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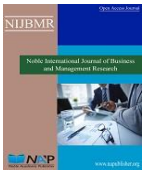

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Contract Management Strategies and Project Performance at Kenya National Highways Authority

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Abstract: Construction contract management strategies are key in the achievement of a firms' objectives. Construction projects are key in any economy due to their high contributions to the economy since they are key in facilitation of key activities. The study was on CMS and project performance of KENHA. The study objectives were to determine the extent of implementation of CMS in KENHA and to establish the effect of CMS on project performance in KENHA. The study adopted a descriptive statics. The study adopted use of strategic choice and agency theory. In the research methodology, the study adopted use descriptive statics. The target population consisted of 40 staff at KENHA. The study used primary data which was collected using questionnaires that were administered through drop and pick method. The supply chain managers, procurement managers or their equivalent were the respondents in KENHA. Data collected was analyzed by use of descriptive statistics and multiple regression analysis. Findings were displayed by use of tables for easy understanding. Data was analyzed using Statistical Package for Social Sciences (SPSS). The findings from the study revealed that CMS had been implemented in KENHA to a large extent. The study findings revealed positive and significant relationship between CMS and project performance. The research also concludes that 83% of project performance is affected by implementation of CMS at KENHA. The study recommends that future studies be carried out on CMS on other firms other than KENHA. In addition, we need to have a holistic view of other firms other than KENHA alone. The major limitation of the study was that it was solely based on KENHA.

Key words: Contract Management Strategies, Project Performance, KENHA.

1. Introduction

Dynamics in the external environment and high competitiveness in the external environment has led to high urge by nations to boost their economies, Kenya being one of the developing countries (Rotich, 2014). One way of realizing this is by ensuring effective and efficient service delivery to the citizens through its agencies. In a bid to meet its objectives, the government allocates funds to the state corporations annually, which is necessary in executing their respective roles and responsibilities to the citizens. Therefore, procurement is inevitable in every government organization and should be conducted in line with the regulations outlined in the Public Procurement and Disposal Act, 2005. The Act's main objectives include transparency and accountability, public confidence, enhanced economy and effectiveness, competition and fairness, and economic development and improved local industry (Ministry of Transport, 2015).

According to Parkera and Hartley (2003), currently, Kenya loses taxpayers' money to improper procurement processes, specifically poor contract management practices. This commonly happens in the country's state corporations due to issues, such as, corruption, litigations, contract cancellations and substandard service or product delivery. This calls for the pressing need to make appropriate policies and decisions to save the situation. Since the state requires to realize its value for money in the process of the serving its people, every state corporation is required to account for its expenses (Contract Monitoring Kenya Network, 2012). Therefore, contract management is a valuable step in public procurement as it ensures that service or product delivery is undertaken as per the contractual terms and conditions.

The study will help unearth the contract management strategies on project performance at KeNHA. Contract management strategies comprise of all the activities involved in the drafting, review, revision, and analysis of contracts, and the implementation of systems and use of software that are designed to enhance accurate tracking and keeping of records relating to satisfaction of contractual terms. Nevertheless, contract management is sensible if it makes a positive impact on the government in terms of operational performance.

A contract refers to a guarantee or set of guarantees that a law promises to implement. Contracts are usually tailored to meet the contracting organization's needs and usually identify with the supply of products or administrations as a feature of the conveyance of an assembled resource. Construction contract management at KeNHA broadly encompasses the issues relevant to the process of road construction and maintenance, including the design, contracting, implementation, supervision, and maintenance of roads and related structures, such as bridges and interchanges. The management strategies include: risk management in private contracting of civil works, monitoring intensity of public works, and evaluation of labor-based construction techniques on project performance in road construction. Therefore, construction contract management strategies are a valuable step in public procurement as it ensures that service or product delivery is undertaken as per the contractual terms and conditions (Sarkar, 2014).

Project managers, based on their professional experiences and work environment; view the success of a project differently. Project success may mean dealing with a high number of projects finished on time and within the allocated budget, ensuring the task adds to the global organization strategies, expanded joint effort and partner association as criteria for progress. The performance of a project can be measured in diverse methods including: timely delivery, efficiency and effectiveness, quality of works, and customer satisfaction. The study will help unearth the effect of effective construction contract management strategies on project performance at KeNHA (Agagu, 2008).

Contract management includes negotiating the terms and conditions in contracts and ensuring compliance with the technical specifications, terms and conditions as well as documenting and agreeing on any changes or amendments that may arise during its implementation or execution. Administration of a contract can be carried out through various ways for instance Build-operate-transfer (BOT) where a business entity is responsible for performing the design, construction, long-term financing, and temporary operation of the project. At the end of the operation period, which can be many years, operation of the project is transferred to the owner. This approach has also been used extensively in large infrastructure projects financed by the World Bank in parts of the world that cannot afford the high investment cost of such projects. Other methods of delivering the project include: build own operate transfer, build lease transfer, design build finance operate, design build operate transfer and design construct manage finance (Entwistle and Martin, 2005).

Contract management strategies enable both parties to a contract to meet their obligations in order to deliver the objectives required from the contract. It also involves building a good working relationship between customer and provider. It continues throughout the life of a contract and involves managing proactively to anticipate future needs as well as reacting to situations that arise. The central aim of contract management is to obtain the services as agreed in the contract and achieve value for money (Bower, 2012).This means optimizing the efficiency, effectiveness and economy of the service or relationship described by the contract, balancing costs against risks and actively managing the customer–provider relationship (Ware and Kynoch, 2013). The specific contract management strategies to be looked at in this study are: transparent bid evaluation, collaborations and partnerships, prequalification of suppliers, target price contracts and e-contracting.

