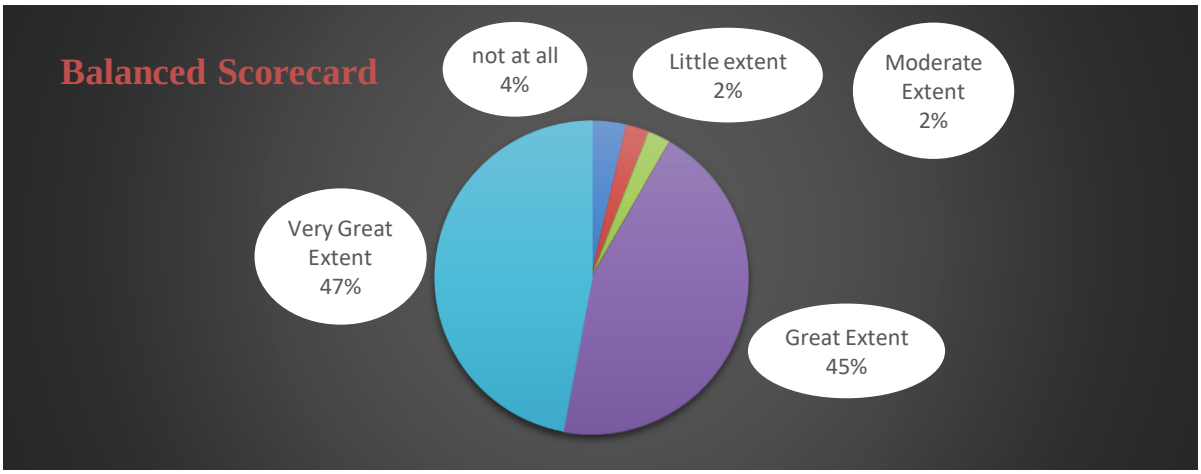


Figure 3: Balanced Scorecard

The respondents were asked to indicate their levels of agreement on statements regarding balanced scorecard. The result revealed that majority of the respondent (62.7%) agreed with the statement that establishment of procurement ROI plays a great role in quality improvement. The result further revealed that majority of the respondent (71.4%) agreed with the statement that estimating the managed spend as a percentage of total spend plays a great role in quality improvement. The result revealed that majority of the respondent (62%) agreed with the statement that establishing a short procurement cycle time plays a great role in quality improvement.

The result further revealed that majority of the respondent (63.4%) agreed with the statement that establishment of procurement ROI a great role in cost reduction. The result revealed that majority of the respondent (70%) agreed with the statement that Estimating the managed spend as a percentage of total spend plays a great role in cost reduction. The result further revealed that majority of the respondent (69.4%) agreed with the statement that establishing a short procurement cycle time plays a great plays a great role in cost reduction.

The result revealed that majority of the respondent (43.4%) disagreed with the statement that establishment of procurement ROI plays a great role in lead time reduction. The result further revealed that majority of the respondent (100%) agreed with the statement that estimating the managed spend as a percentage of total spend plays a great role in lead time reduction. The result revealed that majority of the respondent (100%) agreed with the statement that establishing a short procurement cycle time plays a great role in lead time reduction. The average for the statements on balanced scorecard was 3.79. The results imply that an organization benefits greatly when a balanced scorecard is embraced to reduce costs, introduce measurement of procurement ROI's systems designed to address the organization's needs and work with the organization to streamline procurement optimization (Larry, 2013).

Table 3: Balanced Scorecard

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Establishment of procurement ROI plays a great role in quality improvement	0.00%	0.00%	37.3%	30.7%	32.00%	4.11	0.796
Estimating the managed spend as a percentage of total spend plays a great role in quality improvement	0.00%	0.00%	28.7%	34.70	36.70%	4.01	0.794
Establishing a short procurement cycle time plays a great role in quality improvement	0.00%	0.00%	38.0%	33.3%	28.70%	4.55	0.499
Establishment of procurement ROI a great role in cost reduction	0.00%	0.00%	36.7%	36.7%	26.70%	4.5	0.502
Estimating the managed spend as a percentage of total spend plays a great role in cost reduction	0.00%	0.00%	30.0%	42.0%	28.00%	2.94	1.434
Establishing a short procurement cycle time plays a great plays a great role in cost reduction	0.00%	0.00%	30.7%	38.7%	30.70%	3.23	1.407
Establishment of procurement ROI plays a great role in lead time reduction	20.7%	22.7%	21.3%	20.0%	15.30%	3.47	1.047
Estimating the managed spend as a percentage of total spend plays a great role in lead time reduction	0.00%	0.00%	0.00%	48.0%	52.00%	3.58	1.183
Establishing a short procurement cycle time plays a great role in lead time reduction	0.00%	0.00%	0.00%	50.0%	50.00%		
Average						**3.79**	**0.95775**

Administration Structures

There was also need to establish the influence of administration structures in optimizing procurement of state corporations in Kenya. The respondents were also asked to comment on statements regarding administration structures in optimizing procurement of state corporations in Kenya. Results also showed that 3% of respondents indicated to very great extent, great extent was at 12%, moderate extent was 37%, while little extent was at 27% and not at all was at 21%.

