



INFLUENCE OF CONTRACT MANAGEMENT PRACTICES ON SUPPLY CHAIN PERFORMANCE OF STATE CORPORATIONS IN THE MINISTRY OF ENERGY

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Kolani, J. S.,^{1*} & Miroga, J. B.²

^{1*}Msc. Candidate, Jomo Kenyatta University of Agriculture & Technology [JKUAT], Kenya

²Ph.D, Lecturer, Jomo Kenyatta University of Agriculture & Technology [JKUAT], Kenya

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ABSTRACT

The study focused on investigating the influence of contract management practices on supply chain performance of state corporations in the ministry of energy. The researcher established the influence of relationship management, contract administration, contract appraisal and contract closure on supply chain performance as the specific objectives of the study. The literature review introduced various dimensions on influence of contract management practices on supply chain performance. Descriptive research design was used for the study and the questionnaire was the main data collection instrument. Target population for this study was 395 professionals involved in contract management in the state corporations in the ministry of Energy. The study adopted a stratified sampling method since the population was not homogenous. A sample size of 198 respondents derived from Yamane's method was used. Primary data was collected through administering of questionnaires to the staff of the state corporations. The study used Cronbach alpha coefficient to determine reliability of the instrument in the study and analysis of data was done using SPSS version 21 since it allows data sets to be loaded more easily making it user friendly. This study therefore would be useful to the government in enhancing accountability and transparency, to encouraging improvement and confidence in the appropriate use of public funds, and at reinforcing the effectiveness. The study findings indicated that the four variables, that is relationship management, contract administration, post contract appraisal and contract closure positively and significantly affect supply chain performance. As such, state corporations should embrace more relationship management. The study recommended that future studies should focus on the other sectors. In conclusion, the findings showed that 66% of the supply chain performance is explained by the four variables and the remaining 34% was accounted by the standard error.

Key words; Relationship Management, Contract Administration, Post Contract Appraisal, Contract Closure, Supply Chain Performance

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INTRODUCTION

According to PPOA (2009) procurement contract is a written agreement between a procurement entity and a supplier, a contractor which is enforceable by law. Contract management pertains to preparation of procurement documentation, the processing and approval of such documentation, monitoring contract implementation approving and administering contract variations and modifications and possibly cancelling or terminating contracts.

Contract administration is the management of contracts made with vendors, customers, employees or partners. Contract management involves negotiating the conditions in contracts and terms and ensuring obedience with the terms and conditions, as well as documenting and harmonizing on any changes or adjustments that may come up during execution or implementation. It can therefore be summed up as the process of efficiently and systematically, execution and managing contract creation, and analysis for the purpose of maximizing operational performance together with financial and minimizing risk.(Aberdeen,2007).

Contract life cycle is the process of efficiently and systematically managing contract creation,

Analysis and execution for maximizing financial and operational performance and Minimizing risks. The foundations for effective and successful post-award contract management rely upon careful, comprehensive and thorough implementation of the upstream or pre-award activities. At the pre-award stages, the emphasis should be concentrated on why the contract is being developed on whether the supplier is capable to deliver in service and technical terms. However, cautious consideration must be given to how the contract will work once awarded (CIPS, 2007).

Important work by Pryke, (2006) treated projects as network of relationships that need managing to achieve project success. In the construction sector, a

number of studies have identified the importance of managing interrelationships between parties within a project. Studies focusing on organizing projects as temporary multiparty organizations in the 1980s came from Brensen, (1988) in the United Kingdom, and from Packendorff (1995) in Europe. Brensen and Marshall (2000) further looked at partnering within the construction industry. A key issue remained of how to embed partnering relationship in the contract. The use of the contract form to govern the relationship and resolve conflicts among the contracting parties has been explored by various parties such as Lazar (2000), and Cicmil and Marshall (2005) but with no specific contractual devices developed.

To meet their mandates and deliver their programmers, organizations of the United Nations system awarded over US \$16 billion in contracts for goods and services in 2013. This volume of resources demonstrates the extent of risk exposure that organizations are facing when engaging with contractors. (Bartsiontas, 2014). Contract management continues to be an increasingly important function for the US Department of Defense (DoD), in general, and more specifically, for the US Navy. The DoD, which is the federal government's largest contracting agency, continues to increase its level of public spending for goods and services. In fiscal year 2014, the DoD obligated approximately \$290 billion in contracts for major weapon systems, supplies, and services, which included \$84 billion obligated by the US Navy (Federal Procurement Data System-Next Generation, 2014). The DoD procurement workforce professionals are responsible for managing millions of contract actions for the procurement of critical supplies and services, ranging from commercial-type supplies, professional and administrative services, highly complex information technology systems, and major defense weapon systems (Federal Procurement Data System-Next Generation, 2014)

Legislative and regulatory reform in South African government institutions is focused on enhancing service delivery to all South Africans. Good practice contract management has the capacity to increase revenue opportunities, decrease costs and enhance service delivery. Recent regulatory frameworks promise strong punitive measures for managers who are found to have been negligent or purposely fraudulent in their duties. Initial enforcement efforts have been gradual and can be expected to increase significantly in the medium term. Importantly, as competencies of managers and the resources at their disposal increase, it is essential that they strengthen their efforts to make compliance central to strategic objectives.