The extent to which project activities meet end customer need is what is termed as project performance (Kipkemoi, 2013). It is a relative measure that explains how a firm utilizes its available resources such as assets both tangible and intangible in generating revenue. Performance measurement is systematic process of quantifying ideas and actions in firms. Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action. The main objective of performance measurement is to provide valuable information that allows firms to improve the fulfillment of customer

requirements and to meet firm's strategic goals (Obongo, 2014). Measuring the performance of an entire supply chain is considered vital because it allows for tracking and tracing of efficacy and efficiency failures and leads to more informed decision making with regard to chain design (Agagu, 2008).

Project performance is measure in terms of cycle time reduction, costs, quality, project cycle time, productivity, customer satisfaction among others, (Wimmer, 2003). Effective contract management enables borrowers to holistically manage contracts from planning, through to execution and beyond. The key value contract management provides is the ability to look at the end-to-end lifecycle of a given contract. Contract Management directly impacts a borrower's delivery of services to its citizens, the cost, degree of compliance, and reporting of results. Project performance can be measured using cost, timeliness, quality and flexibility.

KeNHA is responsible for the management, development and maintenance of national roads. The Kenya Roads Act, 2007 Section 22(1) empowers KeNHA to construct, maintain, operate, improve and manage the roads under its jurisdiction. The roads that fall under KeNHA are classified as A, B and C. The KeNHA recognizes that road development is not only road construction and maintenance alone, but in the broader sense includes the management and protection of road reserves (Ministry of Transport, 2015).

The KeNHA is an autonomous road agency, responsible for the management, development, rehabilitation and maintenance of international trunk roads linking centers of international importance and crossing international boundaries or terminating at international ports (class A road), national trunk roads linking internationally important centers (class B roads), and primarily roads linking provincially important centers to each other or two higher-class roads (class C roads). Besides roads, KeNHA has 13 weighbridges, which are used to enforce the traffic regulations in the ferrying of goods across the country and the greater East African region. The National government discharges its mandates in road infrastructural development through two key ministries - Ministry of Transport and Infrastructure as well as the Ministry of Environment, Water and Natural resources. The Ministry of Transport and Infrastructure of Kenya discharges this mandate through four key parastatals namely; The Kenya Roads Board (KRB), The Kenya National Highways Authority (KeNHA), The Kenya Rural Roads Authority (KeRRA) and the Kenya Urban Roads Authority (KURA) (Ministry of Transport, 2015).

2. Research Problem

Contract management for roads has been the norm in most countries of the world, some countries do not have a sufficient industry of independent contractor's construction projects are mostly done by force on account or awarded to state construction agencies on a negotiated basis. In many of these countries, not only are costs high and quality low, it is common for suppliers of construction materials and services to have monopoly power, further increasing inefficiency and lowering quality (Ministry of Transport, 2015).

Numerous studies have been carried out on contract management: Globally, Olaniran (2015) carried out a study on the effects of cost-based contractor selection on construction project performance. The aim of the study was to ascertain impact that cost-based contractor selection might have on construction project performance. The study findings indicated that cost based contractor selection is crucial supplier selection. The study failed to look at contract management strategies at KeNHA.

In a study carried out by Rasheli (2017) on procurement contract management in the local government authorities (LGAs) in Tanzania A transaction cost approach. The aim of the study was examining the transaction costs involved in managing procurement contracts in the public sector. The study findings indicated that costs procurement contract management incurred were associated with poor accountability and a lack of competition, transparency and efficiency throughout public procurement chains. However, the study was solely based in the Tanzanian context and failed to look at KeNHA. Brun and Moretto (2012) carried out a study on contract design and supply chain management in the luxury jewelry industry. The purpose of the study was to ascertain the relationship between contract design and supply chain performance in the jewelry industry. The study established that demand management process is determined by inadequate contract design are identified, thus highlighting their influence on the critical success factors of luxury companies. In addition to the characteristics the contract should have to overcome the critical issues have been proposed. However, the study was based on jewelry items only and failed to look at contract management strategies at KeNHA.

Locally; Njiru (2011) carried out a study on performance contracting practices among NGO's in the health sector in Kenya. The purpose of the study was ascertaining the various practices adopted in performance contracting by NGO's in Kenya. The study findings indicated that to a great extent performance contracting practices had been adopted by NGO's in the health sector in Kenya and are based

on targets which are freely negotiated. Rotich (2014) studied on contract management practices and operational performance of state corporations in Kenya. The purpose of the study was to ascertain the impact of contract management practices on operational performance of state corporations in Kenya and the extent to which the contract management practices had been adopted in the state corporations in Kenya. The findings indicated that to a great extent, all the contract management practices had been implemented in state corporations in Kenya and there existed a positive relationship between implementation of contract management practices and operational performance. Bakari (2012), carried out a study on procurement contracting practices and Service delivery of Government owned Entities in the Ministry of Transport and Infrastructure in Kenya. The purpose of the study was to establish the extent to which procurement contracting practices had been implemented in Government owned Entities in the Ministry of Transport and Infrastructure in Kenya and the impact it has on performance. The study findings indicated that performance contracting had been implemented to a moderate extent in Government owned Entities in the Ministry of Transport and Infrastructure in Kenya. However, the study failed to look at contract management strategies and project performance.

Obongo (2014) carried out a study on factors influencing performance contracting on delivery of conservation projects in Lamu County, Kenya. The study purpose was to ascertain the factors that influence performance contracting on delivery of public projects with consideration to conservation projects in Lamu County. The study findings indicated that involvement of employees in performance contract formulation, management procedures and practices, influence of implementation of performance contracting on staff performance and contribution of performance contracting on customer demands had tremendous influence on delivery of conservation projects. However, the study was solely based on performance contracting and failed to look at contract management strategies. Besides the study was solely based in Lamu and hence the findings would not be applicable to the road construction sector.