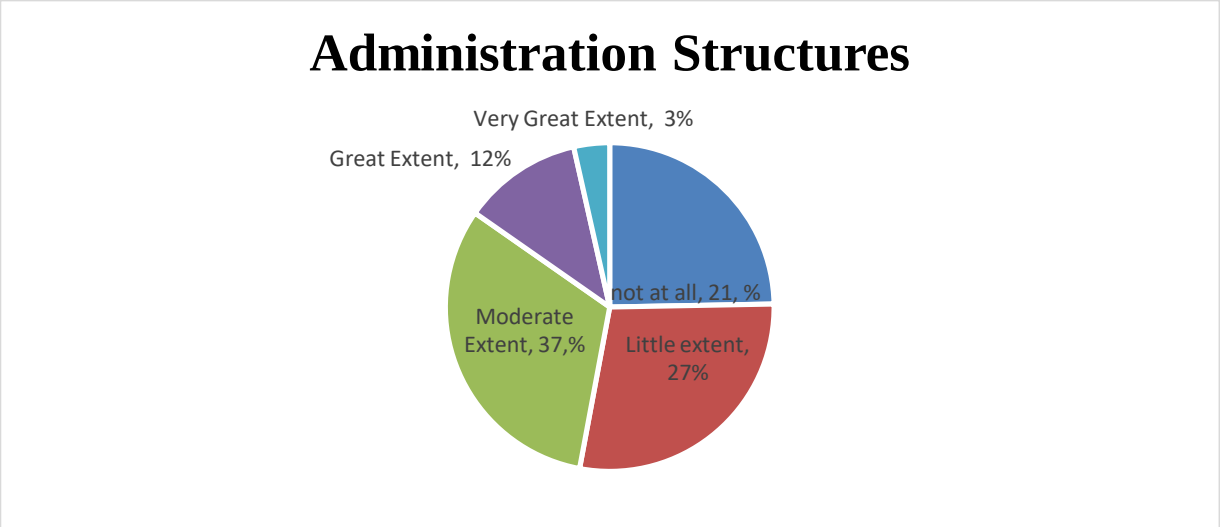


Figure 4: Administration Structures

Table 4: Administration Structures

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Procurement framework plays a great role in quality improvement	0.00%	0.00%	0.00%	54.00%	46.00%	4.11	0.796
Risk management plays a great role in quality improvement	0.00%	0.00%	0.00%	48.70%	51.30%	4.01	0.794
Procurement planning plays a great role in quality improvement	0.00%	1.30%	3.30%	40.70%	54.70%	4.55	0.499
Procurement framework plays a great role in cost reduction	1.30%	1.30%	1.30%	56.70%	39.30%	4.5	0.502
Risk management plays a great role in cost reduction	0.00%	0.00%	0.00%	47.30%	52.70%	2.94	1.434
Procurement planning plays a great role in cost reduction	0.00%	0.00%	0.00%	50.00%	50.00%	3.23	1.407
Procurement framework plays a great role in lead time reduction	0.70%	1.30%	2.70%	44.00%	51.30%	3.47	1.047
Risk management plays a great role in lead time reduction	0.00%	0.00%	0.00%	52.70%	47.30%	3.58	1.183
Procurement planning plays a great role in lead time reduction	0.00%	0.00%	0.00%	50.70%	49.30%		
Average						**3.79**	**0.957**

The respondents were asked to indicate the descriptive for administration structures. The results revealed that majority of the respondent (100%) agreed with the statement that procurement framework plays a great role in quality improvement. The result further revealed that majority of the respondent (100%) agreed with the statement that risk management plays a great role in quality improvement. The result revealed that majority of the respondent (95.4%) agreed with the statement that procurement planning plays a great role in quality improvement.

The result further revealed that majority of the respondent (96%) agreed with the statement that procurement framework plays a great role in cost reduction. The result revealed that majority of the respondent (100%) agreed with the statement that risk management plays a great role in cost reduction. The result further revealed that majority of the respondent (100%) agreed with the statement that procurement planning plays a great role in cost reduction.

The result further revealed that majority of the respondent (95.3%) agreed with the statement that procurement framework plays a great role in lead time reduction. The result further revealed that majority of the respondent (100%) agreed with the statement that risk management plays a great role in lead time reduction. The result further revealed that majority of the respondent (100%) agreed with the statement that procurement planning plays a great role in lead time reduction.

The average for the statements on administration structures was 3.79. The results imply that an organization benefits greatly when reliable administration structures are embraced to reduce costs, introduce administration systems designed to address the organization's needs, and work with the organization to streamline procurement optimization (Jolley, 2013).