The Government of Kenya, like most governments around the world, is the single buyer of goods, services and works, in the country. Some 30% of the annual national budget of Kenya goes to procurement. Hence public procurement plays a critical role in the Kenyan economy and is an important factor in the economic growth. Sound and efficient use of scarce resources is the responsibility of the Government and every public entity. The Kenya Government has lost hundreds of millions of tax payer's money through cancelled contracts, unfinished projects, poor service or product delivery corruptions and extended contract periods in the last eight years without major improvement (Transparency International, 2009). Confirmed data shows that the government of Kenya spend between 10 percent to 30 percent of GDP on procurement alone (Mari, 2013). Out of that 5% goes to waste due to lack of proper management of the contracts (Gordon, 2009). As a result of these economic situations, the World Bank and the international monetary Fund had to intervene by putting in stringent conditionality's for lending funds to the government which slowed down economic development by 2.1 percent (Transparency International, 2009).

Statement of the Problem

The contract management is a critical component of procurement process of public bodies. Contract management enhances the procurement process in diverse ways including anticipating future needs of users, reacting to arising challenges, and achievement of product and services quality (CIPS, 2007). Other aspects include lead times in service delivery, budget considerations in procurement aspects, optimization of the efficiency, effectiveness and economy of service in contractual relationship, balancing costs against risks and actively management the relationship between procurement parties (Kakwezi, 2012). The mismanagement of procurement contracts continues to occur despite the enactment of the Public Procurement Assets and Disposal Act PPADA (2015) and the Regulations 2006 as well as creation of Public Procurement Regulatory Authority (PPRA) meant to promote effectiveness in public procurement and contract management.

Energy is one of the key enablers of the Vision 2030 and energy security remains a matter of national priority (GOK, 2018). The Second Medium Plan 2013-2017 identifies energy as one of the enablers for transformation into a newly-industrializing, middle-income country providing a high quality of life to all its citizens in a clean and secure environment. However, the performance index of the ministry is not encouraging due to numerous scandals and misappropriation of funds allocated for projects (Auditor general report, 2017). For instance as a result of poor contract management in the ministry of energy, Kenyan tax payer lost sh 310,129,743 due to supply of faulty transformers by the contractor at the Kenya Power (Auditor general report, 2017).

According to the treasury budget 2018/2019, the state ministry of energy was allocated 89 billion, to facilitate provision of clean, sustainable, affordable, reliable, and secure energy services for national development such as rural electrifications and other projects. Out of that, almost half of the budgeted

amount goes to waste or they cannot be accounted for due to lack of proper management of the contracts. (Gordon, 2009).

New regulatory requirements, globalization, increase in contract volumes and complexity have resulted in an increasing recognition of importance and benefits of effective contract management (CIPS, 2007). Contract Management in public procurement has significant implications for service delivery. Any challenges accruing from this function pose several challenges yet, contract management offers an important framework for ensuring the success of any procurement undertaking (Kakwezi, 2012). Another study was done by Rotich (2014) on contract management practice and operational performance of state corporations in Kenya. Kikwezi (2012) did a study on procurement contract management in public procurement and disposal entities. Kibogo and Mwangangi (2014), factors affecting contract management in public procurement sector in Kenya. With all these studies it implied that little research had been conducted on influence of contract management practices on supply chain performance itself. With this knowledge gap, this study therefore sought to investigate the influence of contract management practices on supply chain performance specifically looking at the state department of energy in Kenya.

Objective of the study

The general objective of this study was to determine the influence of contract management practices on supply chain performance of state corporations in the ministry of energy. The specific objectives were;

- To determine the extent to which relationship management influence supply chain performance of state corporations in the ministry of energy in Kenya
- To assess the influence of contract administration on supply chain performance of state corporations in the ministry of energy in Kenya

- To examine the influence of post contract appraisal on supply chain performance of state corporations in the ministry of energy in Kenya
- To find out the influence of contract closure on supply chain performance of state corporations in the ministry of energy in Kenya

LITERATURE REVIEW

Stakeholders Theory

Stakeholder theory originated by Freeman (1984) is defined as “any group or individual who can affect or affected by the achievement of the organization’s objectives”. Unlike agency theory in which the managers are working and serving for the shareholders, stakeholder theorists suggest that managers in organizations have a network of relationships to serve that include the suppliers ,employees and business partners .According to Freeman(2002),each stakeholder is given an important say in making important decisions. Business and executives who manage them, should create value for customers, suppliers, communities and financiers(Stieb,2008).The stakeholder argues about the importance of firm paying special attention to the various stakeholder groups that are deemed to have a stake in the operations of an organization. The representation of all stakeholders groups on boards is therefore necessary for effective supply chain performance (Gibson, 2000).The model depicts the stakeholders in a typical large corporation. The stakes of each are reciprocal, since each can affect the other in terms of harms and benefits as well as rights and duties (Freeman, 2002). Owners have financial stake in the corporation and expect returns.

Theory of Constraints

Ochieng (2014) theorized that the Theory of Constraints (TOC) is a philosophy of management and improvement originally developed by Eliyahu M.Goldratt and introduced in his book, The Goal. It is based on the fact that, like a chain with its weakest

link, in any complex system at any point in time, there is most often only one aspect of that system that is limiting the ability to achieve more of its goal. For that system to attain any significant improvement that constraint must be identified and the whole system must be managed with it in mind.