From the studies above, there exists a gap in knowledge based on the fact that there are few studies that have been carried out on contract management strategies and project performance at Kenya National Highways Authority. This study therefore seeks to answer the following research questions: What are the contract management strategies commonly used at Kenya National Highways Authority? What is the effect of contract management strategies on project performance of Kenya National Highways Authority?

3. Research Objectives

The specific objectives of the study are.

i. To establish the contract management strategies commonly used at Kenya National Highways Authority;
ii. To establish the effect of contract management strategies on project performance at Kenya National Highways Authority

4. Literature Review

This section reviews theoretical and empirical literature from past studies on the subject of time and cost overruns. The chapter focuses on; the theoretical framework of the study, the empirical literature review, conceptual framework of the study and finally a summary of the literature review.

4.1. Theoretical Review

This study was informed by the following theories; Construction Management Theory (CMT), Transactional cost economics theory and strategic choice theory will be used in this study.

Agency theory was developed by Jensen M. and Meckling (1976) and it discusses the existence of a contract where by one two or more people (principals) engage other people, to carry out various services on their behalf. Usually there exists a divergence between agent's decision and profit maximizing welfare of the principals. Under this relationship, owners have interests of maximizing value of their shares while on the other hand, the managers are more interested in ensuring that the firms grow and generally private consumption Jensen M. C. (1983). Under this agent-principal relationship, their major aims are to ensure that they are able to ensure maximization of their utility at the lowest possible expenditure. Based on a situation that there is need for making alternatives, both the principal and the agent will select an option that ensures their utilities are increase (Bromwich, 1992). Investing in information systems that clearly bring out aspects to do with behaviors explicated by the agent to the principal is very important. Here, the auditor carries out assessment of financial statements that are prepared by the agent on behalf of the principal, and assess whether they reflect the truth about the company (Eisenhardt, 1989).

Contract management problems stem from relationships in which a principal (a contracting government) contracts with an agent (a vendor) for the production of goods and services in which the agent has expertise. The principal looks to prevent the agent from opportunistically exploiting its information advantages by carefully designing contracts, offering incentives, and monitoring the agent so that it performs according to contract specifications. Strong and effective markets, however, require some fairly strict conditions. They need large numbers of buyers and sellers, participants need to be well informed about products and each other's preferences, and actors must be able to enter and exit the market and exchange resources at low costs. The Agency Theory explains how to best organize relationships in which one party determines the work while another party does the work. Agency theory assumes both the principal and the agent are motivated by self-interest. This assumption of self-interest dooms agency theory to inevitable inherent conflicts. Thus, if both parties are motivated by self-interest, agents are likely to pursue self-interested objectives that deviate and even conflict with the goals of the principal. Yet, agents are supposed to act in the sole interest of their principals (Eisenhardt, 1989).

Strategic Choice Theory expounds on the relationship between a firm's actions and events. This theory expounds on the relationships between management choices and performance and the overall interaction with the surroundings. According to this theory firms are affected by surroundings and choices made by top management. The decision to or not adopt a certain practice and the resulting impact on performance is made by the top management. Make or buy should balance on dependence against value to meet the goals of the organization. In regard to implementation of construction contract management decision, it advices on the improved quality of projects outcome, timeliness in deliveries and reduced costs (Chong *et al.*, 2011).

In this study, KeNHA have to come up strategies to ensure that they carry out construction contract management strategies that will facilitate their improvement in the levels of project performance. The top management together with the supply chain managers has to device strategies like contract management that will facilitate their improved performance.

4.2. Contract Management Strategies

The various contract management strategies are discussed below:

Contract Monitoring and evaluation strategy: Contract monitoring is very key to an organization as it helps the contracting firm in evaluating whether the contractor is undertaking his duties and fulfilling his obligations in compliance with the contract. This also allows the contracting organization to pinpoint any issues or problems in advance that could arise and offer timely solutions. Particularly, the outline of contractor monitoring and acceptance management includes: monitoring, controlling, and evaluating the contractor's performance; evaluating the quantity and quality of services, works, or products delivered; and identifying and handling risks (Cropper, 2008). Service level agreements (SLAs) and Key Performance Indicators (KPIs) may be used to express the desired outputs form the contract. These documents will form an operational tool (usually more flexible than the contract itself) with which buyer-side and supplier-side contract managers can monitor performance on a day-to-day basis (Piga and Treumer, 2013). According to Mead and Gruneberg (2013), evaluation is an important component of refining programs and documenting impacts. Evaluation aids the profession as a whole and assists Extension faculty in meeting promotion requirements. Qualitative methods are commonly used in evaluations in order to explore specific facets of programmes and to give voice to participants' experiences. These methods provide in-depth information that can assist Extension staff in enhancing the quality of their programs.

An adequate performance evaluation and monitoring procedures facilitates the contracts reliability and helps improve its overall performance, there are five components that make up a framework for monitoring performance which are level of service effectiveness, timeliness of response, safety procedures, quality of services, and cost-efficiency. In monitoring and evaluation of contracts various tools can be used. Kakwezi (2012) indicated four steps to evaluate projects using the cause and effect analysis: identify the factors that may be part of the problem. These may be systems, equipment, materials, external forces, people involved with the problem, and so on. After identification, there is need for brain storming by the managers on what might be the cause of the problems which are further broken down to sub causes of the problems. Depending on the complexity and importance of the problem, investigate the most likely causes further. This may involve setting up investigations, carrying out surveys, 25 and so on. These will be designed to test which of these possible causes is actually contributing to the problem. This helps in achieving project performance in form of efficiency, value for money, timely completion of the project and customer satisfaction (Magutu *et al.*, 2013).