4.2 Inferencial Analysis

Correlation Analysis

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

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

The correlation analysis to determine the relationship between monitoring and evaluation and procurement optimization of state corporations in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.684) between monitoring and evaluation and procurement optimization of state corporations in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between of balanced scorecard in optimizing procurement of state corporations in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.680) between of balanced scorecard and procurement optimization of state corporations in Kenya. In

addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between administration structures and procurement optimization of state corporations in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a negative relationship (r=0.696) between administration structures and procurement optimization of state corporations in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05). Hence, it is evident that all the independent variables could explain the changes in the procurement optimization of state corporations in Kenya, on the basis of the correlation analysis.

Table 5: Summary of Pearson's Correlations

Correlations		Key Performance Indicators	Monitoring and Evaluation	Balanced Scorecard	Administration Structures	Procurement Optimization
Key Performance Indicators	Pearson Correlation	1				
	Sig. (2-tailed)					
Monitoring and Evaluation	Pearson Correlation	.598**	1			
	Sig. (2-tailed)	0				
Balanced Scorecard	Pearson Correlation	.589**	.469**	1		
	Sig. (2-tailed)	0	0			
Administration Structures	Pearson Correlation	.588**	.780**	.532**	1	
	Sig. (2-tailed)	0	0	0		
Procurement Optimization	Pearson Correlation	.806**	.684**	.680**	.696**	1
	Sig. (2-tailed)	0	0	0	0	

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

Regression Analysis

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (procurement optimization of state corporations in Kenya) which can be predicted from the independent

variables (key performance indicators, monitoring and evaluation, balanced scorecard and administration structures).

Table 6 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable and the independent variable. The independent variables reported R value of 0.876 indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.768 means that 76.8% of the corresponding variation in procurement optimization of state corporations in Kenya can be explained or predicted by (key performance indicators, influence of monitoring and evaluation, balanced scorecard and administration structures) which indicated that the model fitted the study data. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at ($\beta = 0.761$), $p=0.000 <0.05$).

Table 6: Model Summary

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

a) **Predictors:** *(constant), Key Performance Indicators, Monitoring and Evaluation, Balanced Scorecard and Administration Structures*

b) **Dependent Variable:** *Procurement Optimization*

The regression equation will be;

$$\mathbf{Y = 0.817 + 0.537X_1 + 0.097X_2 + 0.067X_3 + 0.08X_4}$$

The regression equation above has established that taking all factors into account (key performance indicators, monitoring and evaluation, balanced scorecard and administration structures) constant at zero, procurement optimization of state corporations in Kenya will be an index of 0.817. The findings presented also shows that taking all other independent variables at zero, a unit increase in key performance indicators will lead to a 0.537 increase in procurement optimization of state corporations in Kenya. The P-value was 0.000 which is less 0.05 and thus the relationship was significant.

The study also found that a unit increase in monitoring and evaluation will lead to a 0.097 increase in procurement optimization of state corporations in Kenya. The P-value was 0.002 and thus the relationship was significant. In addition, the study found that a unit increase in balanced scorecard will lead to a 0.067 increase in the procurement optimization of state corporations in Kenya. The P-value was 0.000 and thus the relationship was significant.

Lastly, the study found that a unit increase in administration structures will lead to a 0.08 increase in the procurement optimization of state corporations in Kenya. The P-value was 0.01 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, key performance indicators contributed most to procurement optimization of state corporations in Kenya.

Table 7 : Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(*Constant)*	0.817	.229		3.576	.000
	Key Performance Indicators	.537	.064	.472	8.439	.000
	Monitoring and Evaluation	.097	.041	.159	2.391	.02
	Administration Structures	.080	.032	.168	2.49	.01
	Balanced Scorecard	.067	.015	.237	4.597	.000

a) **Predictors:** *(constant), Key Performance Indicators, Monitoring and Evaluation, Balanced Scorecard and Administration Structures*

b) **Dependent Variable:** *Procurement Optimization*

Table 8 : ANOVA

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

Predictors: *(constant), Key Performance Indicators, Monitoring and Evaluation, Balanced Scorecard and Administration Structures*

Dependent Variable: *Procurement Optimization*

The significance value is 0.000 which is less than 0.05 thus the model is statistically significance in predicting how key performance indicators, monitoring and evaluation, balanced scorecard and administration structures influence procurement optimization of state corporations in Kenya. The F critical at 5% level of significance was 86.80. Since F calculated which can be noted from the ANOVA table above is 119.907 which is greater than the F critical (value = 86.80), this shows that the overall model was significant. The study therefore establishes that; key performance indicators, monitoring and evaluation, balanced scorecard and administration structures influence procurement optimization of state corporations in Kenya. These results agree with Gianakis (2012) results which indicated a positive and significant influence of performance contracting on optimizing procurement.

5. 0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The findings of the study indicated that; key performance indicators, monitoring and evaluation, balanced scorecard and administration structures have a positive relationship with procurement optimization of state corporations. Based on the study findings, the study concludes that performance of state corporations can be improved by key performance indicators, monitoring and evaluation, balanced scorecard and administration structures.

5.2 Recommendations

Policy recommendation: the study recommended that public institutions should embrace performance contracting practices so as to improve their procurement optimization and further researches should to be carried out in other public entities to find out if the same results can be obtained.

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