In borrowing this concept, procurement seek to identify the constraints in the contract management that emanates from poor contract administration and monitoring then work collectively to eliminate the constraint thus improving the achievement of the goals and objectives of the contract. The TOC thinking process, taken as a whole, provides an integrated problem-solving methodology that address not only the construction of solutions, but also the need for communication and collaboration that successful implementation of supply chain function requires.

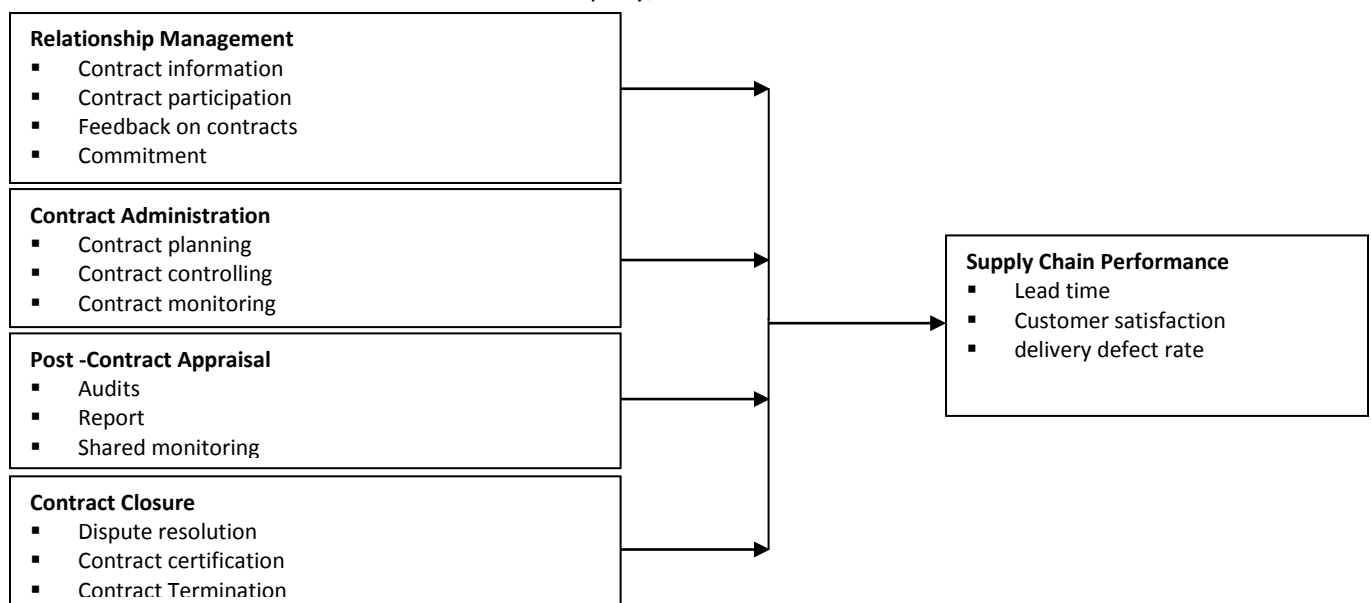
Principal Agent Theory

Agency theory was expounded by Alchian and Demsetz (1972) and further developed by Jensen and Meckling (1976). The theory defines the relationship between principals, such as shareholders and agents or company executives and managers. In this theory, shareholders who are the owners of the company,

hire agents to perform work. This theory relates to independent variable on post contract appraisal where the principal delegates the running of the business to the managers, who are the shareholders agents (Clarke, 2004).

Contract theory

In economics, the contract theory studies how economic actors can and do construct contractual arrangements, generally in the presence of asymmetric information. Because of its connection with both agency and incentives, contract theory is often categorized within a field known as law and economics. One prominent application of it is the design of optimal schemes of managerial compensation (Laffont, Martimort, 2012). A standard practice in the micro economics of contract theory is to represent the behaviors of a decision maker under certain numerical utility structures, and then apply an optimization algorithm to identify optimal decisions. Such procedure has been used in the contract theory framework to several typical situations, labelled moral hazard, adverse selection and signaling. The spirit of this model lies in finding theoretical ways to motivate agent to take appropriate actions.



Independent Variable

Dependent Variable

Figure 1: Conceptual Framework

Empirical Review

wang and Bunn (2004) propose a combination of business-government relationship as a unifying background for understanding the issues of buyer-seller links in government contract performance. Additionally, Enquist, Johnson and Camen (2005) conducted a study on contract management and sustainable service in public transport sector in Sweden. Moreover, Jones and Kaluarachchi (2007) also studied operational factors influencing strategic partnership social housing in the UK. They concluded that poor management of expectations between partners undermines trust and confidence in the process.

Gupta, Karayil and Rajendran (2008) reveal that poor contract management causes substantial loss of saving. They also argue that 30 to 70% of each dollar of saving that is negotiated by a strategic outsourcing is lost. This happens through spend-leakage and subsequent noncompliance. They further argue that poorly managed contracts affect the purchasing firm's credibility through a snowball effect. This implied that the difficulty to internally sell and enforce future contracts. For many years, businesses got the whole concept of contract management wrong, hence the heavy fine of non-compliance.