Supplier Relationship Management: Supplier relationship management (SRM) is a strategic procurement approach used by organizations to improve the overall performance of their key strategic suppliers/contractors/consultants (Ministry of Transport, 2015). Through SRM firms are able to improve the overall performance of public procurement, by targeting their largest and most significant suppliers for specific improvement programs that are focused on cutting unnecessary costs, improving procurement arrangements, and adopting agile procurement processes. Implementation of SRM facilitates the firm's ability to deliver quality goods and services to customers as per their requirements (Miller, 2014). To attain this, firms require resources, commitment and high degree of procurement maturity.

SRM entails implementation of effective communication of contract management metrics that are used to measure and manage the supplier's/contractor's/consultant's performance across all key performance dimensions including cost, quality, and delivery. SRM facilitates the firm's ability to evaluate performance and helps a firm attain shared return and operational excellence. It also enables performance to be integrated into future procurement decisions. SRM helps identify key areas that need improved performance in contract management and that the contract is being performed as per the key performance indicators stated in the contract. It facilitates increased visibility of the contract management process to facilitate the firm's ability monitor the contract administration process due to open communication facilitated by SRM. (Ministry of Transport, 2015). According to Hansson and Longva (2014) all the actions and initiatives of the contracting company to create and maintain a positive relationship with the contractor can be used a strategy to attain improved performance of the contract. This depends on the mutual trust, understanding, regular communication and timely management of possible problems in the contract.

Risk management Strategy: Risk can be defined as uncertainty of outcome, whether positive opportunity or negative threat. In the area of contract management, the term management of risk incorporates all the activities required to identify and control risks that may have an impact on the fulfillment of a contract. Many risks involved in contract management relate to the economic operator being unable to deliver at all or not delivering at a satisfactory level of quality (Miller,2014). According to Banaitiene and Banaitis (2012), project risk as "an uncertain event or condition that, if it occurs, has a positive or negative effect on at least one project objective". In the construction project management context, risk management is a comprehensive and systematic way of identifying, analyzing and responding to risks to achieve the project objectives. For firms to achieve best out of their contract management there is need for effective risk management is critical (Banaitiene and Banaitis, 2012). Construction projects are faced with a numerous of risks which need to be identified and managed adequately based on the fact that they cause delays, high spending and poor project results (Miller,2014). The benefits of the risk management process include identifying and analyzing risks, and improvement of construction project management processes and effective use of resources.

Construction projects are complex in nature, need multiple feedback processes, dynamic and are faced with many uncertainties which may lead to bad consequences to the project output and result to project failures. Construction projects are always unique and risks raise from a number of different sources (Enquist *et al.*, 2005). They involve many participants including individuals and organizations who are actively involved in them, and their interests may be positively or negatively affected as a result of the project execution or project completion based on their different skills and varying expectations which leads to difficulty in project management by the project managers (Banaitiene and Banaitis, 2012). Risk management helps the key project participants – clients, contractor or developers, consultants, and suppliers -- to meet their commitments and minimize negative impacts or 22 construction project performance in relation to cost, time and quality objectives (Banaitiene and Banaitis, 2012). Enquist *et al.* (2005) indicated that project risk management includes: (1) risk management planning, (2) risk identification, (3) qualitative risk analysis, (4) quantitative risk analysis, (5) risk response planning, and risk monitoring and control. The use of risk management from the early stages of a project where major decisions such as choice by alignment and selection of construction methods can be influenced is essential.

The benefits of risk management processes include; identifying and analyzing risks, and improvement of construction project management processes and effective use of resources. There is evidence that risk management results in better outcomes at lower cost with less risk and more financial predictability for highway agencies (Panesar and Markeset, 2008). Moreover, risk allocation to the contractors would be beneficial for the road authorities only when contractors are better to manage the risk (Harris, 2008). The construction industry has historically not dealt well with risk, leading to many failed contractors through poor planning, poor budgeting, and poor resource management. On the owner's side, the push to minimize costs is often an absolute goal, regardless of market realities, resulting in

impossibly low prices being accepted as part of bids and contracts which give owners all the rights and contractors all of the obligations. The owner must also be protected against irresponsibly low bids that later result in excess claims and controversy. However, other than discussing the outcomes of poor risk management, they did analyze the different forms of risks and the relationship between risk management and performance in the road construction sector (Banaitiene and Banaitis, 2012).

Performance Management: Monitoring and measurement of performance in relation to the contract terms, specifications, service level agreements, is what is termed as performance measurement, (Harris, 2008). For effective and adequate attainment of contract performance in a firm, there is need to ensure that there is adequate performance management of the contract throughout the life cycle of the contract is what performance management entails. There is need for adequate meeting up of the various stakeholders that make up a contract to ensure that the set contract objectives and timelines are met by the firm. There is need for the buyer and supplier firms to meet on a regular basis to ensure that the performance is reviewed on a regular basis and that they comply with the set quality requirements and service requirements and that the contract is delivered as per the contract specific outputs and outcomes. Performance measurement in contract management is key in ensuring that contract outputs are delivered. Performance management starts with negotiations and contract development where there is need for a joint agreement on the KPI by both parties to a contract. There is need for supplier involvement in performance reviews on issues to do with performance reviews and areas that are targeted for future performance improvement (Oluka and Basheka, 2014).

Quality of construction is a key component of perceived value to both clients and contractors. Both the public and private firms are much concerned with poor quality of construction projects which is manifested in poor or non-sustainable workmanship, and unsafe structures; and in delays, cost overruns and disputes in construction contracts based on their need for value and quality of construction (Arney *et al*., 2014). There is need for day to day monitoring of the performance of the contractor in construction projects. Performance management facilitates the firm's ability to maintain the quality of work and also to record the data for future Research and Development. As the construction industry significantly expands, the role of the private sector has changed from the simple execution of works to the management and conservation of road assets.