Holt and Graves (2001) conducted a study on benchmarking UK public government and discovered a positive correlation between benchmarking and supply chain performance in the country. As well, a study by Bassioni, Price and Hassan (2004) dwells on the performance measurement in construction industry. Amin (2012) conducted a study on e-procurement organizational performance in commercial Parastatals in Kenya. CMKN (2012) highlights some of the factors that contribute to inefficiency in public procurement. Corruption, delayed payments, poor planning, statutory amendments, insufficient use ICT, low public participation and improper payment procedures negatively affects public procurement in

the country. Mohammed (2008) also sought to establish the effects of performance contracting on banking industry's operational performance. Sanghera (2008) says that an organization can determine if it is engaging in effective contract management if it makes appropriate strategic decision and drafts right contracts.

Contract closure happens when all the contractual terms and obligations have been honored (Cropper, 2008). A contract is completed when all goods or services have been received and accepted; all administrative actions have been accomplished; all agency furnished equipment and material have been returned; and final payment has been made to the contractor (Cropper, 2008). To initiate the close-out process, the agency should first determine that the contractor has satisfactorily performed all required contractual obligation.

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Buyers and service users frequently discuss a supplier's performance and value for money, especially to compare it with another supplier. It is well documented that this process helps the organization to be more effective. Considering this, and the increasing dependency on bought-in goods and services, it seems odd that supplier appraisal isn't more prevalent in procurement. This could be due to procurement's lack of experience in this area or perception that it is a low priority activity and that if problems do occur they can be sorted out at times (CIPS, 2010).

METHODOLOGY

This research used descriptive research design in the collection of data. The study populations for this study were 395 procurement, all head of departments and accounting professionals in state corporations in the ministry of energy in Kenya. The study used stratified random sampling in selection of 198 employees. Correlation analysis was used to determine the relationship between the independent and dependent variables. The study used ANOVA to test the level of significant of the variables on the dependent variable at 95% level of significance. The descriptive statistical tools such as frequencies, percentages, mean and standard deviation was used by the researcher to describe the data in terms of the variability of responses.

RESULTS

Relationship Management

The respondents were asked to indicate the effect of attitude between buyers and suppliers on procurement cycle times. The study found that the majority 50% of the respondents admitted that inspection time was less, 40% admitted that delivery time was shorter and 10% agreed to the opinion that credit period was longer. The finding implicated that attitude is critical for procurement cycle times and helps in reduction of time spent during inspection of the goods and services during delivery. The findings agreed with Dahwaet *al* (2013) Study on buyer-supplier procurement practices and their impact on business performance that attitude between buyer-supplier has an impact on performance.

The respondents were asked to indicate the effect of attitude between buyers and suppliers on customer satisfaction. The study found that majority (50%) of the respondents admitted that the occurrence of defective items was less, 42% admitted that there was delivery of the right quality and 8% agreed to the opinion that returns had reduced. The findings implicated that attitude is critical when it comes to supplier delivery of right items. The findings agree with Osman, (2013) study on customer satisfaction and customer loyalty.

The study found that (17%) of the respondents admitted that attitude affects returns, 33% admitted that there existed amicable dispute resolutions and 50% agreed to the opinion that attitude resulted to longer mutually beneficial relationships. The findings concurred with (Jing, 2012) study that found out that attitude has an impact on delivery defect rate that is the defect rate declines after the parties trust each other.

The study found that majority 71% of the respondents agreed to the opinion that where there is commitment, delivery of goods, services and works was prompt, 10% admitted that commitment

between buyers and suppliers reduce idle capacity and 19% agreed to the opinion that commitment reduces inspection time. The findings agreed with Korir, (2015) on the effect of buyer-supplier relationships on procurement performance that found that commitment has a positive and significant effect in procurement performance.

The study found that majority 58% of the respondents admitted that commitment between suppliers and buyers enhanced customer services, 25% admitted that commitment between suppliers and buyers ensured that there is delivery of goods and services of high quality and 17% agreed to the opinion that where there is commitment, customers enjoyed discounted prices. The findings agreed with Agtuneset *al* (2016) on the effects of satisfaction on customer loyalty in distribution sector.

The study found that 57% of the respondents admitted that commitment affect less returns, 30% admitted that there existed amicable disputes resolutions and 13% agreed to the opinion that commitment resulted to longer mutually beneficial relationships. The findings implicated that when there is high level of commitment then there was less returns, which equates to customer satisfaction.

The study found that majority 67% of the respondents agreed to the opinion that mutual processes between suppliers and buyers ensures faster decision making, 23% admitted that mutual process ensures prompt delivery and 10% agreed to the opinion that mutual processes between suppliers and buyers results in faster decision making which shortens procurement cycles times. The findings agree with Cannon & Perreault, (2009) findings on mutual exchange of information between buyers and suppliers and concluded that mutual exchange of information between buyers and suppliers influence procurement performance, this is reflected in shorter cycle times.