Oluka and Basheka (2014) established the likelihood of contract problems for a given type of contract, and which type of contract is likely to encounter the most problems. For example, for construction contracts, change order, delays, and cost have a statistically similar chance of occurring and were significantly more likely to occur than the remaining problems, and that construction contracts are more likely to experience problems than other types of contracts. Proper and effective management and monitoring of contracts helps improve the quality of goods and services and reduces procurement cost, thus achieving three broad goals: quality products and services, timely delivery of products and services, and cost effectiveness (within budget).

E-contracting: E-contracting entails the involvement of information technology in the contracting process. This approach helps in dealing with the outlined problems in traditional paper contracting. E-contracting (electronic contracting) aims at the automation of contract establishment and enactment. E-contracting can be applied to solve cost, time, complexity, etc. problems that occur in paper contracting. Furthermore, e-contracting as a strategy can be used to support new business paradigms, providing in this way, new opportunities to the contracting parties (Chong *et al*., 2011).

The traditional methods of contracting are more prone to corruption because of the nature of the decision-making processes, much paper work and lack of transparency. Implementation of e-contracting as a strategy helps facilitate the potential to promote transparency and good governance in construction projects. The limited experience with output-based approach in developing countries has prevented a comprehensive examination of its effects on lowering corruption. However, even at this early stage, monitoring intensity and use of e-contracting can reasonably be expected to reduce administrative discretion and increase efficiency; two factors associated with corruption (Basheka, 2008).

Project Performance Strategy: Measuring performance is a critical factor in optimizing performance. Optimal performance is sustainably achieving multiple, often conflicting, objectives under changing conditions. Customer satisfaction means that customer expectations are met. This requires a combination of conformance to requirements (the project must produce what it said it would produce) and fitness for use (the product or service produced must satisfy real needs, (Ministry of Transport, 2015). Cycle time measures are based on standard performance. That is, cycle times for similar types of projects can be benchmarked to determine a Standard Project Life-Cycle Time. Measuring cycle times can also mean measuring the length of time to complete any of the processes that comprise the project life-cycle.

The shorter the cycle times, the faster the investment is returned to the organization (Bassioni *et al.*, 2004).

Types of requirements that might be measured include functional requirements (something the product must do or an action it must take), non-functional requirements (a quality the product must have, such as usability, performance, etc.). Fit criteria are usually derived sometime after the requirement description is first written. You derive the fit criterion by closely examining the requirement and determining what quantification best expresses the user's intention for the requirement. Employee Satisfaction. An employee satisfaction index will give you one number to look at to determine employee morale levels. The ESI comprises a mix of soft and hard measures that are each assigned a weight based on their importance as a predictor of employee satisfaction levels (Kakwezi, 2012).

4.3. Empirical Literature on Contract Management Strategies and Project Performance

Several studies have been carried out on contract management, Globally, Olaniran (2015) carried out a study on the effects of cost-based contractor selection on construction project performance. The aim of the study was to ascertain impact that cost-based contractor selection might have on construction project performance. The study adopted use of descriptive statistics in research methodology. The study findings indicated that cost based contractor selection is crucial in supplier selection.

In a study carried out by Rasheli (2017) on procurement contract management in the local government authorities (LGAs) in Tanzania A transaction cost approach. The aim of the study was examine the transaction costs involved in managing procurement contracts in the public sector. The study made use of multiple case study design in which five local government authorities were selected from the Kigoma and Tanga regions of Tanzania. The study findings indicated that costs procurement contract management incurred were associated with poor accountability and a lack of competition, transparency and efficiency throughout public procurement chains. However, the study was solely based in the Tanzanian context and failed to look at KENHA.

Brun and Moretto (2012) carried out a study on Contract design and supply chain management in the luxury jewelry industry. The purpose of the study was to ascertain the relationship between contract design and supply chain performance in the jewelry industry. The study used an exploratory approach using a case-based methodology. Data was collected through a sample composed of four brand-owning companies and 37 multi-brand retailers in the luxury jewelry industry. The study established that demand management process is determined by inadequate contract design are identified, thus highlighting their influence on the critical success factors of luxury companies. In addition to the characteristics the contract should have to overcome the critical issues have been proposed. The study was however, based on jewelry items only and failed to look at contract management strategies at KENHA.

Locally, Njiru (2011) carried out a study on performance contracting practices among NGO's in the health sector in Kenya. The purpose of the study was ascertaining the various practices adopted in performance contracting by NGO's in Kenya. The study adopted use of descriptive statics in its research methodology where data was collected by use of structured questionnaires from the respondents. The study findings indicated that to a great extent performance contracting practices had been adopted by NGO's in the health sector in Kenya and is based on targets which are freely negotiated.

Rotich (2014) studied on contract management practices and operational performance of state corporations in Kenya. The purpose of the study was to ascertain the impact contract management practices on operational performance of state corporations in Kenya and the extent to which the contract management practices had been adopted in the state corporations in Kenya. The study adopted use of descriptive research design it its methodology where data was collected by use of structured questionnaires. The findings indicated that to a great extent, all the contract management practices had been implemented in state corporations in Kenya and there existed a positive relationship between implementation of contract management practices and operational performance.

Bakari.G (2012) carried out a study on procurement contracting practices and Service delivery of Government owned Entities in the Ministry of Transport and Infrastructure in Kenya. The purpose of the study was to establish the extent to which procurement contracting practices had been implemented in Government owned Entities in the Ministry of Transport and Infrastructure in Kenya and the impact it has on performance. The study adopted use of descriptive statistics where data was collected by use of structured questionnaires. The study findings indicated that performance contracting had been implemented to a moderate extent in Government owned Entities in the Ministry of Transport and Infrastructure in Kenya. However, the study failed to look at contract management strategies and project

performance.