The study found that majority 56% of the respondents admitted that where there is mutual processes between suppliers and buyers, response rate to customer needs was flexible, 23% admitted that mutual processes improves customization and 21% agreed to the opinion that there is mutual processes gives an opportunity to return salvage items. The findings implicated that mutual process between supplier and buyer highly affects rate of flexibility to respond to customer needs which is very important for customer satisfaction. The findings agree with Hannan, (2015) study on relationship management and customer satisfaction which concluded that mutual sharing of information has a positive impact on customer loyalty thus influenced customer satisfaction.

The study found that 57% of the respondents admitted that mutual processes between suppliers and buyers resulted to less defects, 30% admitted that mutual processes between suppliers and buyers reduced the inspection time during delivery and 13% agreed to the opinion that mutual processes between suppliers and buyers resulted to longer credit period. The findings implicated that mutual processes is important for the rate defects that is, the higher the level of mutual process the lower the defect rate. The study findings concurs with Azeem (2010) study that concluded that information sharing is prerequisite for knowledge sharing and the close supplier-buyer relationship is a vital factor for escalating suppliers operational performance.

From the findings, majority of the respondents agreed that contract information affect procurement cycle time in the organization as shown by mean of 3.77. Majority of the respondents agreed that commitment affects customer satisfaction in the organization as shown by mean of 3.70. Respondents agreed that commitment affects supplier defect rate as shown by mean of 3.58. Concisely, Majority of the respondent were in agreement that feedback on contracts affects supplier defects rate and attitude

affects quality services as shown by mean of 3.18 and 3.64 respectively. From the findings it's clear that contract participation between suppliers and buyers are important in determining the supplier defect rate which affect the supply chain performance. As such, relationship management is strongly affected by mutual processes which in turns affect the supply chain performance in terms of achieving their

objectives especially on reduction of supplier defect rate. The findings are in tandem with Oyugi *et al* (2015) who concluded that proper relationship with suppliers would significantly improve performance in his study on relationship management and supply chain performance hence supplier development programs, strategic management of supply base and increased information sharing impact performance.

Table 1: Statement relating to the effect of Relationship management on supply chain performance

Statements	Strongly disagree	Disagree	Moderate	Agree	strongly Agree	Mean	Std. Deviation
Contract information affect procurement cycle time in the organization	4	12	15	56	25	3.77	0.181
Commitment affect customer satisfaction in the organization	11	17	28	47	9	3.70	0.139
Commitment affects supplier defect rate	24	9	20	57	2	3.58	0.189
Feedback on contracts affects supplier defects rate.	19	11	23	55	4	3.18	0.175
Contract participation affects quality services	7	11	19	53	22	3.64	0.162
Average						3.57	0.138

Contract Administration

The study sought to determine the effect of contract administration on supply chain performance on state corporations in the ministry of energy. Majority of the respondents agreed that contract planning affect procurement cycle time in the organization shown by a mean of 3.87. Respondents agreed that contract monitoring affect customer satisfaction showed by a mean of 3.81. Majority of the respondents strongly agreed that contract planning affects supplier defects shown by a mean of 4.10. Respondents agreed that contract control affects procurement cycle time and contract monitoring affects quality service shown by a mean of 3.18 and 4.37 respectively. From the findings, it was clear that contract administration affects supply chain performance with more emphasis on contract planning, contract monitoring and contract control. It's clear from the findings that

proper contract planning affects supply chain performance and is important in reduction of procurement cycle times. The findings concur with Njeru, (2013) who concluded that there existed a strong relationship between contract planning and supply chain performance, hence study concludes that the presence of procurement portfolio, efficient logistics management and adherence to procurement plans affects supply chain performance. In addition, the findings agree with Kabega (2016) who concluded that proper contract administration improves supply chain performance in terms of short-time delivery and customer satisfaction on his study on construction projects and contract management. The purpose of contract management therefore is the enable the firm to utilize the available resources fully to achieve the overall procurement objectives.

Table 2: Statement relating to the effect of Contract Administration on supply chain performance

Statements	Strongly disagree	Disagree	Moderate	Agree	strongly Agree	Mean	Std. Dev
Contract planning affect procurement cycle time	4	7	18	64	19	3.87	0.216
Contract monitoring affect customer satisfaction	2	10	23	57	20	3.81	0.188
Contract planning affects supplier defects rate	1	3	9	70	29	4.10	0.257
Contract control affects procurement cycles	8	2	22	63	17	3.18	0.214
Contract monitoring affects quality service	0	0	4	63	45	4.37	0.264
Average						3.87	0.228

Post Contract Appraisal

The study sought to find out the effects of post contract appraisal on supply chain performance of state corporations in the ministry of Energy in Kenya. The study found out that majority of the respondents agreed that Contract audit affects procurement cycle time in the organization showed by a mean of 4.01. Majority of the respondents eluded that Contract reports affects customer satisfaction in the organization showed by a mean of 4.06. Majority of the respondents agreed that Contract planning affects supplier defects rate showed by a mean of 3.96. Concisely the findings showed that majority of the respondents agreed on the statement that Shared benefits affects supplier defects rate and Contract reports affects quality service shown by a mean of 3.99 and 3.81 respectively. As such, the study

implication is that contract audit, contract reports and shared benefits affects supply chain performance with an equivalent magnitude. The findings also implicated that proper contract audits are important for delivery of the right quality goods, services and works and ensures customer satisfaction. The findings are tandem with Mlinga, (2014) who did a study on contract audit and found out that there is a relationship between proper contract audits and customer satisfaction while managing contracts, hence for proper contract deliver proper auditing needs to be carried out. The findings also agree with CIPS, (2009) that post contract appraisal is important for in that it contributes to success of a project, thus impacting on supply chain performance, which in overall contribute towards the organizations competitive advantage.

Table 3: Statement relating to the effect of Post Contract appraisal on supply chain performance

Statements	Strongly disagree	Disagree	Moderate	Agree	strongly Agree	Mean	Std. Deviation
Contract audit affects procurement cycle time in the organization	1	3	18	62	28	4.01	0.221
Contract reports affects customer satisfaction in the organization	0	2	20	59	31	4.06	0.216
Contract reports affects supplier defects rate	1	4	22	57	28	3.96	0.201
Shared benefits affects supplier defects rate.	3	10	21	62	16	3.99	0.210
Contract reports affects quality of service and products	11	9	19	56	17	3.81	0.201
Average						3.97	0.209

Contract Closure

The study sought to find out respondent agreement with the statements relating to the effect of contract closure on supply chain performance. From the study findings, majority of the respondents agreed that Dispute resolution affect procurement cycle time in the organization shown by a mean of 4.32. The respondents agreed that contract termination affect customer satisfaction in the organization showed by a mean of 4.30. Majority of the respondents agreed that dispute resolution affects supplier defect rate shown by a mean of 3.55. Additionally, majority of the respondents agreed that Contract certification

affect customer satisfaction and dispute resolution affects quality of service and products shown by a mean of 4.21 and 3.99 respectively. The implications of these findings is that dispute resolution affects procurement cycle times in the firms. These results is tandem with Chong (2011) that contract closure should involve controlling and certifying that all parties have honored their contractual responsibilities; controlling and certifying that all activities of evaluation of successful contract execution; ensuring the achievement of expected results; and termination of contracts effectively.

Table 4: Statement relating to the effect of contract closure on supply chain performance

Statements	Strongly disagree	Disagree	Moderate	Agree	strongly Agree	Mean	Std. Deviation
Dispute resolution affect procurement cycle time in the organization	0	0	4	68	40	4.32	0.273
Contract termination affect customer satisfaction in the organization	0	3	3	63	43	4.30	0.258
Dispute resolution affects supplier defect rate	7	11	25	51	18	3.55	0.155
Contract certification affects customer satisfaction.	0	2	9	64	37	4.21	0.246
Dispute resolution affects quality of service and products	2	6	21	45	38	3.99	0.169
Average						4.07	0.220

Supply Chain Performance

The study sought to examine the respondent's percentage measurement of procurement function in relation to contract management practices within the firm over a period of five years with the variable concerning contract management and supply chain performance within the firms.

The study findings indicated that majority of the respondents are indifferent about customer satisfaction, it is clear that in the years and contract success rates are fluctuating and improving which shows a positive improvement. The year 2017 had the highest rates 74% of customer satisfaction due to

contract management practices while the year 2014 had the least rate 36% of customers were satisfied due to contract management practices. This implies that rate of successful contracts fluctuates depending on the factors affecting the performance of both the suppliers and the buyers, a number of complaints are received in the procurement department annually in relation to failed contracts and customer satisfaction varies depending on performance of each contract and therefore contract management practices affects customer satisfaction. The findings concur with Gupta (2008) who revealed that poor contract management causes substantial loss of savings and customer dissatisfaction.

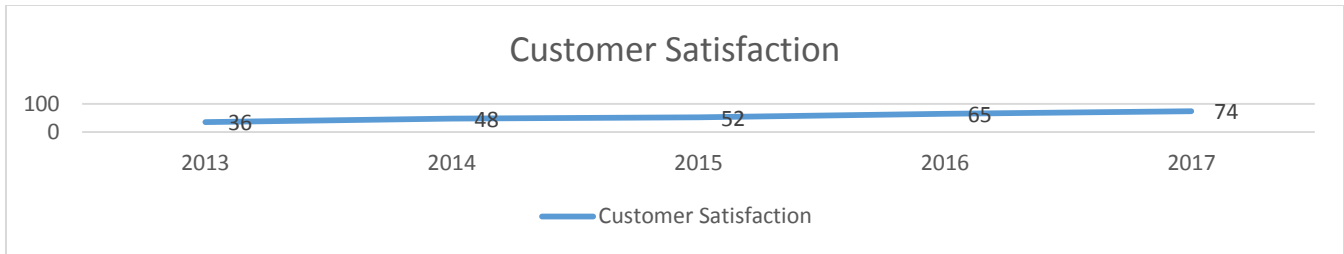


Figure 2: showing Customer Satisfaction

The study found out that 2013 had the most rejects due to poor contract delivery at 27% while 2017 had the lowest at 9%. Contract management practices have led to a reduction in supplier defect rates as shown in the figure above. In 2013, contract management practices contributed to 27% reduction in supplier defects, 2014 was 28%, 2015 was 22%, 2016 was 15% and finally 2017 at 9% reduction in

supplier defects rates. From the findings, it is clear that contract management practices have been leading in reduction of supplier defects rate. This finding is tandem with Rotich, (2012) that effective contract management improves supplier performance, in the aspect of compliance and meeting specifications in state cooperation's in Kenya.