Obongo (2014) carried out a study on factors influencing performance contracting on delivery of conservation projects in Lamu county, Kenya. The study purpose was to ascertain the factors that influence performance contracting on delivery of public projects with consideration to conservation projects in Lamu County. The study used descriptive research design in its methodology. The study findings indicated that involvement of employees in performance contract formulation, management procedures and practices, influence of implementation of performance contracting on staff performance and contribution of PC on customer demands had tremendous influence on delivery of conservation projects. However, the study was solely based on performance contracting and failed to look at contract management practices. Besides the study was solely based in Lamu and hence the findings would not be applicable to the road construction sector.

Risk allocation to the contractors would be beneficial for the road authorities only when contractors are better to manage the risk (Banaitiene and Banaitis, 2012). The construction industry has historically not dealt well with risk, leading to many failed contractors through poor planning, poor budgeting, and poor resource management. On the owner's side, the push to minimize costs is often an absolute goal, regardless of market realities, resulting in impossibly low prices being accepted as part of bids and contracts which give owners all the rights and contractors all obligations.

Collaborations and partnerships between contracting parties is key in achieving cashable efficiency gains and agreed performance targets. Through adequate supplier relationship management, the firm is able to coordinate procurement for high value, high risk or high profile partner projects to achieve the completion of due diligence, service delivery on time, within budget and in accordance with specification which facilitates implementation of e-procurement to deliver savings in transactional processes (Ministry of Transport, 2015).

The benefits of the risk management process include identifying and analyzing risks, and improvement of construction contract management processes and effective use of resources. Construction projects are complex in nature, need multiple feedback processes, dynamic and are faced with many uncertainties which may lead to bad consequences to the project output and result to project failures. Construction projects are always unique and risks arise from a number of different sources. They involve many participants including individuals and organizations who are actively involved in them, and their interests may be positively or negatively affected as a result of the project execution or project completion based on their different skills and varying expectations which leads to difficulty in project management by the project managers (Banaitiene and Banaitis, 2012).

Risk management helps the key project participants – clients, contractor or developers, consultants, and suppliers to meet their commitments and minimize negative impacts or construction project performance in relation to cost, time and quality objectives. Banaitiene and Banaitis (2012) indicated that project risk management includes: (1) risk management planning, (2) risk identification, (3) qualitative risk analysis, (4) quantitative risk analysis, (5) risk response planning, and risk monitoring and control. The use of risk management from the early stages of a project where major decisions such as choice by alignment and selection of construction methods can be influenced is essential.

5. Research Methodology

The section contains information about the design of the research and population that was used for the study. The techniques that were used in data collection and analysis and presentation are also highlighted in this chapter.

This study adopted a descriptive research. It was used in explaining the relationship between the contract management strategies and project performance at KENHA. It was preferred because it ensured that the respondents input are documented as practiced and easy to use (Kothari, 2004).

The target population of this study was procurement managers, project managers, engineers or the equivalent who are involved in contract management at KeNHA. A total of 40 employees who are in the procurement department was the target population.

The study respondents were made of procurement managers, project managers, supervisors, procurement officers and heads of departments at KeNHA Nairobi, Kenya. The study used primary data which was collected by use of self-administered questionnaire which consist of both open and closed ended questions which was be designed to elicit specific responses. The questionnaire had three sections. Section A contained question on the bio-data of the organization's personnel, section B addressed the extent of implementation of contract management strategies, and section C tackled effect of contract management strategies on project performance at KeNHA.

The research data was both qualitative and quantitative in nature. Data collected was edited to ensure correctness. Data collected on the objective of finding out the extent of contract management strategies implementation was analyzed by use of descriptive statistics particularly frequency distribution, percentages, mean and standard deviation. Data on the second objective of effects of contract management strategies on project performance was analyzed by use of regression analysis.

Regression equation $\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + €}$

Y= Project performance (SC performance)
$\mathbf{X_1}$= Supplier relationship management strategy
$\mathbf{X_2}$= Performance management strategy
$\mathbf{X_3}$= E-contracting strategy
$\mathbf{X_4}$= Risk management strategy
$\mathbf{X_5}$= Monitoring and evaluation strategy
€= Error term
$\mathbf{\beta_{ij}}$ = Regression Coefficients

6. Data Analysis, Findings and Discussions

6.1. Introduction

This section is made up of data analysis, findings and interpretation. It represents findings on the data sought on contract management strategies and project performance of KENHA. The aim of the study was to establish the extent to which contract management strategies have been implemented in KENHA, to determine the effect of construction contract management strategies and project performance of KENHA. The study target population was the supply chain managers, project managers or their equivalent in the procurement department.

6.2. Response Rate

A total of 40 questionnaires which represented the study population were issued .33 out of 40 questionnaires distributed were received and deemed fit for data analysis this translates to a response rate of 85%. According to (Kothari, 2004) a response rate of above 70% is considered very good and adequate for comprehensive data analysis. Therefore, this data was considered comprehensive and would give out substantial information that can be used in generalization of the various aspects of the study being sought and hence the researcher proceeded for data analysis.

6.3. Demographic Information

The study intended to have knowledge of the basic background information of the respondents working at KENHA. Background checks were carried out to establish the relationship between the information gathered on their experience, education level and the knowledge sought. Their age and gender and education level.

6.4. Gender

The respondents were asked to indicate their gender. The table below represents information on the responses based on gender of the respondents.

Table 1. Gender

Gender	Frequency	Percent
Male	15	45
Female	17	55
Total	33	100.0

Source: research data, (2019)

As shown in the table above 45 % of the respondents represented male respondents while 55% represented female respondents hence there was no gender bias. An indication that all the gender types were well represented in the study.

6.5. Education

The respondents were asked to indicate their education level. The table 2 below represents information based on their responses.

Table 2. Education

Experience	Frequency	Percent
College	3	9
Undergraduate	10	30
Masters	20	61
Total	33	100.0

Source: research data, (2019)

From the table above it can be seen that 9 % of the respondents had college level education, 30% of the respondents had undergraduate level of education while 61% of the respondents had a master's degree level of education. An indication that all the respondents had adequate relevant education background and were in a position to provide information sought by the researcher.

6.6. Experience

The respondents were asked to indicate their experience; the table below represents information based on their responses. Based on the table below:

Table 3. Experience

Experience	Frequency	Percent
under 2 years	3	9
2-5 years	10	30
6-10 years	12	36
over 10 years	5	15
Total	33	100.0

Source: Research data, (2019)

The findings indicated that 9% of the respondents had less than two years' experience, 30% of the respondents had 2-5years working experience while 36% of the respondents had experience of between 6-10 years' experience and finally 15% of the respondents had an experience of over 10 years. This indicates that all the respondents had adequate experience and had a detailed understanding of construction contract management strategies.

6.7. Implementation of Contract Management Strategies

The first objective of the study was to ascertain the extent of implementation of Implementation of Contract Management Strategies in KENHA. To ascertain this, descriptive statics was carried by use study on a likert scale of 1-5 where 1-no extent at all, 2-small extent, 3- moderate extent, 4-large extent and 5-very great extent. The findings are as shown in the table below:

Table 4. Implementation of Contract Management Strategies

Contract Management Strategies	Mean	Std. Deviation
Performance management	3.9111	.66818
Monitoring and evaluation strategy	3.6000	.66905
Risk management strategy	3.5778	.54309
E-Contracting strategy	3.4444	.91839
Supplier relationship management strategy	3.3333	.70711

Source: Research Data, (2019)

The study findings indicated that all the contract management strategies have been implemented by KENHA as indicated performance management strategy indicated a mean of 3.91, monitoring and evaluation strategy indicated a mean value of 3.60, risk management indicated a mean value of 3.57, e-contracting strategy indicated a mean value of 3.44, while SRM indicated a mean value 3,33 Hence construction contract management strategies have been implemented to a large extent in KENHA.

It is an indication that they are in a position to manage all construction contracts timely and as per the agreed terms due to implementation of CCMS. It is in-line with a study carried out by Rotich (2014) who studied on contract management practices and operational performance of state corporations in Kenya. The findings indicated that to a great extent, all the contract management practices had been implemented in state corporations in Kenya and there existed a positive relationship between implementation of contract management practices and operational performance.

6.8. Effect of Contract Management Strategies on Project performance Measure

The second objective of the study was to ascertain the effect of implementation of CMS on project performance in KENHA. The study adopted use of regression on project performance, measures as indicated below:

6.9. Coefficients

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.076	.830		6. 928	.048
Performance management strategy	.892	.097	.904	9.224	.000
e-contracting	.535	.099	.645	5.394	.000
Risk management strategy	.286	.152	.238	1.881	.067
SRM strategy	.535	.099	.645	5.394	.000
Monitoring and evaluation strategy	.520	.083	.074	4.838	.001

Dependent Variable: project performance

Predictors: performance management strategy, e-contracting strategy, risk management strategy, SRM strategy and monitoring & evaluation strategy

From the table above it can be seen that, performance management strategy and project performance are positively and significantly related. (t=9.224, p=0.00). This indicates that an increase in the level of adoption of performance management strategy by one unit, results to related increase in the project performance by 0.892. Besides performance management strategy and project performance had p=0.000 value an indication that it is statically significant at 0.05 critical value since it is less than 0.05. Besides, Z value is greater than 1.96 hence significant. E-contracting and project performance are positively and significantly related (t=5.394, p=0.000) which is an indication that an increase in the implementation of e-contracting by one unit, results in a related increase in project performance by 0.535 all other factors held constant. besides, p= 0.000 is less than 0.05 and hence it is statically insignificant. besides, z value is less than 1.96 hence insignificant.

Risk management strategy and project performance are positively and insignificantly related, (t=1.881, p=0.067) which indicates that implementation of risk management strategy leads to an improvement in project by 0.286. The p-value associated with supply chain management was 0.067 which is an indication that risk management as an CMS is statically insignificant since it is more than the critical p value of 0.05 at 95% confidence level. besides, z value is less than 1.96 hence significant. SRM and project performance are positively and insignificantly related, (t=5.394, p=0.000) an indication that a unit increase in the implementation of SSRM results in a related increase in quality of goods and services by 0.535, and the related p-value is 0.000 which is an indication that SRM as significant since it is below 0.05 at 95% confidence level. hence implementation of CMS has improved the quality of goods KENHA. besides, Z value is less than 1.96 hence insignificant. Monitoring and evaluation and project performance are positively and insignificantly related, (t=0.838, p=0.410) an indication that a unit increase in the implementation of monitoring and evaluation results in a related increase in project performance of goods and services by 0.070, and the related p-value is 0.410 hence it is insignificant since it is higher than 0.05 at 95% confidence level. Besides, z value is less than 1.96 hence insignificant.

6.10. Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908a	.825	.785	.305

a. Dependent Variable: project performance

b. Predictors: performance management strategy, e-contracting strategy, risk management strategy, SRM strategy and monitoring & evaluation strategy

The findings indicated a R squared value is 83% meaning that 83% of the variations in project performance is explained by the variation in the independent variables. Unexplained variables which are factors that not in the model and occur by pure chances which are only 17 % indicate that this is a very good model.

6.11. Anova

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.455	5	1.909	20.481	.000[b]
	Residual	2.424	27	.093		
	Total	13.879	32			

a. Dependent Variable: project performance

a. Predictors: performance management strategy, e-contracting strategy, risk management strategy, SRM strategy and monitoring & evaluation strategy

The results on the analysis of the variance (ANOVA) indicate that the overall model was statistically significant since the p-value is less than 5%. Further, the results imply that the independent variables are good predictors of operational performance. This was supported by the reported p value (0.000) which was less than 5%.