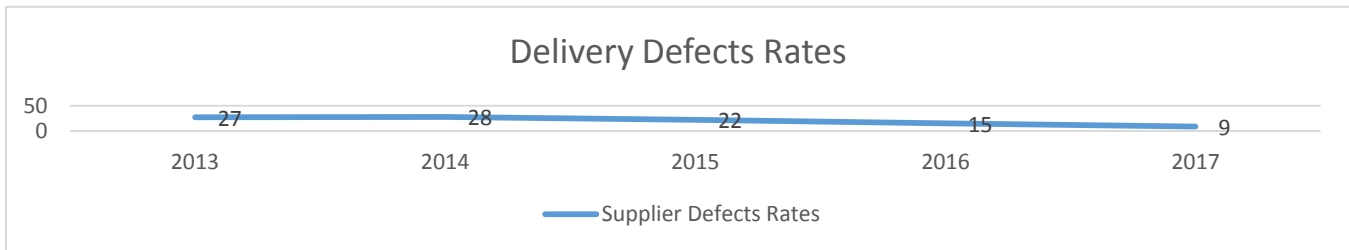


Figure 3: showing Supplier Defects Rates

The study findings indicate that contract delivery has been improving. The number of contracts delivered within thirty days after the request has been raised has improved as the years progressed. The respondents indicated that percentage reduction in procurement cycle times has been increasing within the years, in 2017, the reduction in cycle times was the highest with 46%, in 2016 there was a 38% reduction in cycle times, 2015 was 27%, 2014 was

25% and finally 2013 at 12%. This implies that contract management has reduced procurement cycle times as the years progressed. The findings concurs with Kakwezi (2012) that contract management practices in public procurement has significant implications for service delivery, that is proper contract management procurement cycle time is reduced significantly.

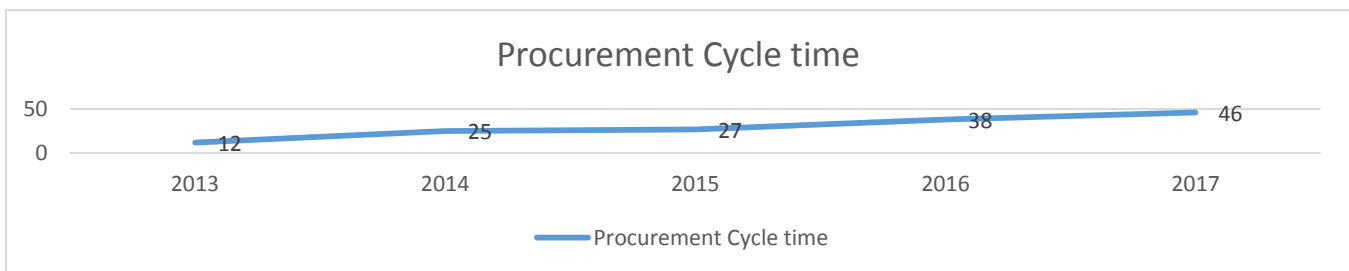


Figure 4: showing procurement cycle time

Inferential Analysis

Correlation Analysis

Multi collinearity is a measure of the existence of strong correlation between independent variables. The aim of the correlation test was to identify the

association between contract management practices on supply chain performance. Two independent variables are said to be correlated if their P-value is greater than 0.5 and as such on of the variables should be dropped from the model.

Table 5: Correlation Coefficients

	Relationship Management	Contract Administration	Post Contract Appraisal	Contract Closure	supply chain Performance
Relationship Management	1				
Contract Administration	0.522	1			
Post Contract Appraisal	0.561	0.451	1		
Contract Closure	0.611	0.394	0.412	1	
supply chain Performance	0.713	0.632	0.613	0.526	1

***Correlation is significant at 0.02 level (1-tailed)**

The analysis above showed that relationship management had the strongest positive (Pearson correlation coefficient=.713; P value 0.000) effect on supply chain performance. In addition, contract administration, post contract appraisal and contract closure are positively correlated to supply chain

performance. The correlation matrix implied that independent variables were very crucial determinants of supply chain performance as shown by their strong and positive relationship with the dependent variable; organization performance.

Table 6: Model Summary

Model	R	R square	Adjusted R Square	Standard Error of the Estimate
1	.813 ^a	.660	.648	.13747

a. Predictors: (Constant), Relationship management, Contract Administration, Post Contract Appraisal, Contract Closure.

Adjusted R squared is coefficient of determination which tells us variation in the dependent variable due to changes in the independent variables. From the findings, the value of adjusted R squared was 0.648 an indication that there was variation of 64.8 percent on supply chain performance due to changes in relationship management, Contract Administration, Post contract Appraisal and Contract closure. The R Square in this case was 0.660 which clearly suggested

that there is a strong relationship between relationship management, Contract Administration, Post contract Appraisal, contract closure and supply chain performance. This indicated that relationship management, contract administration, post contract appraisal, contract closure share a variation of 66% of supply chain performance of State Corporation in the ministry of energy.

Analysis of Variable

Table 7: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	62.456	4	15.614	11.7046	.013 ^b
Residual	142.738	107	1.334		
Total	205.194	111			

a. Dependent variable: Supply chain performance

b. Predictors: (Constant), Relationship management, contract Administration, Post Contract Appraisal, Contract Closure.

Since the tabulated F (critical) (4,107) at $\alpha=0.05$ was 2.45 which is less than F computed (11.7046) hence there is a significant effect of the independent variables and thus the overall model is significant.

Table 8: Coefficients

Model	Unstandardized coefficients		Beta	T	Sig.
	B	Std Error			
Constant	.159	.046		3.475	.001
Relationship management	.297	.040	.463	7.415	.000
Post Contract Appraisal	.288	.050	.381	5.760	.000
Contract Closure contract Administration	.135	.021	.335	6.430	.000
	.295	.064	.429	4.609	.000

A simple regression model was used in determining the level of effect the independent variable have on dependent variable as shown below

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

$$Y = 0.159 + 0.297X_1 + 0.295X_2 + 0.288X_3 + 0.135X_4 + \epsilon$$

Y= Supply chain performance

B₀= Constant

X₁=Relationship

X₂= Contract Administration

X₃= Post Contract Appraisal

X₄= Contract Closure

E= Error term

Relationship management was found to have positive significant effect on supply chain performance of state corporations in the ministry of Energy (X₁= 0.297, P=0.000<0.05). shows that one unit change in relationship management results in 0.297 unit increase in supply chain performance of state

corporation in the ministry of energy other factors held constant.

Contract administration was found to have positive significant effect on supply chain performance of state corporations in the ministry of Energy (X₁= 0.295, P=0.000<0.05). shows that one unit change in Contract administration results in 0.295 unit increase in supply chain performance of state corporation in the ministry of energy other factors held constant.

Post contract Appraisal was found to have positive significant effect on supply chain performance of state corporations in the ministry of Energy (X₁= 0.288, P=0.000<0.05). Shows that one unit change in Post contract Appraisal results in 0.295 unit increase in supply chain performance of state corporations in the ministry of Energy other factors held constant.

Contract closure was found to have positive significant effect on supply chain performance of

state corporations in the ministry of Energy ($X_1 = 0.135$, $P = 0.000 < 0.05$). Shows that one unit change in Post contract Appraisal results in 0.135 unit increase in supply chain performance of state corporations in the ministry of Energy other factors held constant.

The beta coefficients indicate the relative importance of each independent variable (Relationship management, Contract Administration, Post contract Appraisal and contract closure affecting the dependent variable (supply chain performance) of State Corporation in the ministry of energy

CONCLUSIONS

From the findings it's clear that relationship management affects supply chain performance, more specifically mutual processes between suppliers and buyers. Relationship management is strongly affected by mutual processes which in turns affects supply chain performance in terms of achieving their objectives especially on reduction of supplier defect rate.

Contract administration affects supply chain performance with more emphasis on contract planning and contract monitoring. It's clear from the findings that proper contract planning affects supply chain performance and is important is reduction of procurement cycle times

The study findings indicated that post contractual appraisal affects supply chain performance. Contract audit, contract reports and shared benefits affects supply chain performance with equivalent magnitude.

The study concluded that all the four variables significantly and positively affects supply chain performance. Relationship management is the most important in supply chain management performance followed by contract administration then post contract appraisal and the least is contract closure.

The study further concluded that proper contract management is essential in ensuring that all parties to the contract fully meet their respective obligations as

efficiently and effectively as possible, delivering the business and operational outputs required from the contract and providing value for money, customer satisfaction and reducing cycle time.

Post-contract activities led to more efficient and effective management of the supplier base. This in turn can foster greater organizational competitiveness. The study found out that most firms does not engage in proper post contract activities; after delivery of the contract.

RECOMMENDATIONS

The study recommended that state corporations in the ministry of Energy should maintain the spirit of good relationship. Good attitude between the suppliers and buyers is essential in enhancing supply chain performance of a firm. Mutual process should also be created between the parties in the organization to enhance smoothness of the operational activities and entire performance of a procurement function.

State corporations in the ministry of Energy needs proper outline procedures for contract administration. The study found out that most of these institutions do not bother following up with the contractors to ensure that the contract is fulfilling its mandate. To them, once a contractor is awarded then it is left as the contractor's obligation to ensure the contract is fulfilled. This practice needs urgent attention to save most contracts that are failing to mature within these firms.

The study recommended that state corporations in the ministry of Energy should put in place post contract activities and mechanism to ensure that future contracts are successful. Suppliers and contractors need to be evaluated based on their performance for future contracts and this would provide an environment for creating buyer-supplier relationships with mutual understandings towards beneficial outcomes.

The study recommended that dispute resolutions mechanisms should be implemented to reduce procurement cycle times. Mechanism will assist in solving disputes that arises and thus enhancing the efficiently and effectiveness of the organization operational activities. Concisely, firms should review their dispute resolution mechanism and put in place those that would be time efficient to avoid time wastage.

Areas for Further Research

Further research should include other sectors to ascertain the effects of contract management practices on supply chain performance. Additionally, contract management practices should be compared in different sectors such as public, non-profit and profit making organizations. In conclusion, the findings showed that 66% of the supply chain performance is explained by the four variables and the remaining 34% is accounted by the standard error.

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