These findings are in-line with studies carried out by Rasheli (2017) on procurement contract management in the local government authorities (LGAs) in Tanzania.The study findings indicated that costs procurement contract management incurred were associated with poor accountability and a lack of competition, transparency and efficiency throughout public procurement chains. Brun and Moretto (2012) carried out a study on Contract design and supply chain management in the luxury jewelry industry. The study established that demand management process is determined by inadequate contract design are identified, thus highlighting their influence on the critical success factors of luxury companies. In addition to the characteristics the contract should have to overcome the critical issues have been proposed. The study was however, based on jewelry items only and failed to look at contract management strategies at KENHA. Njiru (2011) arried out a study on performance contracting practices among NGO's in the health sector in Kenya. The purpose of the study was ascertaining the various practices adopted in performance contracting by NGO's in Kenya. The study findings indicated that to a great extent performance contracting practices had been adopted by NGO's in the health sector in Kenya and are based on targets which are freely negotiated. Rotich (2014) studied on contract management practices and operational performance of state corporations in Kenya. The findings indicated that to a great extent, all the contract management strategies had been implemented in state corporations in Kenya and there existed a positive relationship between implementation of contract management practices and operational performance.

7. Summary, Conclusions and Recommendations

This section entails the summary, conclusions, recommendations and limitations of the study. The study objectives were to find out the extent of implementation of CMS in KENHA, to ascertain the effect of implementation of CMS on project performance in KENHA.

7.1. Summary

The study was on CMS and project performance at KENHA. The first objective of the study was to establish the extent of implementation of CMS in KENHA. The second objective was to establish the impact of CMS on project performance of KENHA. The study adopted use of descriptive research design in its methodology where data was collected by use of questionnaires from respondents who were supply chain managers, procurement officers or their equivalent in KENHA. A total number of forty questionnaires were issued to respondents out of which thirty-three were filled and deemed fit for analysis. The biographic information indicated that both male and female were well represented in the KENHA. Based on education background, the findings indicated that all the respondents had adequate education and were in a position to provide adequate information on the data sought by the respondents on CMS.

Based on the first objective of the study which was to ascertain the extent to CMS had been implemented in the KENHA the findings it was established that to a moderate to a large extent, all the five CMS had been implemented in the KENHA as indicated by mean values that were three and above. Hence this is an indication that the KENHA are able to carry out their activities in a cost efficient manner based on their implementation of CMS. Implementation of CMS helps them improve construction project performance. KENHA is in a position to ensure timeliness in the management of construction projects in the whole country. By use of these strategies it is a position to ensure that all projects are monitored and that they meet customer needs as and when required.

The findings of the study on the second objective of the study which was on ascertaining the effect

of implementation of CMS on project performance indicated that there exists a positive relationship between implementation of CMS and project performance. This was indicated by positive coefficient values in the coefficient table from the multiple regression analysis results. Besides an R-square value of eighty-three percent was got from the study findings an indication the implementation of CMS had the great impact on project performance. This is an indication that for KENHA to achieve improved performance in their operations, they need to implement CMS in their construction project so as to ensure that they deliver quality output and products to their final customers. This will facilitate high levels of costs savings through cost reduction, achieve flexibility and meet varying customer needs and requirements.

7.2. Conclusion

Project performance is key in the management of all construction contracts. Construction projects are key to the growth of an economy since good infrastructure is key in the facilitation of meeting time and place utility which is key in customer satisfaction. KENHA is mandated to oversee construction contracts in the whole country and ensure that they adhere to the required standards. Based on the findings we can conclude that on a moderate extent, CMS have been adopted by KENHA. This facilitates their ability to manage construction projects timely and in a cost efficient way. This was indicated by findings from descriptive statics which indicated to a large extent all the CMS had been implemented and hence the construction projects in Kenya are carried out in a cost efficient manner. Project performance was affected by a high margin by implementation of CMS from the regression findings based on the positive coefficient values. The regression findings indicated that more than eighty percent of project performance is affected by implementation of CMS.

7.3. Recommendations to Policy and Practice

KENHA is a government parastatal that plays a crucial role in the management construction projects in the country. To achieve this there is need for ensuring that it manages the operations of all construction projects to achieve the best in terms of project performance by ensuring quality, timeliness and low costs of operations. From the study findings KENHA had implemented the CMS to a moderate extent. To achieve full implementation, there is need on-job training on use of CMS to be implemented to achieve improved performance.

There is need for availing adequate resources to facilitate implementation of CMS to a large extent. There is need for collaborations with relevant stakeholders to avail adequate funds to facilitate adequate implementation of CMS to the fullest. There is need for the management to incorporate the CMS into their system in order to improve their performance. Based on the impact of CMS on operational performance, the results indicated that the impact of CMS on performance was not felt to the fullest in the large hospitals. Future researchers need to include other variables in such a study that were not included in this study to achieve full effect.

Limitations of the Study

The aim of this study was to establish the extent to which CMS had been adopted in KENHA, their impact on project performance. The study was based on KENHA, this was a narrow focus for a study of this base in terms of scope based on the fact that the study was solely based on the KENHA and no other sectors other that KENHA like education sectors, manufacturing firms among others. There was need for a cross-sectional study of the retail sector generally other than the KENHA. The study needed to focus on contract management practices as a whole other as CMS. The study failed to bring out the benefits sought from implementation of CMS and challenges faced in the implementation of SSCMP.

Suggestions for Further Research

The study was based on CMS and their impact on project performance. There is need for further research to be conducted to establish the relationship of CMS and project performance. Irrespective of the research attaining its objective, the study concludes that this was based on CMS. A further research needs to be done on other CMS not included in the study. Further studies need to be carried out in other areas other than KENHA. There is need for further research on other CMS other than those that have been specified in this study. There is need for a holistic view of the impact that construction contract management practices on supply chain performance in the KENHA other than the CMS.

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